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Cognitive Maps of Policy Makers on Financial Crises of South Korea and Malaysia: A Comparative study

Kim, Dong-Hwan* and Rai, V.K.+

* Chung –Ang University, School of Public Affairs,
Kyunggi-Do, Ansung-Si, Naeri, 456-756, South Korea, sddhkim@cau.ac.kr
+Tata Research Development and Design Center (TCS)
54B, Hadapsar Industrial Estate, Pune- 411 013, India, vkrai@pune.tcs.co.in

Abstract: Republics of South Korea and Malaysia underwent economic crises in 1997. They both recovered by 1999 by taking radically different approaches. This study reports the comparative study of the perception of the economic crises by the policy makers of these countries. It uses cognitive maps to discover and compare the perceptual structures of decision-makers. This study finds that the causes of the crises were perceived different and so were the strategies adopted to overcome them, but there was something common in the way of thinking of policy makers of respective countries. Their cognitive maps contained feedback loops.

I. Limits to Economic Reasoning of Asian Crisis

Republics of South Korea and Malaysia came across a financial crisis in 1997. They experienced abrupt depreciation in the value of their currency. Several companies in these countries went bankrupt. Unemployment rate went high unprecedented and social stability was at stake. The common citizens as well policy makers in both countries reacted differently to the crises based on their differing perceptions of the cause of the crises and strategies adopted to overcome them. Koreans thought the crisis was perpetuated by internal factors while Malaysians thought it was caused by external forces including hedge fund.

Korean government accepted the recommendations of IMF and restructured the financial and industrial institutions and opened the economy to the global markets, while Malaysian government did the opposite. It rejected the recommendation of IMF and separated its currency markets from the rest of the world.

Economists focussed on the weak financial institutions in these countries and spillover effect of currency crisis of Thailand to discover the causes of financial crises (Ungson 1998). The

explanations put forward by economists, however, could not elucidate the differences in strategies adopted by Korea and Malaysia to overcome the crises. Both of the countries recovered from the crises adopting radically different strategies.

In order to understand, therefore, the difference in strategies adopted by policy makers of these countries we need to examine the perceptual structures of policy makers of Korea and Malaysia. Authors of this article used cognitive maps to articulate the perceptual structures of respective policy makers to ascertain the causes of financial crises and corresponding policy measures to overcome the crises. .

Even though there were many policy makers dealing with the crises, authors focussed on the presidential and prime-ministarial utterances about the crises in order to construct the respective cognitive maps. This is so because president of South Korea and the prime minister of Malaysia were the ones who set the agenda for dealing with the crises also because their utterances reflected the collective opinion of their advisers and policy makers.

II. Cognitive Maps as a Tool for Comparative Study

Cognitive maps have been used widely in political science and organizational analysis. In political science cognitive map approach has been applied to discover belief systems of political leaders and policy makers (Axelrod 1976, Sergeev, Akiomov, Lukov, Parshin 1990). In the organizational analysis, cognitive maps have been used mainly to analyze organizational decision making processes (Weick & Bougon 1986, Eden 1989, Calori, Johnson, Sarnin 1994). In the context of politics and management, statements of leaders are usually interpreted as expression of their intended policies and beliefs. And so cognitive maps of leaders can provide us indicators on direction and ground of their policy. In this sense, cognitive maps of political leaders may be said to reflect their political intentions.

Usually there are two purposes in applying cognitive maps: understanding and prediction. Bonham and Shapiro could successfully predict Syrian Intervention in Jordan in 1970 (Bonham & Shapiro 1976). Furthermore, belief system and cognition represented by cognitive map does not directly produce action and behavior, for, circumstances are also contingent upon it. There is a long hiatus intervening cognition and action. This hiatus is the source of uncertainty, which makes prediction imprudent. Moreover, credibility level of public utterances of political leaders and policy makers also determines the predictability. Therefore, it is prudent to use cognitive maps for the purpose of understanding rather than prediction. Nonetheless cognitive

maps can be very useful tools in deciphering how policy makers perceive and describe their environment. A clear understanding of cognitive maps can also elucidate the critical components of belief systems of policy makers.

Cognitive map can be applied to a single actor or to a set of actors. In the case of single actor it focuses on his/her belief system. Cognitive map approach can also be applied to understand collective action problem including conflicting parties (Bennett & Cropper, 1987) and group decision making (Lee, Courtney, O'Keefe 1992, Bougon, Weick, Binkhorst, 1977). Also, cognitive map can be used to compare how policy makers perceive differently a given problem situation. For instance, Bonham, Sergeev, and Parshin used cognitive map approach to find out differences in the perception of Kennedy and Khrushchev on the test-ban issue of nuclear weapon (Bonham, Sergeev, Parshin 1997). By comparing cognitive maps of political leaders, one can understand how and why they perceive as they do and how differences in policy measures come from their differing perceptions (Jenkins, Johnson 1997).

III. Cognitive Maps of Policy Makers in Financial Crisis

As stated earlier, cognitive maps have been used to study the perceptual structure of decision makers (Axelrod, 1976). Cognitive map usually consists of variables and causal relations among them. In the cognitive map arrows interconnect variables. Direction of arrows means the direction of causal influence. The signs attached to the head of arrows indicate the polarity of the causal relations. If two variables are connected by an arrow with + sign, it means the increase/decrease in the variable at the origin of the arrow causes increase/decrease in the variable at the head of the arrow. With the variables and causal relations embedded in the cognitive map, one can see the emergent perceptual structure. The perceptual structure can then be analyzed to identify the perceptual bases of policy measures adopted by policy makers.

Policy makers define policy problems and chalk out measures based on their perception of the real world. In this respect, cognitive maps are directly related to the cognitive aspect of policy making. Variables in the cognitive map indicate what concepts policy makers consider as important. Causal relations in the cognitive map represent the perception of policy makers on what they consider determining factors and their perception on how to reach their policy goals. Although cognitive maps do not tell us about the objective world, they do tell us the way policy makers perceive the objective world. What is assumed here is the truism that people solve problems as they perceive it.

In order to construct the cognitive map of President of Korea, we collected and analyzed his speeches and interviews delivered from Februray to December of 1998. And for the Prime Minister Mahathir, his speeches from June of 1997 to December of 1998 were collected and analyzed. From their utterances, we elicited the elements and causal relations and constructed the cognitive maps. We focused our attention on the causal relations that comprise feedback loops. That is because variables in the feedback loops usually hold the lever in influencing the system behavior. Figure 1 and figure 2 depict the cognitive maps of President of Korea Mr. Kim Dae Jung (DJ) and Prime Minister of Malaysia Dr. Mahathir Mohammed.

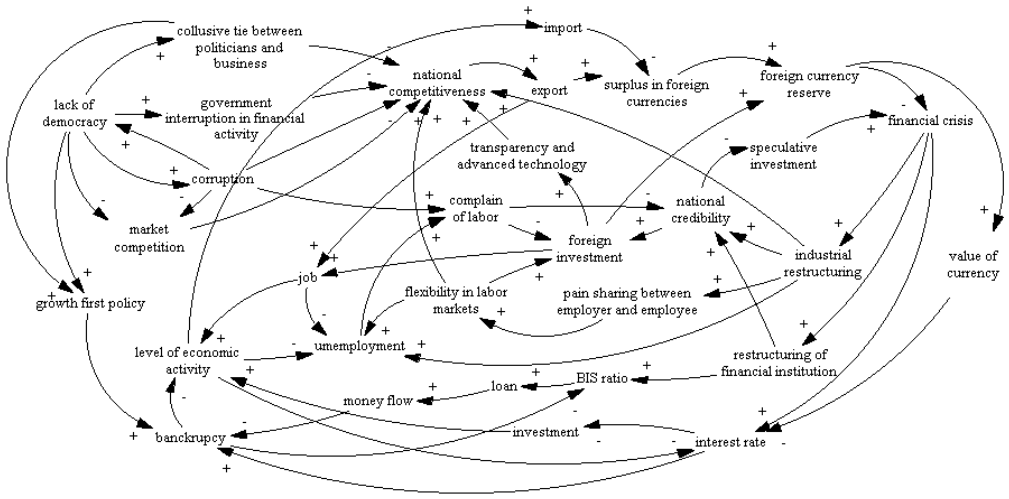


Figure 1. Cognitive map of President of Korea

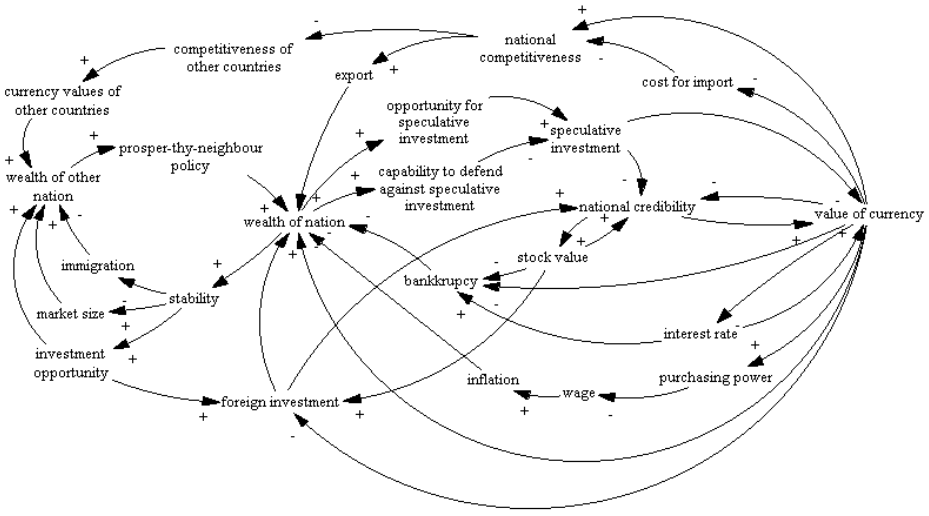
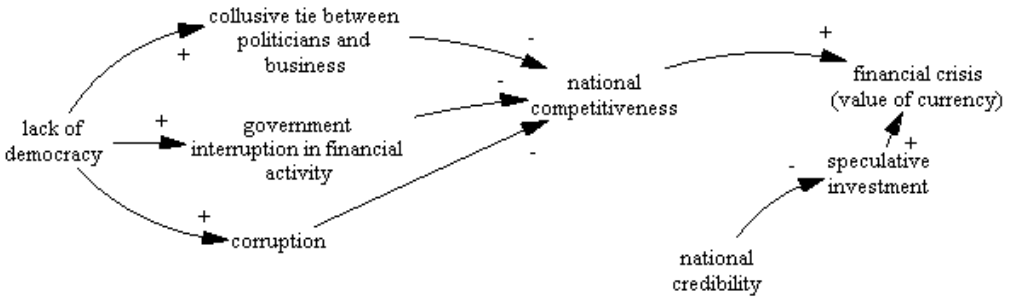


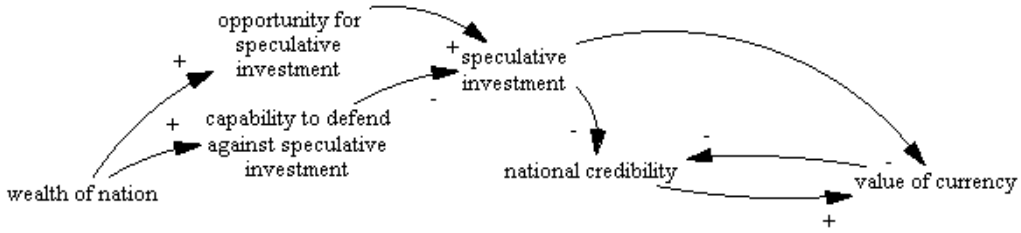
Figure 2. Cognitive map of Prime Minister of Malaysia

IV. Difference in the perception of the causes of financial crisis

The most outstanding difference between cognitive map of DJ and Mahathir lies in the variables types included in the map. While variables in the cognitive map of DJ are related to domestic affairs, variables in that of Mahathir are related to international affairs. We can say that DJ approached to the financial crisis from the perspective of internal factors, while Mahathir approached to it from the external factors. DJ attributed the cause of financial crisis to the failure of domestic financial institutions and national competitiveness that resulted due to lack of democracy. Mahathir, on the other hand, attributed the cause of financial crisis in Malaysia to the speculative investment of foreigners who are used to exploit countries with low wealth. Figure 3 summarizes and compares their view on the basic cause of financial causes. While DJ pursued the internal restructuring policy, Mahatir focused his policy measures to shun the impact of international currency trade on his country.



a. DJ



b. Mahatir

Figure 3. Perception on the causes of financial crisis

One of the most interesting differences that can be found by comparing figure 3-a and 3-b is the diagonally opposite perception on the relationships between national credibility and speculative investment of foreigners. DJ said that the lower national credibility calls forth the speculative fund, while Mahathir said that the national credibility goes down because of the speculative investment of foreigners. Therefore, the different perception on the causes of financial crisis resulted in the different perception about the causal direction between two variables - national credibility and speculative investment. These differing perceptions of causal relationships brought forth different measures to overcome the crises. Perception of DJ called for efforts to increase the national credibility by way of industrial and financial restructuring in order to reduce the activity of speculative investment of foreigners. But, in the perception of Mahathir, the national credibility or the lack of it was the result of speculative investments. Even if national credibility is high, speculative investment can come anytime and decrease or destroy the national credibility, he contended. Thus the national credibility could not be a bulwark against the speculative behavior of foreign investment.

The whole structure of their cognitive maps can be represented and understood by main feedback loops that dominate their way of thinking. Main feedback loops of both cognitive maps are summarized in figure 4. The cognitive map of DJ focused on the negative feedback loops. To him, lack of industrial competitiveness resulted in the financial crisis. However, financial crisis can make it easier to restructure the industrial and financial institution, and this restructuring will enhance the industrial competitiveness. In his perception, the fundamental cause of the crisis was the lack of democracy, and so if one introduced the democracy and fair competition into the market, the crisis could be overcome.

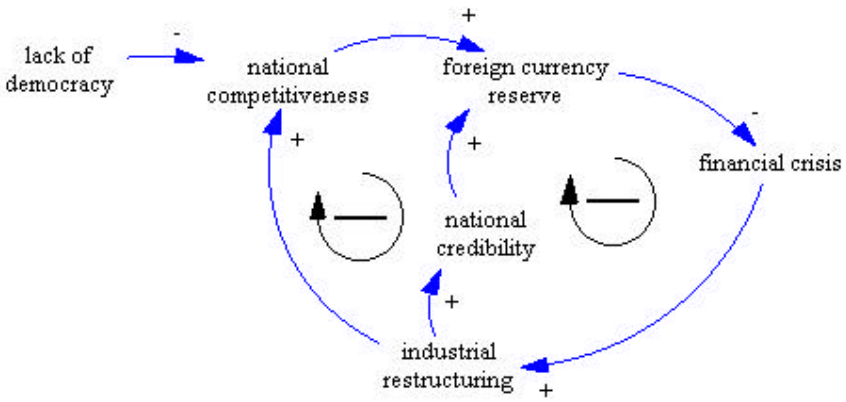


Figure 4. Negative Feedback loops of DJ

The cognitive map of Mahathir is characterized by the positive feedback loops. The positive feedback loops in the left side of Mahatir's cognitive map (Figure 5) indicates the virtuous cycle in the benevolent relationships among nations. The positive feedback loops in the right side of figure 5 represents Mahathir's perception of vicious cycle resulting through the speculative behavior of foreign investors. Speculative investors attack the nations with the low level of wealth because they can control the financial markets at their own. They earn great amount of profit from the speculative behavior and disappear. The negative feedback loop in figure 5 demonstrates that this positive feedback loop continues until there is no wealth to be exploited.

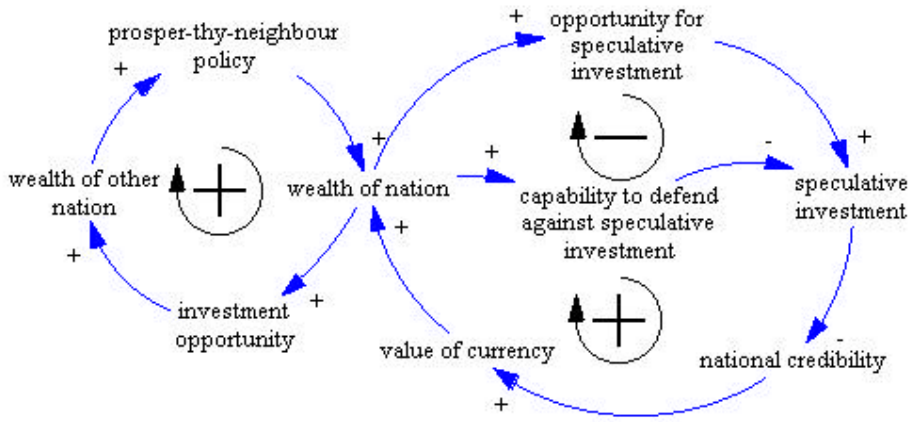


Figure 5. Positive feedback loops of Mahathir

V. Differences in strategies to overcome the crisis.

The differences in their strategies can be explained by the variables as well as the polarity of feedback loops in the cognitive maps of DJ and Mahathir. Firstly, in the cognitive map of DJ there are many variables related to the role of domestic factors in economy. For instance, restructuring of businesses and banks are important variables in the cognitive map of DJ, while they do not appeared in the cognitive map of Mahathir. Once policy measures are included in the perception, they can be conceived as promising candidates of policy measures. One of the main differences between strategies of DJ and Mahathir to overcome the crisis comes from the fact that their cognitive map contains different variables.

But their strategic differences cannot be explained by the difference in the types of variables alone. Both of them share a lot of similar variables. For example, currency, national credibility, national competitiveness, import, export, interest rates, speculative investment are all there in their cognitive maps. The crucial differences that bring forth their differences in strategies to overcome the crises can be detected in how variables are interconnected with each other and what kind of feedback loops are formed in their mind.

With the negative feedback loop in his cognitive map, which is usually called balancing loop, DJ expected that the crisis would be balanced by counteracting forces to recover the economy. DJ made policy measures that accelerate the balancing process. Positive feedback loops are usually interpreted as deviance amplifying loops and reinforcing loops. For the Mahathir, who

perceived the crisis situation mainly in the structure of positive feedback loops, crisis is perceived to be aggravated in the future rather than recovered. There were no mechanism expected to work toward recovering the economy from the financial crisis. In the cognitive map of Mahathir, he cannot get out of the financial crisis. So he chose to break the causal relationships he perceived in the economy. That explains his policy of restriction of trade of Malaysian currency into the domestic market. With the introduction of regulation on the trade of currency, he could break out the positive feedback loop (viscous cycle) in the right part of figure 2 and get out of the financial crisis. Therefore, while DJ remained in the loop, Mahathir chose to break the loop because he could not find any solutions otherwise.

VI. The similar way of thinking

Though, DJ and Mahathir had different perceptions on causes of financial crisis and used radically different policy measures to overcome the crises, their respective cognitive maps have certain common features.

The most prominent feature of their cognitive maps is their richness in feedback loops dominating the economic scenario. This feature is not the one that can be found commonly. The misperception of feedback loop is usually discussed in the previous studies of cognitive maps of politicians. The lack of feedback loop is reported in early days of cognitive map studies by Axelrod and his collegues (Axelrod 1976, Bonham, Shapiro, Tremble 1979). His group constructed three cognitive maps of policy makers and found that there are no feedback loops. The following paragraph quotes this problem.

> “But the point is that neither positive nor negative feedback loops, and neither long nor short loops are present in any of the three spontaneous cognitive maps that have been investigated in detail. This is curious. The absence of cycles in these maps seems to indicate that the images of the policy environment which these decision makers present to each other in their meetings are devoid of feedback. It is curious precisely because we know that feedback is vital aspect of the dynamics of almost any complex environment, especially social environments (p.232, Axelrod 1976)”

Axelrod further goes on to comment on the phenomena of lack of feedback loops saying “Thus the explanation seems to be in the way people conceptualize causation. They seem to see it as flowing outwards, and not turning back to affect some other concept variable that is regarded as causally prior”. There are no agreed upon theory for explaining the lack of feedback loops. And,

after Axelrod's studies, Maoz found some feedback loops in the cognitive map of Kissinger (Maoz;1991). The perception of feedback loops is important in comprehending a problem situation. If policy makers are unable to perceive feedback loops and make policy measures based on feed forward loops alone, they cannot understand the dynamics of the problem and its environment and the long-term effect of their policy measures. So feedback thinking is an essential feature of successful policy makers.

In our studies on the cognitive maps of DJ and Mahathir, we could found many feedback loops. In this respect, the cognitive maps of both DJ and Mahatir are very rich and elucidating. This richness in their feedback loops in their cognitive maps can be explained as follows. Firstly, their cognitive maps were constructed not from the statements of their single speech, but from their statements delivered in speeches over a period of more than a year. If we had constructed their cognitive maps only from the statements of single speech, the resulting cognitive map may have been lacking feedback loops.

Secondly, the richness of feedback loops might come from the position of DJ and Mahathir, who are in the position of managing overall society including industrial sector, financial sector, labor problems, and international relations. Thus their cognitive map cannot but represent important feedback loops already embedded there. But the cognitive maps of policy makers who deal with only a section of the society may not contain feedback loops as has been found in the studies by Axelrod.

If this is the case, there comes an important implication. Divide-and-conquer strategy does not help in perceiving the feedback loops. If the top policy maker/chief executive divides the problems among his advisors and relies upon the inputs given by them he can not perceive non-linear relationships among the inputs, for, inputs have come from a particular part of the overall problem and thus may not contain feedback loops. Therefore, in order to see the problem in totality the top policy maker must transcend the bits and pieces of the problem and see the whole in order to capture the non-linear relationship between the parts of the problem.

VII. Conclusion

In this study we constructed and analyzed cognitive maps of President of South Korea and Prime Minister of Malaysia with respect to the economic crises in their respective countries. The comparison of their cognitive maps revealed that they perceived the economic crises differently and deployed different approaches to overcome the crises. The similarities in their

cognitive maps were found in terms of feedback loops, while the differences were found in terms of types of variables and relationship among them. Different, in fact, opposite relationship between the same variables was the most striking difference between their cognitive maps. While president DJ saw national credibility as a defense against speculative behavior Mahathir did not find any solace in it. President DJ perceived that the balancing loop of restructuring the financial and industrial institutions could take care of the problem, Prime Minister Mahathir did not see any option but breaking the vicious cycle of national credibility versus speculative behavior by shunning off Malaysian currency trade. Thus on the basis of this study we feel that cognitive map approach could be a very potential tool for comparative study of policy makers.

The most important issue this study has thrown up, which calls for thorough investigation is the relationship between national credibility and speculative behavior. One needs to know whether national credibility is the potential cause of speculative behavior or not. Are they mutually dependent upon each other?. However, mere realization of interdependent nature of relationship between national credibility and speculative behavior does not solve the problem. The critical conditions involved in this interdependence are the subject of further study.

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