Minimizing Missed Opportunities: A New Model of Choice?

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Key axioms of the “hard core” of neoclassical theory suggest that there is a solid link between the model of rational choice and the existence of unique, stable and Pareto-efficient market equilibrium. The task of this article consists of differentiating two potential sources of sub-optimal outcomes; the first refers to the nature of individual choice, and the second – to interactions between agents, with special emphasis on the latter.

Power relationships produce an asymmetrical situation: one side, Principal, tries to realize his or her agenda, whereas the other side, Agent, chooses between sub-optimal outcomes. One of the strategies for imposing Principal’s will, domination by virtue of a constellation of interests in the market, is the subject of the present analysis. Max Weber, who first introduced the concept (1968, 943-946), does not explore it in depth – he just mentions that this type of domination is more oppressive to Agent than the will Principal imposed by legitimizing it.

Monopoly power illustrates this form of domination. Neoclassical economists show how monopoly leads to sub-optimal outcomes at the macro level. Nevertheless, they appear less interested in modifications in the model of individual choice induced by monopoly and in the interactive side of relationships between Principal (monopolist) and Agent.

Part I is devoted to differentiating the two sources of sub-optimal outcomes. Power is considered as one of the coordination mechanisms. A special case of power, domination by virtue of a constellation of interests (DVCI), is discussed in Part II. It involves minimizing Agent’s missed opportunities. Empirical examples considered in Part III illustrate the idea of DVCI. They refer to recent tendencies in emerging markets in post-Soviet countries.
Particularities of approaches developed, on one hand by the majority of economists, and, on the other by game theorists and advocates of the old institutionalism, facilitate the task of differentiating sources of sub-optimality. The former group focuses attention on individual decision making, whereas the latter questions the premise of methodological individualism and examines interactions.

With the help of the model of bounded rationality, mainstream economists (Simon 1978) indicate that limited cognitive capacities and high transaction costs prevent the agent from finding and implementing an optimal solution. Uncertainty, or unawareness of all possible “states of nature,” further complicate the task of finding the optimum (Langlois 1986, 228). Socio-economists introduce values into analysis. The eventual conflict between values and rational considerations calls for ordering preferences. Values, as second-order preferences, can “overrule” first-order preferences referring to the model of rational choice and lead to sub-optimal – in terms of technical expedience – outcomes (Jonge 2005).

Models of rational choice remain focused on individual decision-making. In spite of the existence of various institutionalist interpretations of bounded rationality, they just add constraints under which an individual attempts to maximize his/her utility (Figure 1).

The search for an alternative source of sub-optimal outcomes involves shifting the unit of analysis “from commodities and individuals to transactions” (Commons 1931, 652). Sub-optimality due to coordination failures takes manifest forms if in order to achieve desired outcomes, everyone needs to adjust their behavior to that of their counterparts – yet fails to interpret correctly their intentions and to send them an easily decipherable signal about his or her own intentions (Schelling 1960, Ch. 3; Schotter 1981, 22-23). For example, each of two motorists on a narrow road depends on the counterpart’s choice to achieve the ultimate goal of avoiding a collision.
Even if individuals manage to find common references and coordinate their behavior, there is no guarantee against falling into sub-optimality. Common references are embedded in institutions that ‘are adapted to past circumstances, and are therefore never in full accord with the requirements of the present’ (Veblen 1934, 191; see also Sugden 1989).

Power relationships emerge as one of the tools that help solve coordination problems: instead of trying to predict the counterpart’s choice, the individual transfers the right to control his/her actions to the former who then becomes Principal. Principal decides for Agent how to behave and what actions the latter has to undertake when confronted with unforeseen contingencies (Coleman 1990, 66-67; Kreps 1990a, 92-93). Principal’s decisions do not necessarily refer to the past; hence, in conditions of uncertainty coordination through power relationships has greater potential than spontaneous coordination embedded in institutions. The terms Principal and Agent are employed here exclusively in the context of power relationship. Such interactions represent a subset of a larger set of relationships in which one person, an agent, ‘is employed to do an act on behalf of another called the principal, so that as a rule the principal himself becomes bound’ (Munro 1987, 966).

**Figure 2. Sources of Sub-Optimality in Interactions**

Employing power as a solution to coordination problems has its price, however (Figure 2). Agent is expected to maximize not his/her own utility, but that of Principal. Principal acts under a new constraint too: Agent’s utility transforms into a parameter of the utility function of the former (Stiglitz 1987, 969):

\[
\begin{align*}
\max & \quad \text{EU}_{\text{Principal}} \\
\text{EU}_{\text{Agent}} & \geq \overline{U}
\end{align*}
\]  

(1)

Agent does not always transfer the right to control on a voluntary basis: Principal can also appropriate it. In function of the grounds on which the transfer is made (rational choice, considerations of legitimacy or the use of violence), power
relationships may or may not require justification, regardless of the fact that any power “involves negative features – of exclusion, restriction, compulsion, etc. – which stand in need of justification” (Beetham 1991, 57).

In the case of coercion, Principal gives Agent a choice, yet hardly justifiable: neither alternative (negative sanctions or the lack thereof if Agent complies with Principal’s requests) corresponds to Agent’s preferences. Principal puts Agent in conditions in which the latter’s choice minimizes eventual losses, $\bar{U} < 0$.

Monopoly power in the case of natural monopoly does not suppose justification either, in spite of restrictions imposed on a set of choices available to Agent. A particular industrial organization produces a “bias” in the market structure. “The bias of the system can be mobilized . . . in ways that are [not] the intended result of particular individuals’ choices” (Lukes [1974] 2005, 25).

In the case of manipulation, justification appears faked. The information supplied by Principal to Agent prevents the latter from realistically evaluating his/her actions, their objectives and outcomes. Principal leads Agent to believe in the legitimate character of the transfer of the right of control “by limiting or determining selectively the subject’s information supply” (Ledyaev 1997, 191).

Finally, there are cases of truly justified power relationships. The list of arguments appropriate for justification purposes includes rational considerations (compliance pays off) as well as references to values and norms shared by both Principal and Agent that allow legitimating power (Beetham 1991, 16). An employment contract (Simon 1951) creates positive incentives for transferring the right to control in the case of compliance, $\bar{U} > 0$.

DVCI represents a case of power that potentially calls for justification. Justification becomes a must if Agent is subject to artificially created monopolies. In contrast to the situation of natural monopoly, a bias of the system here is derived from conscious actions of Principal. Furthermore, this type of power relationship can be observed not only in the market, but also in politics and international affairs (Scott 2001, 83-84). Agent’s expected utility has a positive value here. Yet instead of maximizing it or getting a “satisficing” reward, he/she aims at minimizing missed opportunities to reap greater benefits.

\[
\begin{align*}
\max & \text{ EU}_{\text{Principal}} \\
\min & \left( U_1 - \text{ EU}_{\text{Agent}} \right), \quad U_1 > \bar{U} > 0, \quad \text{where} \quad U_1 \text{ is what Agent would potentially (counterfactually) gain if he/she maximized his/her expected utility, given the set of constraints imposed by Principal}
\end{align*}
\]

“Mechanics” of DVCI

In exercising power based on a constellation of interests Principal seeks justification for a very particular choice. This choice is made neither between the best and the second best options nor even between the satisfactory and the less satisfactory options. The minimization of missed opportunities has several common features – including
embeddedness in power relationships – with a selection between the worst and the second worst,1 but it is not reduced to the latter.

It is worth noting that bounded rationality can derive both from individual decision-making and power relationships. As for the latter, Principal offers an employment contract to Agent. Principal chooses a particular task to perform, x, in such a way as to maximize the associated satisfaction; Agent performs x and in exchange gets a fixed salary, \( w = \bar{U} \) (Simon 1951, 299).

The minimization of missed opportunities shares several common features with coercion. For instance, James Coleman offers a broad definition of power backed by coercion: "the superordinate agrees to withhold an action that would make the subordinate worse off in return for the subordinate’s obeying the superordinate" (1990, 71).

Coercion refers to the pain and deprivation of Agent (\( \bar{U} < 0 \)), whereas, in the case of DVCI, the payoff has a positive value. In other words, Agent always loses if coerced, whereas he/she misses opportunities to gain more – in relative terms – if subjected to DVCI (Figure 3).

Figure 3. Four Models of Choice Resulting from Power Relationships

There is also a need to differentiate two middle-range models of choice: the principle of satisficing embedded in an employment contract and the minimization of missed opportunities. Sets of choices deriving from these two models might overlap. They are mapped separately for the sake of graphic demonstration. It should be noted, however, that even if the two sets completely overlap, the logic of choice remains different. In the model of satisficing, the point of reference (\( \bar{U} \)) is located at the left end, whereas in the model of DVCI the point of reference (\( \bar{U}' \)) moves to the right end. In the latter case, Agent moves toward the point of reference keeping in mind what he/she would gain from accepting power, in the former he/she moves from it thinking about missed opportunities in the case of disobedience.
It appears that the behavior at the two extreme points of the continuum does not contradict the model of *homo economicus* that is supposed to maximize utility (optimizing) or minimize pain (coercion). However, the model of coercion is better at catching the interactive dimension of power: Principal sets the limits (two evils: “purse or life”) for Agent’s choice. As in the cases of satisficing and coercion, two points of reference in the situation of DVCI, a missed opportunity and a smaller (relative to the first) missed opportunity, are set for Agent by Principal. Principal can influence Agent’s choices in a manner favorable to him/herself by manipulating the latter’s incentive structure (see Dowding 1996, 5-8).

One can further elaborate the model by assuming that the final outcome is subject to bargaining after the initial conditions are set by Principal. The maximization of Principal’s gain explains his/her attempts to redefine the values of $U'_1$ and $\bar{U}$ after Agent transferred the right to control. Unforeseen contingencies and the impossibility to perfectly assess the difficulty of the task assigned to Agent increase the room for maneuvering (Kreps 1990a, 111-123). Principal tries to narrow the range of choices available to Agent by moving $U'_1$ to the right ($U'_2$). $U'_n$ then approaches $\bar{U}$ (Figure 4). Principal has more degrees of freedom in changing $U'_n$ than $\bar{U}$ because the value of the latter depends on total benefits from better coordination of actions with the help of power.

Figure 4. Principal’s *ex post* Opportunism

![Figure 4](attachment:image.png)

Agent also might behave opportunistically, e.g., in the form of shrinking, and neutralize Principal’s attempts to move $U'_1$ to the right. In the final account, Principal and Agent find themselves in the situation of bargaining with a first-mover advantage. This bargaining has several features of a game about splitting a particular amount of money between two players. Each can claim as big a share as they wish, yet they receive it only if their sum does not exceed the initial amount (Schelling 1960, 57; Kreps 1990b, 116-120; Kagel and Roth, 1995, 286). Laboratory game-simulation shows that the players pay attention not only to pecuniary considerations; their choices also have a moral dimension (the sense of fairness of the proposed split and the willingness to avoid feeling like a dupe). There is no single outcome of the bargaining between Principal and Agent; each of the plural outcomes refers to particular values and norms shared by both of them. David Kreps (1990a, 93) defines his concept of corporate culture in these terms.

At this point, the neoclassical approach reaches its limits. First, power
relationships in this particular context call for justification. Second, the internal dynamics of DVCI, namely \textit{ex ante} and \textit{ex post} bargaining, strengthen the need for justification. The model of rational choice appears to be a necessary but insufficient condition for understanding this form of power.

What arguments help to justify DVCI? If both interacting parties can win – Principal in absolute terms and Agent in relative terms – power relationships are potentially \textit{justifiable} in terms of a presumable commonality of interests. The common good derives from Principal and Agent’s willingness to enter into a relationship and takes the form of a rent to be shared between them. This justification has a utilitarian character, which does not mean that there are no other principles endorsed by both parties (they remain beyond the scope of this article).

Rent can be attributed to variations in natural resource quality (agricultural land, oil, gas, etc.), to positive effects of cooperation resulting from both the division of labor (Adam Smith) and associational gains of teamwork (Williamson 1975, 44) or to monopoly profits resulting from restrictions on competition (protection rent, see Tilly 1985, 175). Rent might also derive from administrative barriers erected by Principal not against outside competitors as in the case of protection rent, but against Agent. Then, the former stimulates the latter’s obedience by lowering administrative barriers on a case-by-case basis (Figure 5).

\textbf{Figure 5. Sources of Rent Shared by Principal and Agent}

\begin{center}
\begin{tikzpicture}
    \node (coord) at (0,0) {Solution of coordination problems};
    \node (division) at (2,0) {Division of labor};
    \node (associational) at (4,0) {Associational gains};
    \node (natural) at (6,0) {Natural resources quality};
    \node (protection) at (8,0) {Protection against outside competition};
    \node (administrative) at (10,0) {Administrative barriers};
    \node (cooperation) at (2,-2) {Cooperation};
    \node (rent) at (8,-2) {Rent as a basis of domination by virtue of a constellation of interests};
    \draw[->] (coord) -- (division);
    \draw[->] (division) -- (associational);
    \draw[->] (associational) -- (natural);
    \draw[->] (natural) -- (protection);
    \draw[->] (protection) -- (administrative);
    \draw[->,dashed] (coord) -- (cooperation);
    \draw[->] (cooperation) -- (rent);
    \end{tikzpicture}
\end{center}

\textit{Empirical Evidence: Minimizing Missed Opportunities in Russia}

Developments in Russia since the start of market reforms in the early 1990s are rich in illustrations for the proposed analysis. Elements of DVCI can be found, namely, in the oil and gas industry. Oil and gas rents accounted for over 25% of the GDP in 2005 (Gaddy and Ickes 2005, 562).

The government owns majority stakes in the Gazprom (a gas monopolist) capital and in three of the eight largest oil companies. In contrast to other industries inherited from the planned economy, the core structure of the gas industry has remained untouched during market reforms. The ministry of gas industry of the Soviet Union, that had controlled all enterprises involved in exploration, production
and transportation of gas, acquired a separate legal entity, Gazprom. The Russian petroleum industry has the structure of a tight monopoly ($CR_4=64.7$).\footnote{1}

Government control has a far greater scope than just businesses in which it has majority ownership. The mere industrial organization – the “bias of the system” – gives the government a lever in relationships with formally independent businesses. Other actors are expected to share their profits with state officials – through both formal and informal (kickbacks) taxation (Gaddy and Ickes 2005, 564-567). These actors make some profit ($U'$) without maximizing it. They minimize missed opportunities. “To avoid losing all their wealth, the owners of resource companies shared some of their rent . . . as a means of guaranteeing that they could keep the rest” (Gaddy and Ickes 2005, 570).

If one claims to get something more than $U'$, then the state officials do everything to lower the level of profitability below $U$. This happened with foreign investors involved in the exploitation of oil and gas fields on the Sakhalin shelf (Sakhalin-1 and 2 projects). As of the end of 2006, their attempts to increase their share of the profit led to opposite results: the government is considering withdrawing the permit (a production-sharing agreement with the Russian government dated 1994).

Relationships between the government and European consumers of Russian oil and gas (the European Union gets 44% of imported gas and 30% of imported oil from Russia, see Champion 2006) also show several features of DVC. The government has consistently refused to sign the Energy Charter Protocol on Transit that aims at promoting “transparent and non-discriminatory access to and use of Available Capacity in present and future Energy Transport Facilities used for Transit” (Article 2'). The oil and gas pipeline monopoly (oil pipelines are operated by Transneft, owned by the government) is recurrently used as a lever in economic and political disputes with neighboring countries, namely the Ukraine (in November 2005) and Georgia (in November 2006). In these conditions, Western companies, which instead of challenging Russia’s grip on energy decide to take part in Russian-led energy projects and assume the role of a junior partner (e.g., German companies involved in the Nord Stream project of building a gas pipeline), can expect to get a share of rent.

**Conclusion**

Sub-optimal outcomes derive from particularities of individual decision-making; they are also generated in the process of interaction. Power relationships help solve some coordination problems yet they lead to sub-optimal outcomes, at least for Agent. This paper explores the model of choice embedded in DVC. It has been argued that this model cannot be reduced to optimizing, satisficing or coercion. Principal acts according to the principles of maximizing behavior, whereas Agent minimizes missed opportunities. Asymmetries, proper to all forms of power relationships, coupled with problems related to bargaining about the exact amount of missed opportunities add a moral dimension to relationships between Principal and Agent. References to a common good, i.e., a rent to be shared, provide some grounds for justification.
The Russian case clearly illustrates the logic of sharing rents as a driving force of DVCI. The state officials use a variety of sources of rents, ranging from natural resources to administrative barriers. As long as Agent does not miss all opportunities to make profit, which seems easily attainable in a booming economy fueled by high hydrocarbon prices, domination is justified in terms of a common good. However, a less appropriate conjuncture would contribute to making Agent’s payoff negative and, hence, to debunking the myth of a community of interests.

Notes

1. In terms of game theory, the choice between the worst and the second worst involves minimizing the maximum possible loss. The Minimax strategy helps Principal achieve this result.

<table>
<thead>
<tr>
<th>2nd party</th>
<th>1st party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impose will</td>
<td>0, 0 [N]</td>
</tr>
<tr>
<td>Do not impose will</td>
<td>-1, 1</td>
</tr>
</tbody>
</table>

For example, in the zero-sum game of power (see the table above), the Minimax strategy also leads to the upper left outcome (0, 0), but its “mechanics” differs from that of Nash equilibrium. The 1st party considers the worst that can happen to him or her if the 2nd party chooses the strategy “Impose will” (-1) or “Do not impose will” (0). In both cases, the former has good reasons for opting for “Imposing will.” Similar considerations explain the 2nd party’s preference for “Imposing will,” and the combination of these strategies will produce (0, 0). It should, nevertheless be noted that game theory ignores non-utilitarian motives in human behavior and for this reason does not help catch all aspects of DVCI.

2. This makes a link with discussions about assumptions of the economics of abundance: “abundance is the antithesis of scarcity... Abundance means that everyone [including the subordinate, A.O.] has adequate health care, nutrition, education, transportation, recreation, housing, self-expression, and personal security” (Peach and Dugger 2006, 693).


References


