The "Win-Win-Win Papakonstantinidis Model" as a Bargaining Solution Analysis for Local Government Decision From Territory-Community to "Behavioral" Community: The Case of Greece

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Local development as a local management process tables a number of questions, mainly concerning on conflict resolution between the three power local poles: (1) State and its appointed State peripheral Departments; (2) Local authorities; and (3) Local people and their local movements/lobbies. As the three poles are in a constant negotiations, then each of them should prevail over the other two, thus be introduced in the bargaining problem. Bargaining behavior must therefore be defined. The suggested *"win-win-win papakonstantinidis model"* (coming from Nash win-win extended approach) tries to find ways for the three-pole bargaining conceptual equilibrium, under conditions, thus maximizing expected utilities for all the involved parts in local decision-making by applying a combination of Descriptive Behavior (DB), Rational Choice, Instrumental Rationality, and the Applied Behavioral Analysis (ABA) methodologies, then an updating community's behavioral state is expected, thus transforming the technical territory-community perception to a behavioral community perception, by sensitizing its population, towards the "guanxi relations" paradigm.

Key words: behavior bargain, conflict, community, decision making, knowledge creation, sensitization process, guanxi relations paradigm

Introduction

The continuous conflict between the three main bargaining power poles at the local level (state services, elected local authorities, local people, and its interests lobbies) shape the landscape of its management and operation. The three-pole roles—especially in Greece—are not so clear. As a result, each of them intervenes in the other responsibilities' space. Each of them cancels the efforts undertaken by other and thus the output is very poor. This conflict landscape is directly correlated with the development trends, coming especially from the rapid rate of world urbanization.

Over the second half of the 20th century, it can be seen the continuous transformation of the world's

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population from rural to urban (Wilkinson, 1991; Ignacio, 2000) and this change is likely to continue in decades to come. It is obvious that cities and local communities are not alone nor operate independently each other. In a globalized world, cities and local communities are interconnected and mutually affect each other natural environment and the form of cities/local communities is shaped by the trends of urbanization, changes in employment, immigration trends, and also from the standard production and marketing (Oikonomou-Kafkalas, 1993; Ankerl, 1986). Take urbanization in the People's Republic of China for example, increased in speed following the initiation of the reform and opening policy. By the end of 2010, the mainland of the People's Republic of China had a total urban population of 665.57 million or 49.68 percent of the total population rural-to-urban population fraction has continued to decline dramatically over the last two decades. In 2001, 64% of the population resided in rural areas, down from 74% in 1990. Meanwhile, the annual population growth rate was estimated at 0.59% (United Nations World Prospects Report 2006 estimate), and approximately 94% of the population occupied 46% of the land. Besides, community population may move from home to workplace and back, even aboard (beyond national boarders). In the "world village" any place/community/municipality/big city etc., may concern to be interconnected and interactive with the other communities thus affect each other, in a world decision-making. In this frame, big cities and communities are displayed by their "technical" characteristics, rather than those of "cohesive societies". Now, the point is to prove and highlight the necessity of converting a technical-territory community view, in a more conceptual "behavioral" community, highlighting bargaining behavior within the community. The paper argues that this converting behavior could be realized only by using the same market rules (competitive conflict instrumental rationality's behavior), that should converge the three bargaining power poles' interests competitive behavior in a new local sensitized cooperative behavior. So, behavioral analysis should be broached in order, the suggested "win-win-win papakonstantinidis model" and its usefulness are highlighted, in respect to local communities' management and its resulted development. This is the scope of this paper—starting from the common work (Spais, L. A. Papakonstantinidis, & S. L. Papakonstantinidis, 2009) analysis, paper focuses on two different points: (1) the win-win-win papakonstantinidis model short description; and (2) the "path" from technical-territory community in behavioral community through sensitization (the third win) as the result of methodological "keys"-below-application in the local development process. In real terms, the "win-win-win papakonstantinidis model" is launched as a new methodological tool for conflict resolution, mainly in the local development strategy and decision-making.

For this the author predicted that:

(1) A Descriptive Psychology (DP) (Ossorio, 1995) conceptual framework for the science of psychology is considering the Applied Behavioral Analysis (ABA) and individual deliberative and consistent rational choice's perception (Thomas, 1999). See "Instrumental Rationality" (Weber, 1910/1978; Nash, 1950, 1951) could satisfactory interpret bargaining behavior, inside the community, and thus be helpful for drawing paper's conclusions and formulating our proposals;

(2) There is an interaction between behavior and bargain. Behavior occurs in any reaction bargain. There is no bargain without behavior. There is no behavior without interaction/bargain (Papakonstantinidis, 2011);

(3) The main hypothesis is that development (especially, local development) may be sighted as the output of the bargaining trends;

(4) Each of the three poles interacts with other within the bargain;

(5) Bargainers' decisions are taken into consideration of conditional probability: In probability theory, the "conditional probability of *A* given *B*" is the probability of *A* if *B* is known to occur[1] (Bayesian Anal);

(6) Each of the three power poles seeks maximum benefit, from their actions, making for this purpose—their best/optimal instant reflection individual winning strategies (instrumental rationality by Nash, 1950). Otherwise there is not a bargain between the poles;

(7) Social interactions regularly lead to mutually beneficial transactions that are sometimes puzzling;

(8) Bargaining is strongly correlated with bargainers' behavior (as above mentioned)—especially based on Guanxi Chinese Business Relations[2] (X. CHEN & C. CHEN, 2010; Zhang & Pimpa, 2012);

(9) The intra-community relations could be imagined as a continuous bargain between three-by-two. It is rather a dynamic "winning strategies instant reflections" game, based on competitive interaction relations;

(10) All players have complete information about the game being played, according to Nash's "instrumental rationality" (Nash, 1950);

(11) Each player has a subjective probability distribution over the alternative possibilities (Harsanyi, 1967);

(12) If a type is associated with several states but cannot distinguish between the states, it assigns a probability distribution over the set of types. If a type is associated with only one state, then that type believes with certainty that it is in that state (Dunford & Lidia, 1988);

(13) All individuals are indifferent between any two probability distributions over social states—Pareto efficiency[3] (Vilfredo, 1916; Stiglitz, 1987);

(14) Sensitization is a form of knowledge and at the same time an practical information which could be taught, thus influence (among the others) the human behavior coming from 20 years' experience on the Leader EU program application in Greece (Papakonstantinidis, 2007).

Methodology

Paper uses four different "behavioral keys" in order to support its analysis: (1) The Descriptive Psychology (DP), as an intellectual discipline, a conceptual framework for the science of psychology (Ossorio, 1995), or a set of efforts to provide a more adequate formulation of the nature of behavior; (2) The Rational Choice Theory (RCT) suggests that a choice is said to be rational when it is deliberative and consistent or a more formal definition, consumers have transitive preferences and seek to maximize the utility that they derive from those preferences, subject to various constraints (Thomas, 1999). Transitive preferences are those for

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[1] Bayes Theorem is a method of incorporating new knowledge into an existing estimate of the value of a variable so that the uncertainty in this value is reduced by the new knowledge. The theorem gives the relationship between the probabilities of *A* and *B*, *P(A)* and *P(B)*, and the conditional probabilities of *A* given *B* and *B* given *A*, *P(A|B)* and *P(B|A)*. In probability theory, the "conditional probability of *A* given *B*" is the probability of *A* if *B* is known to occur $P(A/B) = \dfrac{P(A \cap B)}{P(B)}$ $p(B) \neq 0$.

[2] "Guanxi" in Chinese means "relationships", stands for any type of relationship. "Guanxi" (personal connection) has been identified as a necessary condition to do business successfully in China. "Guanxi" is deeply ingrained in Chinese society and business etiquette, "therefore it is critical to understand and appreciate it to gain a commercial foothold in China". In the Chinese business world, however, it is also understood as the network of relationships among various parties that cooperate together and support one another. The Chinese culture is distinguished from the Western culture in many ways, including how business is conducted. For example, the Chinese prefer to deal with people they know and trust. The "Guanxi" relationship is not simply between companies but also between individuals at a personal level. From this point of view, western companies have to make themselves known to the Chinese before any business can take place.

[3] In a Pareto efficient economic system, no allocation of given goods can be made without making at least one individual worse off.

which, if some good or bundle of goods denoted *A* is preferred to another good or bundle of goods denoted *B* and *B* is preferred to a third good or bundle of goods denoted *C*, then it must be the case that *A* is preferred to *C*. (Thomas, 1999); (3) Instrumental Rationality (IR) (*Zweckrational*) or purposive/instrumental rationality (Weber, 1910) is related to the expectations about the behavior of other human beings or objects in the environment. In social and critical theory, instrumental rationality is often seen as a specific form of rationality focusing on the most efficient or cost-effective means to achieve a specific end. Instrumental rationality tends to focus on the "hows" of an action, rather than its "whys"; and (4) the Applied Behavior Analysis (ABA) by which behavior scientists must take into consideration more than just the short-term behavior change, but also look at how behavior changes can affect the consumer, those who are close to the consumer, and how any change will affect the interactions between the two (Ivey et al., 1968). Having defined conceptual behavioral framework, rational choice, instrumental rationality, and the ABA leading method, the paper's structure could be organized around them. The four-keys structure which are combined as: (1) DB defines the research field; (2) RCT denotes that the consumer has a deliberative and consistent behavior which is rational; (3) IR introduces the means of "Instrumentality"; and (4) ABA helps the author to introduce the concept of "sensitization" (the third "win" of the model). Paper's literature research based on the above "four-keys structure" allows the scientific community to understand the concept of the "win-win-win papakonstantinidis" conceptualization and its first application on the local management field (between the three local management bargaining power poles). Particularly, the structure of the paper follows this "path":

• A quick review of "Behavioral Analysis", on which the model based on;

• The bargaining problem (game theory) analysis, emphasizing the Nash Non-cooperative Game Theory and Nash' Equilibria;

• Harsanyi's Nash equilibria refinement: "Games with incomplete information played by Bayesian players";

• Building bargaining behavior by the sensitization process—Converting Knowledge in Behavior;

• Introducing Behavior in Bargain, Synthesis;

• Conclusions and proposal.

Review on Behavioral Analysis

Cities' and local communities' skyline and characteristics are shaped by lobbies' vested interests, mainly due to a continuous conflict in the instrumental rationality framework based mainly on "market rules" (Berger, 2005), as well as by bargaining behavior, due to community cultural, historical, and ideological reasons (see "community as ideology" from Friedman and Weaver, 1979). From this point of view, behavioral factor/behavioral analysis is introduced in our approach, as it influences the development of the community What a behavioral analysis is, and what is its usefulness, in a managerial "conflict resolution"? Behavior analysis is a science of studying human behavior. The term behavior has many meanings. It can mean the complex action of a human or other animal based on volition or instinct. It can mean the largely predictable actions of a simple mechanical system or the complex action of a chaotic system. It also means "the manner in which one behaves", also, the way in which someone behaves; also, an instance of such behavior , the way in which something functions or operates manner of behaving or acting,, the aggregate of responses to internal and external stimuli **,** a stereotyped, species-specific activity, as a courtship dance or startle reflex, the action or reaction of any material under given circumstances: *the behavior of tin under heat* (Lehrman, 1953).

Behavioral analysis is the core of the "win-win-win papakonstantinidis model" research and

application—main assumptions, for supporting the model, are based on behavioral analysis, as a form of learning the sensitization, at the local-at least-level: Sensitization is a form of knowledge and at the same time practical information which could be taught, thus influences (among the others) the human behavior (Papakonstantinidis, 2007 coming from 20 years' experience on the Leader EU Program/Initiative application in Greece). From this point, Local Communities must be approached, through the principles of normalization as a system of human management, close as possible to the patterns of the mainstream of society. A short behavioral analysis is therefore necessary as it introduces us in the nature and causes of Behavioral Community, as a term different from the "instrumental rationality", among the three locally power poles. Especially, the Behaviorist's theory is an attempt to explain human personality. It is in conflict with the Psychoanalytic and the Humanistic theory (discussed in next room) in several important ways. Most important of these are the ways in which each claims how human personality is formed. The behaviorist in particular believes that cultural and sub-cultural conditioning molds and shapes behavior and subsequently the personality. At the same time, Pavlov (1927), introduced the classical conditioning term, as a form of conditioning and learning by behavior stimulus, which refers to the sensitization process, according to this study and Frederic Skinner (1938) described "how a community can reinforce and thus develop reliable verbal reporting of public events because both the community and the individual have access to these events", thus providing the suggested "win-win-win papakonstantinidis model" with more than one argument for its usefulness, at the local-at least-level from the other hand, Rational Behavior for a consumer (Herbert, 1955) is an interaction behavior and an important indicator of the underlying relationship between individuals. In a model of rational behavior for a consumer (a typical game theory/bargaining application), the author assumes a consumer faces a choice of commodities labeled 1, 2, ..., n each with a market price p_1, p_2, ..., p_n. The consumer is assumed to have a cardinal utility function U (cardinal in the sense that it assigns numerical values to utilities), depending on the amounts of commodities x_1, x_2, ..., x_n consumed. The model further assumes that the consumer has a budget M which is used to purchase a vector x_1, x_2, ..., x_n in such a way as to maximize $U(x_1, x_2, ..., x_n)$. The problem of rational behavior in this model then becomes an *optimization* problem, that is:

$$\max U(x_1, x_2, \ldots, x_n)$$

Subject to:

$$\sum_{i=1}^{n} p_i x_i \leq M \quad \text{under the constrain} \quad x_i \geq 0 \; \forall_i \in \{1, 2, ..., n\}$$

This model has been used in "general equilibrium" theory, partculary to show the "Pareto efficiency" economic equilibria.

Win-Win-Win Papakonstantinidis Model Approach

Approaching the win-win-win papakonstantinidis model, the paper opens a scientific dialogue on the three-pole local management concept, which is the papers question as well as bargaining trends between the three power poles inside the local community. For this it must be defined what the win-win-win papakonstantinidis model is. According to Spais (Spais, 2012), the win-win-win papakonstantinidis model is a methodological tool for conflict resolution, especially in the case of decision-making, or in forming "instant reflection winning strategies" in the bargain (which is the frame). The *win-win-win perception* is based on the assumptions of information accessibility and diffusion that characterize the modern globalized societies as well

as the complexity in the decision-making values that the "third win" (the "C" factor) could unlock a series of obstacles. Another assumption is that the individual three-by-two, although doubts must take into consideration at each time that there is the third distinguishable part in the bargain (based on behaviorist analysis through the "neural networks"). Sensitization is introduced (regarding the integrated information) as a main variable of the bargain among (1) State and its appointed State peripheral services; (2) Local authorities; and (3) Local people and their local movements/lobbies (three-by-two, although doubts) of the negotiation. There is a fine line between the two reflections: (1) negotiation between three by two; and (2) negotiation between three distinguished parts, at the same time/at any reaction, under the condition of mutual respect, which claims all the involved, in the bargain parts must be sensitized. "Sensitization" may be concerned as an information, thus changed the three parts' imperfect information into a complete information as Harsanyi's conditional probabilities claims. It is about an encephalic hard process in the bargain, which smoothes the angles of conflict or the shares/utilities (according to Nash). The "third win" functions as an umbrella, which conjoins different "dipolar relationships". Especially, in the local management context, it must be understood that the existence of a "distinguishable entity", depends upon the degree of understanding and sensitization of knowing better the other polar (Spais, L. A. Papakonstantinidis, & S. L. Papakonstantinidis). For the needs of the study, the author adjusts the conceptualization, in order to deal with local management and development decisions. The model explanation presupposes some knowledge about the bargaining problem under the prism of the game theory/the bargaining problem. Let us first see the bargain: It is defined as a form of energy (Papakonstantinidis, 2002) between two (initially) or three, according to the suggestion—distinguishable entities with different expectations and controversial interests, where each part intends to sovereign. Practically, the social relationship "imitates" the natural relation, which is by nature conflictive; in order to make the distinguishable entity acquires independent presence and action. This action is directed by the motive of gaining an individual profit (Nash, Nasar, & Kuhn, 2001). As for the tendency to conflict, it refers to the tendency to competition between those parts of the bargain with different expectations and controversial interests, results from the combination of: (1) the case of the distinguishable entity; (2) mistrust of each distinguishable entity; and (3) tendency to improvement. Based on the above, the motive of individual benefit leads mathematic precision to the conflict, the tendency to sovereignty and from there to a competition climate, which is the corner stone of our economic system. In its formal version, a two-person bargaining situation involves two individuals (Neumann & Morgenstern, 1947), who have the opportunity, either to be competitors to each other (win-lose), or to make coalitions, or even to create pure individual strategies, based on bargainers' instant reflection winning strategies/win-win (Nash, 1950; Arrow & Debreu, 1954; Aumann, 1987; Crawford, 1997). Nash (1951) focused on payoff shares/utilities combination. Bargain may result in either agreement or disagreement (Nasar & Kuhn, 2001). Utility expresses the constraint or the "fear factor" of disagreement for the negotiator who desires negotiations to be led in agreement more than the other one. Who needs more, negotiation leading to an agreement expects more utility, but probably there is a loss in terms of "shares", due to lack of risk, or less expectations to win. On the contrary, who is indifferent about "agreement" or expects less utility per unit, has to win in "shares"/greater expectations under the dogma "the more risk, the more profit" (Crawford, 1997).

Non-cooperative Games Theory: Nash Equilibrium Point

A win-win perception is based on when each side of a dispute feels they have won. Since both sides benefit from such a scenario (Spais et al., 2009), any resolutions to the conflict are likely to be accepted

voluntarily. The process of integrative bargaining aims to achieve, through cooperation, win-win outcomes. It is necessary to analyze the Nash "non-cooperative instant reflection game" or a "win-win perception" as follow: Non-cooperative game is a game between two players/individuals who have opposite interests (Aumann, 1987), see example in Appendix A (Figure A1). Each player makes his/her own choices, based on instant reflections' rational movements physical cleverness, time (instrumental rationality by Nash, 1950) The game (bargain) presupposes best choices by both players towards meeting individual interests "winning strategies" (Kuhn-Nasar, 2002) where "Information" is a power factor, in bargaining concept, in pure individuals winning strategies prism (Aumann, 1987). Nash equilibrium (Kuhn-Nasar, 2002) is a solution concept of a game involving two or more players, in which each player is assumed to know the equilibrium strategies of the other players, and no player has anything to gain by changing only his own strategy unilaterally. If each player has chosen a strategy and no player can benefit by changing his/her strategy while the other players keep their unchanged, then the current set of strategy choices and the corresponding payoffs constitute a Nash equilibrium (win-win situation). A game may have multiple Nash equilibria or none at all (Aumann, 1976). Each strategy in Nash equilibrium is a best response to all other strategies in that equilibrium (von Ahn, 2004). Winning strategies instant reflections (for the player) as the mean for formulating a central goal of the bargain, which is the strategic choice aiming to sovereignty in the bargaining process (Nash, Nasar & Kuhn, 2001) as the equations, below see also the graphs: (1) win-lose situation, or "zero sum , two players game" (von Neumann & Morgenstern, 1944); (2) the win-win situation (Nash, 1951, Non-cooperative Games Theory); and (3) the suggested by the paper model win-win-win situation, thus introducing the third "win" in a game of three distinguished parts including the people, or the society's "win". Let's start by the win-win (Non-cooperative Game) situation.

According to win-win (non-cooperative Game) it must be, at the equilibrium point:

$$\lim U_{1i}(\&)U_{2i}(\&) = \max U_{1i}U_{2i};$$
$$i \to \infty;$$

where:

(&) = winning strategies;

U_{ji} = utilities (for the i player).

The simple "win-win" math form is:

$$(S, f);$$
$$S = S_1 X S_2, \ldots, X S_n;$$
$$f = (f_1(x), f_2(x), \ldots, f_n(x));$$

for $x \in S$, except for player i. When each player $i \in \{1, ..., n\}$;

$x = (x_1, x_2, \ldots, x_n)$ then player i obtains payoff;

$f_i(x) \in S$ is Nash equilibrium (NE) if no unilateral deviation in strategy by any single player is profitable for that player, that is

$$\forall_i, x_i \in S_{i,} x_i \neq x_i^*: \quad f_i(x_i^*, x_{-1}^*) \geq f_i(x_i, x_{-1}^*).$$

Harsanyi's Nash Equilibria Refinement

Sequential games (or dynamic games) are games where later players have some knowledge about earlier

actions. This need not be perfect information about every action of earlier players; it might be very little knowledge. For instance, a player may know that an earlier player did not perform one particular action, while he/she does not know which of the other available actions the first player actually performed so perfect and imperfect information must be approached: An important subset of sequential games consists of games *of perfect information*. A game is one of perfect information if all players know the moves previously made by all other players (Harsanyi, 1967). Perfect information is often confused with complete information, which is a similar concept. Complete information requires (Harsanyi, 1967) that every player know the strategies and payoffs available to the other players but not necessarily the actions taken. Games of incomplete information can be reduced, however, to games of imperfect information by introducing "moves by the Nature" (Harsanyi, 1967) But, though high cost monopolists never play dominated strategies, the easier it is for other players to recognize that these strategies are dominated, the more likely play is to converge to the nominated separating equilibrium and the more rapidly limit pricing develops. This is inconsistent with the equilibrium refinements literature and pure (Bayesian) adaptive learning models (Cooper, Garvin, & Kagel, 2012).

Bargainer's behavior is shaped by many factors, but instrumental rationality may be the dominant criterion. At any case, recent literature provides us with the relation between knowledge and behavior. So, an overview is attempt (Papakonstantinidis, 2005), as to find the relation between "knowledge transfer and knowledge creation", in the frame of the "Modern Innovation Theory (MIT)" (Fischer & Fröhlich, 2001; Nonaka & Takeuchi, 1995) Behavior thus may resulted from this knowledge types' synthesis (see Table 1).

Table 1

Knowledge Creation/Information/Types of Behavior

Type of knowledge 1	Type of knowledge 2	Synthesis	Resulted behavior
tacit	tacit	Sympathetic	Socialization
tacit	codified	Conceptual	Externalization
codified	tacit	Procedural	Internalization
codified	codified	Systemic	Networking
sympathetic	systemic	Conceptual	Sensitization
systemic	systemic	Procedural	Strategic

Note. Source: Papakonstantinidis (2003).

Sensitization is introduced (regarding to integrated information), as the main variable of the bargain (the third part of the "negotiation"/the "C" factor). It is about an encephalic hard process in the bargain, which smoothes the angles of conflict or the shares/utilities according to Nash (1951) (Papakonstantinidis, 2011).

The *win-win-win papakonstantinidis model* is based mainly on Harsanyi Nash Refinement (Bayesian Analysis): According to Harsanyi (1967), in cases where the consistency assumption holds, the original game can be replaced by a game where nature first conducts a lottery in accordance with the basic probability distribution, and the outcome of this lottery will decide which particular sub-game will be played. However, every player will know the "basic probability distribution" governing the lottery. Paper proposal is based, mainly, on Harsanyi (1967) "Games with incomplete information, played by Bayesian players". It attempts to create a fruitful dialogue on an alternative approach, go community development process

As a synthesis Nash-Harsanyi the basic "win-win-win papakonstantinidis model" (sensitized game) equation is:

$G** \leq N, \Omega*, < A_i, u_i, \varphi T_i, \tau_i, p_i, C_i, > i \supset N$;

Let $A = A_1 \times A_2 \times ... A_N$;

the function $\tau_i : \Omega \rightarrow T_i$;

$C_i \subseteq A_i \times T_i$ defines the available actions for player i of some type in T_i;

$u_i : \Omega \times A \rightarrow R$ is the payoff function for player I of the game;

Pi(&) strategy under the *Pi*, probabilities distribution.

And finally,

$\lim P_i(\&)Q_i(\&)R_i(\&) = \max U_a U_b U_c = $ max payoffs level = 1/3 probabilities distribution
$i \rightarrow \infty$;

Ui utility functions, for the *i* player;

(&i) = instant reflection winning strategies, for the *i* player of the game;

Pi(&) strategy under the *Pi* (probabilities distribution) (see Figure 1).
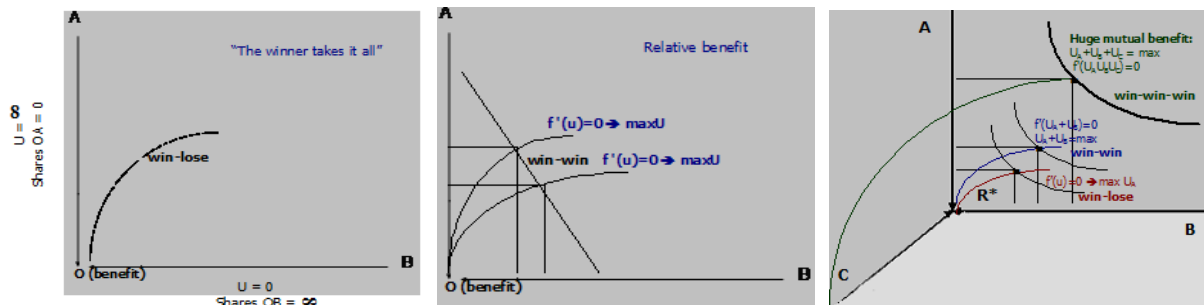

Figure 1. Utility functions.

The Greek Case

The complexity and uniqueness of the Greek case comes from the interference of political parties at the Local Government affairs. Many problems arises from a continuous conflict between the three power local poles, i.e., (1) State and its appointed State peripheral Departments; (2) Local authorities; and (3) Local people and their local movements/lobbies come from the political interference in any—even small-local authorities decision. Besides, the competitiveness between State Departments and local authorities, leads in producing very poor outcomes. Locally, the main reason is financing. The main reason is competition in the management of funds for investment at the local level, due to the fact that the three-pole roles are not clear. In this case, the "win-win-win papakonstantinidis model" may play an important role—as the above mentioned—in sensitized the three-part around the common goal, which is the local development.

Conclusions

A conflict between the three power local poles, i.e., (1) State and its appointed State peripheral Departments; (2) Local authorities; and (3) Local people and their local movements/lobbies, may have a solution by the suggested "win-win-win papakonstantinidis model" under the Harsanyi condition of:

> Games of incomplete information can be reduced, however, to games of imperfect information by introducing moves by the nature thus removing the uncertainty. The third "win" in the suggested model may play such a role, as it concerns the "society welfare in a bargain between two. (Papakonstantinidis, 2011)

Society is concerned as the third part of the bargain. So a three-power poles conflict locally may have

solution, by the same market rules.

Bargaining behavior is mainly affected by the "Instrumental Rationality" as each part tries to get the maximum individual profit from it, according to their expectations and the corresponding probability to success the desired payoff from it.

For this reason each of them motivates all his/her energy, intelligence, power etc., to achieve the desired output. As the end of the bargain may be resulted "agreement" or "not agreement", conditions at the local level. So, by a step-by-step, the three-power poles interests' equilibrium approach must be achieved due to sensitization continuous process or "win-win-win papakonstantinidis model".

This result has been proved to be easier for a three-power poles bargain than the two-power poles bargain, as each of the involved parts includes in its expectation more than one "concepts" about the others plans and information, thus "smoothing the corners" of a pure competitive bargain.

During the bargain, it has been proved that there is only one equilibrium point, on which all the three involved parts, should be come in agreement (according to their expectations) *at the same time*, (not the three-by-two, in different times/moments): On that point total utility for all the involved parts became max.

The three poles must take into consideration, their place's "common interest" and so converge their winning strategies, toward place's development common goal (see at the "Leader EU Initiative" and Papakonstantinidis, 1992, 1997). In the opposite, none will win: In such an interactive and interconnected world, the profit of each of them depends on the profit of another power pole. This should be done by a continuous process at the local level:

That is the sensitization process (behavioural analysis) thus providing the local development planners with a new methodological tool: The win-win-win papakonstantinidis model is "smoothing the corners of conflict at the local-at least- level" (Papakonstantinidis, 2002).

Sensitization process should be concerned as a continuous process toward the limit of the absolute cooperation between local people in the community. On that case, the limit of the sensitization process coincides with the limit of the local development process and the limit of bargaining power pole convergence.

Sensitization has been proved to be the limit of a continuous process the "step-by-step sensitization process", thus forming a new behavior coming from combining different "types of knowledge" (Modern Innovation Theory plus Behavior Theory). See at the Appendix B (Figure B1) the triangle form of the suggested win-win-win equilibrium, based on the continuous sensitization process, at the local level.

Local development planners may find the proposed "win-win-win papakonstantinidis model" approach as a useful methodological tool in local development planning, by introducing the sensitization process among local people, thus succeeding social cohesion and local solidarity in the community.

Sensitizing local community, by the three-power poles bargaining system, then it has been proved that a pure "technical" (without social cohesion) territory-community may be transformed in a behavioral and coherent sensitized community, with local people to move toward the absolute cooperation. On that point—in my mind—is possible a pure local development to be achieved.

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Appendix A
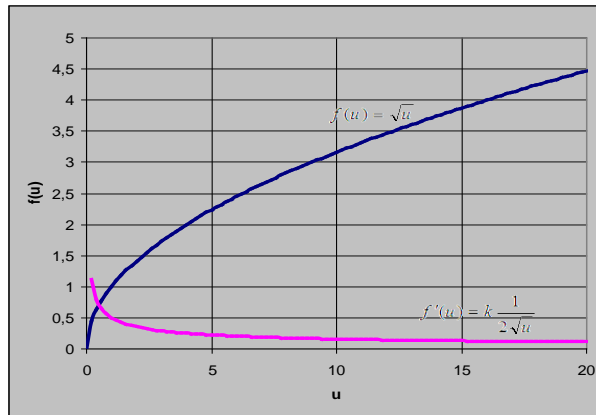
The Utility Function $f(u) = u^{1/2}$

$F(u) = $ max, then

$f'(u) = 0$

Figure A1. An example: Suppose, we have two players only, the A and the B and they start negotiation each-other Table A1 expresses utilities/strategies, as the interaction between two negotiators and expresses the utility function as a shares/utility combination bargaining problem is bringing up to decision- making during negotiations of A↔B.

Table A1

Random Probabilities Distribution Between "A" And "B"

P (A) (%)	P (B) (%)	Utility A	Utility B	Utility AXB
100	0	71	0	0
90	10	70	1	70
80	20	68	5	340
70	30	64	10	960
60	40	60	16	960
50	50	52	23	1196
40	**60**	**40**	**31**	**1240 (max)**
30	70	24	40	960
20	80	12	50	600
10	90	4	61	244
0	100	0	80	0

According to win-win (non-Cooperative Game) it must be, at the equilibrium point:

$$\lim_{i \to \infty} U_{1i}(\&)U_{2i}(\&) = \max U_{1i}U_{2i}$$

Where:

(&) = winning strategies,

U_{ji} = utilities (for the i player)

In math form:

If Ua = x, Ub = $(100-x)^k$

$\Rightarrow$ U* Ub = max → [x(100-x)^k]′ = 0

(a*b) '= a' b + a*b'

$\Rightarrow$ x' (100-x) + x [(100-x)^k]' = 0

$\Rightarrow$ 1(100-x) + xk (100-x)$^{k-1}$ = 0

$\Rightarrow$ xk (100-x)$^{k-1}$= -1(100-x)^k

$\Rightarrow xk \,(100\text{-}x)^{k\text{-}1} = -1(100\text{-}x)^{k\text{-}1}\,(100\text{-}x)^{1}$

$\Rightarrow xk = (100\text{-}x)^{1}\,(100\text{-}x)10^{k\text{-}1} : [-1\,(100\text{-}x)^{k\text{-}1}]$

if (100-x) # 0, then

$\Rightarrow xk = 100\text{-}x, \;\Rightarrow\; xk + x = 100 \;\Rightarrow\; x(k+1) = 100 \;\Rightarrow x(k+1) = -100$

[the (-) defines the opposite interests of bargainers]

Finally: $x = 100/(k+1)$

If k = 0, then each of a, b may win the 100% of "bargaining result" (output)

If k = 1, then each of them (a and b) my win the 50%

If k > 1, then "a" may win a percentage > 50%

If k < 1, then "b" may win a percentage > 50%

Appendix B

Figure B1. The triangle form of the "win-win-win" equilibrium due to sensitization.