

PRELIMINARY DRAFT

# **Opportunism fails price mechanism, not the market**

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**Sung Sup Rhee**

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Emeritus Professor of Soongsil University

[rheess@ssu.ac.kr](mailto:rheess@ssu.ac.kr)

<https://nyxabartar.wixsite.com/sungsuprhee>

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## **Opportunism fails price mechanism, not the market.**

### **Abstracts:**

Advantage of analytical dimension is the gaining of the image of real life phenomena which is projected to the analytical dimension. The making of sympathy-consent dimension as added analytical dimension in economics enables the reinterpretation of traditional concepts in economics. Market is conceived as price mechanism in the value-cost rationality dimension. The same market is reinterpreted as (relation exchange) transaction in sympathy-consent dimension. Opportunism turns out to be the behavior which exists in sympathy-consent dimension, but not in value-cost rationality dimension. Path dependence test is used to identify the affiliation to which analytical dimension. The price mechanism, which exists in the value-cost rationality dimension, is unable to represent opportunistic behavior (Rhee 2018c). It is price mechanism, not the market, that fails due to the presence of opportunism.

### **Keywords:**

Sympathy-consent dimension, opportunism, market failure, path dependence test, open/indeterminate system, cognitive system

### **JEL code:**

D90, D0

## **I. Introduction**

Market is such a vital concept in economics that the right apprehension of its definition cannot be underlined too much. Without doubt, it is strange that there exist plenty of lacunas in the defining steps of market. “Economists are interested only in ‘the determination of market prices,’ whereas ‘discussion of the market place itself has entirely disappeared’” (Hodgson 2015: 130)<sup>1</sup> Grave consequence is the conceptual confusion about the relation between market and price mechanism. They are often treated equal in the literature.

This problem becomes pronouncing in the literature discussing on market failure. Plenty of

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<sup>1</sup> Small quotation ‘.’ in big quotation “.” is from Coase (1988: 7).

researches attracted attention from the academics because they reported the cases of market failure. Especially in the literature of new institutional economics, opportunistic behavior was highlighted because of market failure as the outcome of the behavior: lemon market failure (Akerlof 1970), shirking (Alchian and Demsetz 1972), lock-in effect (Klein et al 1978), moral hazard (Hart and Holmstrom 1987), incomplete contract (Grossman and Hart 1986) and so on.

Does opportunism fail market or price mechanism? To address the question, we need analytical instruments by which to distinguish the differences between market and price mechanism. We begin with human cognitive system to figure out sympathy-consent dimension in section IV. Sympathy-consent process is the process of personal interaction when individuals have their respective cognitive systems. Value-cost rationality dimension is distinguished from sympathy-consent dimension (dimension of bounded rationality). The closed/determinate system of value-cost rationality dimension contrasts with the open/indeterminate system of sympathy-consent dimension.

The concepts of market and transaction are compared in the value-cost rationality dimension as well as in the sympathy-consent dimension in section III. Market may be projected to the value-cost rationality dimension to be envisioned as price mechanism. It will become transaction (or relation exchange) in the sympathy-consent dimension (Rhee 2012b). ‘Why opportunistic behavior matters?’ will be discussed in section II.

Does opportunism fail market? The images of market which are projected to different analytical dimensions are compared in section V. There is no phenomenon of life that is not apprehended in the sympathy-consent dimension. However, a lot of phenomena of life are unable to be conceived in the value-cost rationality dimension because sympathy-consent dimension is more fundamental than value-cost rationality dimension (Rhee 2012b, 2018c). A test of path dependence is introduced to vindicate the affiliation of the phenomena of opportunism to the sympathy-consent dimension.

## **II. Why mind about the opportunistic behavior?**

It may not be an exaggeration to say that recent critical thinking in economics has been put forward by the economists in new institutional economics. Professor Coase’s transaction cost was a path-breaking concept which renders open the way inroads to the tenet where the institution is included as a part of analyses in economics (Coase 1960). However, soon it turned out that transaction cost was not the panacea to the confusion in the analyses of economics, especially the choice between market and organization. Rational agent model has been quite successful to the analyses of market. However, it was not very successful in shedding illumination on the study of human actions in non-market territory. Transaction cost was not the suitable instrument by which to navigate the domain of non-market territory.

Problems come out when considering market exchange as the alternative to organization. In the famous example of procurement contract between General Motors (GM) and Fisher Body (FB), human beings never fail to encounter the unanticipated situation which may arise as the outcome of asset specificity and locked-in hostage condition due to FB's locational specificity. The root cause of unanticipated condition is the bounded rationality of human cognizance (Simon 1955). Now, it became critical to understand how human behavior may respond to the unanticipated situation. Opportunistic behavior may be possibility as the responding action to the situation (Williamson 1975: 234; Hodgson 2004: 402).

Williamson defined opportunism as "self-interest seeking with guile" (Williamson 1975: 255). Is 'self-interest seeking' different with 'self-interest seeking with guile'? Williamson's definition seems to stem from limited capacity of human cognizance, i.e. bounded rationality. Unanticipated incidents may develop after contracts being signed. The significance of the problem is in its capacity to derail transaction cost approach (Klein et al 1978).

Transaction cost is considered as the cost necessary to monitor opportunistic behavior and enforce contracts (Williamson 1975; Hodgson 2004: 401). However, it was not explained how every opportunistic action can be identified consistently by transaction cost or any of its indices (Rhee 2014, 2018b). If opportunistic actions are not able to be identified consistently and uniquely by transaction cost, can we rely on this approach to recognize market(transaction cost) as the alternative to organization(opportunistic action)? This question is serious in the sense that it presumes some alternative analytical dimension that is different from the dimension of market or transaction cost.

Transaction cost is considered to emerge mainly from the costs to monitor and police opportunistic behavior (Williamson 1975). In this regard, transaction cost approach espouses the old institutional economists' view that "the transaction is the ultimate unit of microeconomics analysis" (Commons 1934, 1970; Williamson 1975: Preface xi). Williamson's study seems twofold. One is to recognize hierarchy as the alternative mechanism to market. The second is to recognize transaction cost as the instrument in the analysis with which to integrate market and hierarchy (Williamson 1975).

Williamson allegedly illustrates that the sufficient competition in the market rein in the possible opportunistic behavior. However, in case of monopolistic condition as in the case between GM and FB, the rise of transaction cost due to opportunism forbids the use of market approach or contracts and compels hierarchy as substitution, which is frequent in labor market (Williamson 1975: chapter 4). In other words, he recognized opportunism as the source of market failure. But transaction cost is used as the vehicle by which to transcend from market to hierarchy.

In this connection, we cannot but encounter the counter-argument that the mere magnitude of cost is not the legitimate reason for the substitution of hierarchy for price mechanism, the

question of which is not elaborated in Williamson (1975)(Rhee 2018c). However, the opportunism as the cause of market failure emerged as the kernel of the problem in the new institutional economics literature.

### **III. Market versus transaction**

Lemon market failure (Akerlof 1970) is a well-known example of market failure due to opportunism when there is information asymmetry. Literature distinguishes the classifications from adverse selection (Akerlof 1970; signaling Michael Spence; screening Stiglitz 1961) to moral hazard (principal-agent Jensen and Meckling 1976). Problem seems to exist everywhere. If being confined to the firm, the metering of productivity of an individual in team production is difficult so that the reliance on the market does not suffice to prevent shirking behavior (Alchian and Demsetz 1972).

Modern property rights school emerged to deal with the problems of post-contractual opportunism (Grossman and Hart 1986; Hart and Moore 1988, 1990). However, the introduction of residual rights of control as the new concept of property right to deal with the indescribability of contracts failed to resolve the issue but to confess the lack of reality in their analyses (Maskin and Tirole 1999a).

Clearly, every issue tracks down the relevant point of bounded rationality, which unfolds the possibility of being locked-in into the hostage situation which is put in place by opportunistic behavior. The significance of the issue is that the opportunism leads to the outgrowth of market failure. Property right approach, which appeared as a knight to rescue from the plague, turns out abortive (Maskin and Tirole 1999a).

Why repeated attempts to address the question carried out with not much avail? In this connection, this paper proposes that there may be conceptual confusion in the concept of market, which is distinguished from transaction. Economists tend to recognize market as identical as price mechanism and be perplexed with the outcome of reality. Market is conceived as analytical architecture of rational agent model (RAM hereafter). In the rational agent model, transaction is determined by price. Price is determined by market clearing system  $D(p)=S(p)$ . In this system of value-cost rationalism, there seems no room for opportunistic action. “Self-interest seeking with guile” is not distinguished with self-interest seeking. Adverse selection, moral hazard, shirking are not the actions which are different from self-interest seeking in the value-cost rationality dimension.

Then, where are these concepts located? They belong to the dimension of the bounded rationality (Williamson 1975: 4-7). In this paper, bounded rationality is treated as an analytical dimension, the legitimacy of which is illustrated in Rhee (2012b, 2013b, 2018c). It was denoted as sympathy-consent dimension. Opportunistic behavior does not belong to the

value-cost rationality dimension. Any attempt to describe opportunistic behavior by the analytics of the value-cost rationality dimension dooms to fail (Rhee 2018c).

Since rational agent model is built on the value-cost rationality, market is considered synonymous with transaction. It interprets market as the transaction by means of the price which is determined by market clearing system  $D(p)=S(p)$ . It is why Akerlof (1970) considered lemon market as the case of market failure. In fact, it is the failure of rational agent model to understand the phenomena of opportunistic behavior in the analytics of RAM. It is neither the failure of transaction nor the failure of market.

#### **IV. Sympathy-consent dimension**

##### **Human cognitive system**

Sympathy-consent dimension is the analytical dimension which is built on human cognitive system (Kahneman 2003; Rhee 2017, 2018c). The interpersonal interactions require sympathy-consent process between and among interacting individuals (Hume 1739; Smith 1759; Buchanan and Tullock 1962; Rhee 2012b). The experiments of behavioral studies unfolded that human cognitive system begins with perception. At the step of perception, two types of cognitive processes put forward: intuition and reasoning (Shelly Chaiken and Yaacov Trope, 1999; Gilbert 2002; Steven A. Sloman 2002; Keith E. Stanovich and Richard F. West 2002).

The cognitive process of intuition prompts fast, in parallel, automatically, effortlessly, associatively at the step of perception (Kahneman 2003), which fulfills as System 1 of human cognition (Stanovich and West 2000). On the other hand, the cognitive process of reasoning fulfills slowly, serially, in controlled way, effortfully, as rule-governed fashion, which features as System 2 in contrast with System 1. System 1 is primal to System 2 in the order of cognitive system.

The process of cognitive system is known to be affected by the mental contents, which are set by percepts and stimulation arousal on the one hand, and by conceptual representation on the other hand. “The technical term for the ease with which mental contents come to mind is accessibility (E. Tory Higgins 1996)” (Kahneman 2003). Some mental contents come to mind with more accessibility, which is reference-dependent (Kahneman and Tversky 1979) or influenced by framing effects (Tversky and Kahneman 1981, 1986) or set by judgment heuristics (Kahneman and Frederick 2002).

##### **Interpersonal interface**

What we learn from the studies of behavioral approach is that it is not realistic to accept the assumption of the (value-cost) rationality as is presumed by rational agent model. The process of sympathy and consent is the unavoidable conduit for the making of interpersonal interactions when individuals attempt to make interaction (Hume 1739; Smith 1759; Buchanan and Tullock 1962). Rational agent model uses price as the instrument by which to achieve transaction. However, the sympathy-consent process (SCP in short) becomes the vehicle by which to attain interpersonal interaction or transaction in behavioral economics approach. Relation exchange is the outcome of sympathy-consent process where relation exchange denotes interpersonal interaction (Rhee 2012b, 2017). This latter approach will be called as relation exchange model (RXM), which is precisely the model of bounded rationality (2017, 2018c).

The sympathy-consent process is the interface between or among different cognitive systems of individuals where cognitive system 1 (perception-intuition) more accessible than system 2 (reasoning). The attainment of SCP is necessarily coincidental rather than causal or inevitable and open/indeterminate rather than closed/determinate (Rhee 2012b, 2013b, 2017, 2018c). The sympathy-consent process turned out to be more fundamental or primal than price, which vindicates the legitimacy of sympathy-consent dimension as the analytical dimension being added to the value-cost rationality dimension (Rhee 2012b, 2017, 2018c).

It is only when human cognitive system reduces to the reasoning process of perfect value-cost rationality that the sympathy-consent process is rendered equal to the price mechanism of rational agent model (Rhee 2012b, 2013b, 2017, 2018c). It requires the fulfillment of the premise of consistent measuring of value-cost indices (2012b, 2017, 2018c). If the condition is met, it renders rational agent model as reality.

If the premise of consistent measuring of value-cost indices becomes unfulfilled even a bite, rational agent model is no more effective (Rhee 2018c). The model of relation exchange or model of bounded rationality begins to set out. In this model, decision-making has to be navigated by the understanding from experiences. In this regard, it is the world of empiricism in contrast with the value-cost rationalism. Sympathy-consent dimension is the dimension for the world of empiricism.

The value-cost rationalism is depicted by rational agent model. However, the sympathy-consent dimension (model of bounded rationality or model of relation exchange or world of empiricism) denotes real life instances. For instance, money may be an abstract word which stands for unit of account in rational agent model. However, in real life instance, it means gold or legal tender. Price is determined by market-clearing system  $D(p)=S(p)$  in rational agent model. In the world of empiricism, it is determined by either haggling, auction, ask/bid, markup or administered pricing (Rhee 2016, 2018a)

## **Open/indeterminate system**

It was already noted that the attainment of SCP is necessarily coincidental rather than causal or inevitable and open/indeterminate rather than closed/determinate. It was also noted that only when human cognitive system reduces to the reasoning process of perfect value-cost rationality, the sympathy-consent process is rendered equal to the price mechanism of rational agent model. It requires the fulfillment of the premise of consistent measuring of value-cost indices. Every economic state may be identified as the solution of optimization-equilibrium algorithm, which defines the closed/determinate system (Rhee 2013b, 2018a, 2018c).

On the other hand, the model of relation exchange or model of bounded rationality defines the world of empiricism. It is the open/indeterminate system. The borderline between closed/determinate system and open/indeterminate system is set by the premise of consistent measuring of value-cost indices (Rhee 2018a, 2018c). The two systems are mutually exclusive, i.e. complement sets (2018c).

The economic states of the closed/determinate system are familiar instances which have been depicted by rational agent model. The economic instances of the open/indeterminate system are unfamiliar to economists who have been tamed by rational agent model. However, they are really existential instances of real life, which are able to be understood only from experiences. The afore-mentioned two examples of money and price-determining scheme well illustrate the kernel of the problem.

## **V. Does opportunism really fail the market?**

### **RAM image versus real existential instances**

In this study, two different perspectives (value-cost rationalism versus empiricism) are distinguished where each perspective has respective analytical dimension; value-cost rationality dimension versus sympathy-consent dimension (dimension of bounded rationality). The former perspective denotes rational agent model (RAM), whereas the latter relation exchange model (RXM). Any economic state or event may be conceived as the image that is projected to either of dimensions. For instance, if money is projected to the value-cost rationality dimension (RAM image from now), it is conceived as unit of account. However, if the same money is projected to the sympathy-consent dimension, the real existential instance is conceived like gold or legal tender.

How about market? RAM image of market is price mechanism, the architecture of which is drawn up by rational agent model. However, the image of the same market, which is projected to the sympathy-consent dimension, will be the bundle of real existential instances like price as a part of SCP, institutionalized trust, innovative devices such as money,



entrepreneurship as a market component and so on.

The introduction of sympathy-consent dimension as additional apparatus offers a fertile source in the analysis of economics. It is more so because sympathy-consent dimension is nothing but the dimension of bounded rationality. Real life stories mostly belong to the domain of bounded rationality. Economists are familiar with RAM images due to the education in economics. However, they don't feel at ease with real existential instances while performing economic analysis. Particularly, we are not accustomed to the practice to distinguish RAM image and real existential instance. Is there any handy-dandy test which vindicates the authenticity of real existential instance?

### **Path dependence as the test of affiliation to sympathy-consent dimension**

Every economic state or event may be conceived as real existential instance of the sympathy-consent dimension. However, not all real existential instance of the sympathy-consent dimension may be conceived as RAM image of the value-cost rationality dimension. How do we know the economic state or event belongs to sympathy-consent dimension? One handy test is the test of path dependence. In the value-cost rationality dimension, every economic state or event is determinate state. The property of path dependence does not hold in the value-cost rationality dimension.

Experiences happen coincidentally. However, it makes legacy afterwards. In other words, every experience holds the property of path dependence. Experiences belong to the domain of sympathy-consent dimension. However, experiences do not belong to the domain of the value-cost rationality dimension. For instance, wherever is the point you make start (historical event), the point of equilibrium which is determined by the market clearing system  $D(p)=S(p)$  is determined independently of the historical event of starting point.

### **Cases of RAM images being compared with real existential instances**

(1) Transaction: Transaction is "the ultimate unit of microeconomic analysis." It means value exchange in the value-cost rationality dimension. The boundary of exchanges which are attained with the sympathy-consent process used as the mediatory instrument extends from the exchanges in the market to the interactions of individuals. The latter, i.e. interactions of individuals is denoted as relation exchange. Relation exchange as well as sympathy-consent process is path dependent.

(2) Price setting: Price is determined by the market clearing condition  $D(p)=S(p)$  in rational agent model. Price setting is determinate process in the value-cost rationality dimension. However, in reality, price is determined by the process of either haggling or auction or

ask/bid or markup or administered pricing, each of which is SCP themselves. Each of these price-setting processes fulfills in a historical coincidence. Price is path dependent in the sympathy-consent dimension.

(3) Opportunistic behavior: Opportunistic action occurs in some open/indeterminate system. Klein et al (1978) and Williamson (1975) mentioned about the possibility of opportunistic behavior of FB at the event of asset specificity in the long-term contract between GM and FB. But Coase (2006) refuted it as unlikely occurring which is not supported by historical evidences. Opportunistic behavior belongs to the domain of sympathy-consent dimension. It is path dependent. It does not belong to the value-cost rationality dimension.

(4) Market failure due to opportunistic behavior: Market is the real existential instances of real life. The image, which is projected to the value-cost rationality dimension, is price mechanism. Since opportunistic behavior belongs to the domain of sympathy-consent dimension or the open/indeterminate system, what fails due to opportunistic behavior is not the market, but price mechanism. Transaction may happen or not happen in the market at the presence of opportunistic actions, which vindicates the operation of sympathy-consent process as the mediatory instrument of relation exchange. Transaction does not fail.

(5) Causes of failure: Critical point is that it is the presence of phenomena in the open/indeterminate system that fails price mechanism. Price mechanism belongs to the closed/determinate system, whereas opportunistic behavior belongs to the open/indeterminate system. The set of economic states in the open/indeterminate system is the complement set of the set of closed/determinate system (Rhee 2018c). They are mutually exclusive. The presence of phenomena in the open/indeterminate system undermines price mechanism. Remarkably, this RXM approach is able to unfold that opportunism is not the only phenomenon that belongs to the domain of open/indeterminate system. Wavering (Rhee 2018c), coincidences (Rhee 2013b), innovative devices like money, entrepreneurship, institution are other examples (they are all path dependent), the phenomena of which are unable to be projected to the value-cost rationality dimension. On the other hand, transactions or personal interactions are nothing but relation exchange, which are attained as the outcome of sympathy-consent processes. Phenomena of open/indeterminate system include or combine with sympathy-consent processes to give rise to relation exchanges.

**Table 1: Images projected to rational agent model versus real existential instances**

	RAM images: rational agent model	Real existential instances: relation exchange model
Market	Price mechanism	Price as a part of SCP; institutionalized trust; innovative devices as components of market, e.g. money; entrepreneurship as

		component of market; ..
Money	Unit of account	Gold; legal tender; ..
Transaction	Value exchange by means of price	Relation exchange
Price setting	Market clearing: $D(p)=S(p)$	SCP: haggling, auction, ask/bid, markup, administered pricing
Opportunistic behavior (OB)	Irrelevant	Relevant SCP
Market failure due to OB	Not failure of market, but the failure of price mechanism to catch the attributes of OB	No failure of transaction
Causes of failure	Not only opportunism, but the presence of all OIS (open/indeterminate system) phenomena undermines price mechanism: 1) wavering, 2) coincidental instances, 3) innovative devices like money, 4) entrepreneurship, 5) institution, ..	OIS phenomena are the instrumental processes of transaction, not the cause of failure.
Analytical dimension	Value-cost rationality dimension	Sympathy-consent dimension or dimension of bounded rationality
System domain	Closed/determinate system	Open/indeterminate system

### Misunderstanding in market failure arguments

Open/indeterminate system and closed/determinate system are two complement sets which constitute universal set (Rhee 2018c). Sympathy-consent process is a mapping which is defined in the open/indeterminate system. Opportunistic behavior is one mode of sympathy-consent process. There are other modes of sympathy-consent process, e.g. wavering and coincidence. It is unclear why opportunism is picked to illustrate the failure of price mechanism. Perhaps, the reason is that wavering and coincidence are unable to project any image in the value-cost rationality dimension. By the incidences of wavering or coincidence, transaction may not happen, which vindicates the failure of price mechanism.

In Table 2, the cases of market failure arguments are picked as illustration to discuss the validity of the argument. In each of cases, opportunistic actions are conceived only in the sympathy-consent dimension, not in the value-cost rationality dimension.

(1) Metering and shirking: Shared inputs (Alchian and Demsetz 1972) create the problem of metering the productivity of individual participants. Shirking is a possible opportunistic behavior. Shirking is a possible mode of sympathy-consent process, which belongs to the domain of the open/indeterminate system. It is path dependent action. There is someone who

is opportunistic. At the same time, there are others who are not opportunistic. Price mechanism as the solution algorithm for determinate action does not fit to accommodate the problem. It is not the failure of market, but the incompetence of rational agent model. The problem exists in the open/indeterminate system whereas the solution approach of rational agent model (RAM) belongs to the domain of closed/determinate system.

(2) Asset specificity and lock-in effect: Asset specific investment is likely to make lock-in effect between procurement contracting parties, which may create post-contractual opportunism (Williamson 1971: 116-117). Opportunistic behavior is coincidental action, which makes legacy. It is path dependent. Root cause of the problem is the incompleteness of contract, which is unavoidable in real life because the future is unpredictable. It vindicates that the problem belongs to the domain of open/indeterminate system. It is a well-known case of market failure. However, in the open/indeterminate system, incentive schemes are suggested to accommodate the problem, which is nothing but sympathy-consent process or relation exchange. In other words, transaction does not fail. It is RAM's price mechanism that fails.

(3) Information asymmetry and adverse selection: Information asymmetry is frequent incidences between buyers and sellers or between contracting parties. If sellers have informational advantage over the buyers, buyers may be suspicious about product quality (hidden action), which affect the making of transaction (Akerlof 1970). In the possible lists of behavioral action, a specific action, either more opportunistic or less, is coincidental choice. Once an action is taken, it leaves legacy. It is path dependent. The problem of adverse selection belongs to the open/indeterminate system. There is no way to catch the indeterminacy of coincidental choice with optimization-equilibrium algorithm and project it into the closed/determinate system (Rhee 2018c). It is price mechanism that fails. With the introduction of proper quality standards, transaction may resurrect, which vindicates the legitimacy of sympathy-consent process. It is relation exchange. Transaction or (lemon) market does not fail.

(4) Information asymmetry and moral hazard: After employment contract is signed, the agent may choose an action (e.g. effort level) that cannot be observed by the principal (Hart and Holmstrom 1987; Jensen and Meckling 1976). In the relation of principal-agent, a hidden action of moral hazard, either more opportunistic or less, is coincidental choice. Once an action is taken, it leaves legacy. It is path dependent. The problem of post-contractual opportunism, i.e. moral hazard, belongs to the domain of open/indeterminate system. There is no way to catch the indeterminacy of coincidental choice with optimization-equilibrium algorithm and project it into the closed/determinate system. It is price mechanism that fails.

(5) Incomplete contract: Grossman and Hart (1986) distinguished contractual rights into specific rights and residual rights. "The relevant comparison is not between the nonintegrated outcome (hierarchy) and the complete contract outcome (market) but instead between a

contract that allocates residual rights to one party and a contract that allocates them to another.”<sup>2</sup> The choice between market and organization turned to the problem of allocating residual rights of control among contracting parties. It signifies the beginning of modern property rights school. However, the change in how to pose the problem does not change the real mechanics. Incomplete contract turns to the indescribability of residual rights of control, i.e. indescribability of property rights. The indescribability of property rights belongs to the domain of sympathy-consent dimension. It in turn belongs to the open/indeterminate system. Property right or residual rights of control whatsoever is indeterminate state (Hart 1995). Coincidental incidences change and determine the contents of property rights. The result remains as legacy. It is path dependent. Any attempt to measure it consistently by value-cost indices dooms to fail (Maskin and Tirole 1999a).

**Table 2: Path dependence of opportunistic behaviors**

	RAM images: rational agent model	Real existential instances: relation exchange model
Metering	No PD	PD of shirking
Asset specificity	No PD	PD of lock-in hostage
Information asymmetry Adverse selection Moral hazard (agency)	No PD No PD	PD of hidden action PD of post-contractual hidden action
Incomplete contract	No PD	PD of residual rights of control

## VI. Concluding remarks

At the step of perception, two types of cognitive processes put forward: intuition and reasoning. The process of cognitive system is known to be affected by the mental contents, which are set by percepts and stimulation arousal on the one hand, and by conceptual representation on the other hand. Some mental contents come to mind with more accessibility, which is reference-dependent or influenced by framing effects or set by judgment heuristics.

What we learn from the studies of behavioral approach is that it is not realistic to accept the assumption of the (value-cost) rationality as is presumed by rational agent model. The process of sympathy and consent is the unavoidable conduit for the making of interpersonal interactions when individuals attempt to make interaction.

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<sup>2</sup> Citation is from Grossman and Hart (1986) page 716. Parentheses are author's.

Rational agent model uses price as the instrument by which to achieve transaction. However, the sympathy-consent process (SCP in short) becomes the vehicle by which to attain interpersonal interaction or transaction in behavioral economics approach. Relation exchange is the outcome of sympathy-consent process where relation exchange denotes interpersonal interaction.

Sympathy-consent dimension is the veritable gateway to the open/indeterminate system which opens the domain of empiricism. It contrasts with the value-cost rationality dimension. Rational agent model is confined to the domain of value-cost rationality dimension. This addition of sympathy-consent dimension offers a fertile source of analytics to the theoretical architecture of economics.

Opportunism has been highlighted as the topical issues in the studies of new institutional economics. The reason is that plenty of evidences were drawn out from opportunistic behaviors which so-called market failure. Market is the ubiquitous concept which may exist in the sympathy-consent dimension as well as in value-cost rationality dimension. If the analysis is extended to the sympathy consent dimension, there are other sources of transaction failure than opportunism. Wavering or coincidental incidences may lead to the failure of transaction. It is the domain of open/indeterminate system. Wavering or coincidental incidences didn't gain attention because their images projected to value-cost rationality dimension are hardly envisioned.

Market, if projected to sympathy-consent dimension, becomes the transaction of relation exchange. The same market, if projected to the value-cost rationality dimension, becomes price mechanism. Opportunistic behavior becomes a mode of sympathy-consent process, if projected to sympathy-consent dimension. Because opportunistic behavior belongs to sympathy-consent dimension, there is no projected image of opportunism in the sympathy-consent dimension. In other words, opportunism fails price mechanism. But it cannot fail market because the mechanism of transaction operates in the sympathy-consent dimension despite the efficacy of opportunism.

Opportunism begins with the experience of opportunistic behavior. The experience is coincidental because by nature it belongs to the domain of open/indeterminate system. An experience occurs coincidentally in one conjunction out of among innumerable circumstances. It cannot be identified as the solution of optimization-equilibrium algorithm or in the closed/determinate system.

Is there any handy-dandy test which distinguishes the incidences that belongs to the sympathy-consent dimension? Path dependence is the idiosyncratic attribute of empiricism. The incidence of behavioral action may be tested for path dependence to judge if the incidence belongs to the domain of sympathy-consent dimension.

Metering-shirking, asset specificity and lock-in effect, information asymmetry (adverse

selection, moral hazard) and hidden actions, incomplete contract and residual rights of control were tested for the conformity with path dependence and turned out to be affirmative. They all belong to the sympathy-consent dimension. In other words, price mechanism fails due to the presence of opportunistic behaviors as such. However, sympathy-consent process generates relation exchange. Transaction as well as market does not fail.

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