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The "Win-Win-Win Papakonstantinidis Model": from Social Welfare's Philosophy towards a Rural Development Concept by Rural Tourism Approach: The WERT Case Study

Papakonstantinidis L.A

Emeritus Professor of Political Economy, High Training Educational Institute (HTEI), Greece

Abstract: The article is dealing with two interconnected problems based on the conjectures: a) social welfare is a condition for rural development and not the prerequisite for it; b) shape a new landscape (the "win-win-win") based on critique of the "Impossibility Theorem (Kenneth Arrow 1951) through the Nash Bargaining Solution (Nash, John 1950). Specifically, this article discusses and analyses social welfare and rural development objectives integrating elements from the impossibility theorem, the bargaining theory, and the theory of agency by (a) reviewing the literature on coordination "social welfare" and "rural development" (b) reversing the focus from "voting" to "bargaining" and (c) underlining that Social choice is the perquisite of social welfare, using the "win-win-win Papakonstantinidis model's solution as the bridge between "voting"(Arrow) and "bargaining"(proposal). This solution highlights the Role of Rural Community as an "Aggregation" corresponding to its "sensitization process".

Keywords: Win-win-win Papakonstantinidis model, Social choice, Social welfare, Social utility's equilibrium, Rural tourism local development, Community, Moral local aggregation

1. Introduction

There are two different schools of economic thoughts. The first one refers that: "Bigger Pie, bigger pieces" and the second refers that "Justice and equality of distributing the common wealth now, development after". Otherwise, the first one refers to "Development first" (coming from a free market rules) and the other refers to "fair distribution of existing wealth" (social vs) "Development first". Theories were important during the previous centuries but not nowadays: the "Wealth of Nations" has been accumulated in a few only people and this is not correct. The Classical School of Thought (mainly expressed by (Smith Adam, 1776), (Ricardo David, 1817) (Marx Karl, 1867), (Mill John Stuart, 1806) put the focus on the free market and full competition. Their attempt concerned on "how competition could be fairer". They believed that the free market could correct any deviation from perfect competition that would lead to economic and social disparities. Even Marx based his theory on the critique of the capitalist system. Their thoughts influenced all the subsequent economists.

Especially, the patriarch of the Economic Thought, Adam Smith in his monumental work, Wealth of Nations (Adam Smith, 1776) - two and half centuries ago - had more influence on the development of the economic discipline than any other work in the history of the subject. Perhaps none has held such a way, not only over professional economics, but also over all those who concerned about how best organize society to promote the General Welfare than his concept of the invisible hand: this, in spite of the fact that he explicitly used the term only once.

Generally speaking, the Economic Pie operates much the same way: "the more the opportunity, the more people go home full and happy and happy people are people who tend to spend their pay checks (Hume, David, 1751).

The New-classical School of Thought disputed and rejected any idea of social welfare and more importantly proved with the mathematical logic that social welfare is impossible (Arrow Kenneth: 1951).

1.1 Arrow Impossibility Theorem's Statement (1951) [choice by voting system]

If we exclude the possibility of interpersonal comparisons of utility, then the only methods of passing from individual tastes to social preferences which will be satisfactory and which will be defined for a wide range of individual orderings are either imposed or dictatorial. We'll try to give an answer on this statement -Theorem (1951). It is obvious that it is impossible to break down the Theorem, except of the case of "alternative thinking".

The article has two parts related to each-other:
1. Social Welfare;
2. Rural Development;
3. Synthesis is that a "win-win-win" proposal is resulted from the influence of social welfare in the rural development concept.

The purpose of this paper is then – tuples to prove that "social welfare" is feasible if we focus on "bargaining" solution instead of "voting": means "cooperation" instead "individuality". This is understood to the functionality of the proposed "win-win-win Papakonstantinidis model" corresponding to "sensitization process" in terms of rural development.

1.2 Aims

There are several aims our paper wants to fulfil:

- To prove that a "social welfare" is within our grasp;
- To create a highly versatile tool, the "win-win-win Papakonstantinidis model" that should be used in many different functions by well-formed formulas (wffs), thus contributing in changing the 2-pole (black –white) perception, in a three pole [0,01,1] welfare cognition;
- To find a base-role for the third win (=the Community) in any bargain between two taking into consideration that the "Principal-Agent Theory" (Eisenhardt, K.M.. 1989) is a perquisite between "Community" and local people (COMMUNITY: means anything (as a "flag theme") that create a coherent behaviour (state, city, village, Cultural Values, Ethic, Parish);
- To deal with the incompatibilities of basic theorems (Papakonstantinidis LA e-book, 2016 Nov) that concern the concept of "welfare economics". These theorems are: The impossibility theorem (Arrow Kenneth, 1951; Sen Amartya K, 1970), (either Pareto optimality (Pareto V, 1906, 1896), the theorem of incompleteness (Gödel Kurt ,1931; Rawls John, 1958) the Nash Equilibrium (Nash 1950,1951), "Pareto Efficiency" (Pareto, 1896) and the "Principal-Agent Problem"(Jensen and Meckling 1976)

NOTE: In this article there is only a critique on the "Impossibility Theorem" based on the above incompatibilities.

1.3 Paper Design

1. The main aim of the article is to coordinate "development" with "social welfare";
2. Social welfare is resulted from a "social choice" knowledge and behavior, so social choice is conducted;
3. Despite the scientific view that "development" precedes "social welfare" procedure (in the form of incentives) in this article, it is conversely supported;
4. In this procedure, Community has a double role as an "Intermediate Agent" and the 3rd pole of a "Moral Aggregation", which participates in a political game (Greg Tovey, note 2016);

5. The article focuses on the possibility of "social welfare" to exist and if we are able to adapt "policies mix" for reinforcing the rural development process by using the "social welfare conditions".

2. The Theoretical Side: Social Welfare

2.1 Social Welfare Definition

The welfare function is a function that ranks social states (alternative complete descriptions of the society) as less desirable, more desirable, or indifferent for every possible pair of social states. Inputs of the function include any variables considered to affect the economic welfare of a society. In using welfare measures of persons in the society as inputs, the social welfare function is individualistic in form. One use of a social welfare function is to represent prospective patterns of collective choice as to alternative social states (Amartya K. Sen, 1970 [retrieve 1984]).

2.1.1. Assumptions (for welfare)

1. Social Welfare may be the end of the "social welfare process (the ideal case);
2. The utilities of consumers are independent;
3. A social welfare function exists;

$$W = f(U_A,..U_B)$$

5. Acceptance of Valerio Capraro thesis (Capraro Valerio 2013). "Humans have attitude to cooperation by nature and the same person may act more or less cooperatively depending on the particular payoffs".
6. "Utility" may be useful mainly in its "marginal" situation: very small "utils" by which decision taken: Marginal utility is the additional satisfaction a consumer gains from consuming one more unit of a good or service. In calculus, Leibniz's notation, Child, J. M. (1920) named in honor of the 17th-century German philosopher and mathematician Gottfried Wilhelm Leibniz, uses the symbols dx and dy to represent infinitely small (or infinitesimal) increments of x and y, respectively, just as Δx and Δy represent finite increments of x and y, respectively:

$$\lim_{x\to 0} \frac{\Delta y}{\Delta x} = \frac{dy}{dx} = f'(x).$$

7. This work may be "an extension Nash" based on a new "Equilibrium Point" It includes the profit's side (the "wins) not only between negotiators (A-B), [the win-win case] but also the "Community's "win" By the term "Community" or the "C" factor the people values and culture, are considered.

2.2 The Philosophical Side

2.2.1 Utility through the Centuries

Human actions to be considered "Good" should be such as to promote the greatest happiness for the greatest number of people possible Child, J. M. 1920). And to deal with this, such as Socrates, Plato, Aristotle, Epicurus, the JJ Rousseau, the Hobbes, the Kant, o Hume, Kant, Marx, Bentham Adam Smith Bernoulli, and from this point and them to push down in less "solutions" as the "Marginal Utility"

Plato (428/427 or 424/42) "Charmides" ((INTERNET ARCHIVES-Section 1 (153a–157c) first suggests, that "Good" is combined by sophrosyne as a kind of quietness (159b). Socrates talks him out of this, and Charmides proposes that sophrosyne is the same as modesty. Socrates says this can't be right because Homer (whose authority they both accept on this point) is

INTERNET ARCHIVES (160e) of (wisely means being someone acts with decency and tranquility» 159b.)

In "Critias," work" also Plato introduces the syllogism of "…something that is so nice and useful, and actions are the construction of these projects. And when he says that the wise must do 'whatever the terms' means what is familiar. But after talking to someone wise, their will be well (ERANISTIS ", April 30, 2015). According to Epicurus 341–270 BC (INTERNET ARCHIVES) For Epicurus, the purpose of philosophy was to attain the happy, tranquil life, characterized by "ataeaxia" —peace and freedom from fear—and "aponia"-the absence of pain—and by living a self-sufficient life surrounded by friends. He taught that pleasure and pain are measures of what is good and evil; "Good" means pleasure and is morally legitimate: we must seek, if an instrument to ensure our hedonic top condition, Aristotle (384—322 B.C.E)

2.2.2 Nicomachean Ethics

(350 B.C.E): Aristotle argues that the correct approach for studying such controversial subjects as Ethics or Politics, Taking this approach, Aristotle begins by saying that the highest "Good" (as Utility) for humans, the highest aim of all human practical thinking, is eudaimonia, a Greek word often translated as well-being or happiness. Aristotle argues that happiness is properly understood as an ongoing and stable dynamic, a way of being in action (energeia), specifically appropriate to the human "soul" (psuchē), at its most "excellent" or virtuous (virtue translates aretē in Greek). If there are several virtues then the best and most complete or perfect of them will be the happiest one. An excellent human will be a person good at living life, who does it well and beautifully ("kalos"- a good person) Hobbes 1588 –1679) His basic book "Leviathan" (Hobbes 1651.) established the "Social Contract" theory(as GOOD), promoting the foundation of most later Western political philosophy creates a trick, the Leviathan, the "Kratos" ethic- see at "Leviathan, 1651) Hobbes referred to the moral law as pointed out the case of selfishness and ethos of survival.

Immanuel Kant, (1724-1804) gives the "moral philosophy" the concept of ethics and duty, as well as negotiating the autonomy of reasoning (reason). The concept of "utility" refers to the evolution of Moral Philosophy from the Humanism until Critics (16th-18th Century). The basic principle of utility is the "good" as that which produces the greatest amount of pleasure and the least amount of pain and "bad is that it produces more pain and no pleasure.

Adam Smith (1723-1790) an important theme that persists throughout the work is the idea that the economic system is automatic, and, when left with substantial freedom, able to regulate itself. This is often referred to as the invisible hand." The ability to self-regulate and to ensure maximum efficiency, however, is threatened by monopolies, tax preferences, lobbying groups, and other "privileges"

J.J Rousseau (1712 – 2 July 1778) The stated aim of The Social Contract is to determine whether there can be a legitimate political authority, since people's interactions he saw at his time seemed to put them in a state far worse than the good one they were at in the state of Nature even though living in isolation.

John Stuart Mill 1806 – 1873) "…limits of the state action: while the questions of the production of wealth were answerable independent of human law and custom, the distribution of wealth was determined by the State

Karl Marx (1818-1883) Marx proposes (1867), that the motivating force of capitalism is in the exploitation of labour, whose unpaid work is the ultimate source of surplus value. The owner of the means of production is able to claim the right to this surplus value because he or she is legally protected by the ruling regime, Marx aimed to reveal the economic patterns underpinning

the capitalist mode of production, in contrast to classical political economist His theory had an extremely influence all over the world

Jeremy Bentham 1748 –1832) in his study (1780/1789) focuses on "principles" of the utility, and how this aspect of moral ties with legislative practice. The basic principle of utility is the "good" as that which produces the greatest amount of pleasure and the least amount of pain and "bad is that it produces more pain and no pleasure

Daniel Bernoulli (1700 – 1782) He introduced (Bernoulli D retr,1954) the concept of "expected utility", which served as the basis in theory "zero sum two players game "developed by von Neumann and Morgenstern (1944) dominated as a descriptive model of economic behavior and how people make decisions under uncertainty

From these philosophical origins arise the three key concepts of this article:
Morality Descriptive definition:" might take it to refer to the most important code of conduct put forward by a society and accepted by the members of that society. But the existence of large and heterogeneous societies raises conceptual problems for such a descriptive definition, since there may not be any such society-wide code that is regarded as most important. (E.P. Thompson 1957) As a result, a definition might be offered in which "morality" refers to the most important code of conduct put forward and accepted by any group.

Utilitarianism (Jeremy Bentham 1780/1789) is normative moral theory according to which our actions must aim to be the largest in the benefit possible for the largest as possible number of people.

Aggregation (Franklin M. Fisher 1987) is one of the fundamental features of utilitarianism and other forms of axiological theories, permitting the trade-off of morally relevant factors between different individuals. Problem concerning the moral relevance of the number of individuals in our moral reasoning The result is a new theoretical framework that can satisfy the demands of both defenders and critics of conventional form of aggregation

"Utilitarianism", "Ethics" and "Moral Aggregation" are the fundamental meanings, on which this article is based on and concerns the future of human societies, through the closer form of socialism Future Societies may be very much affected by the understanding of and feelings towards the new concept of world socialists, since it has always been their faith that socialism was not only economically practicable but was also intensely desirable; that is, that socialist society would revolutionize human relationships, replacing respect for property by respect for man, and replacing the acquisitive society by the common weal. It was assumed that all forms of human oppression were rooted, ultimately, in the economic oppression arising from the private ownership of the means of production; and that once these were socialized, the ending of other oppressions would rapidly ensue.(Thompson E.P. 1957)

3. Practical Side: Rural Development

Rural Local Development –based on "sustainable development, environmental protection and social cohesion - which has emerged since the middle of the 1990ies can be characterised as follows (TABLE) People themselves have to participate in their sustainable rural development process by easy steps, as presented in Table 1.

Table 1: Five steps towards Local development

				Partnership
			Involvement	
		Participation		
	Sensitization			
Information				

Source: (Arnstein Sherry, 1969)

European policy (EURDOC, 2015-2020) for rural development is currently based on Local Standard": The scenarios on the Future of Manufacturing in Europe 2015-2020 (FutMan) highlight important trends, possible trend-breaks, critical challenges and opportunities and present four possible visions of manufacturing in Europe in 2015-2020. The scenarios aim to map the space for developments in the coming years based on the personal views and judgments of the expert group involved in the scenario building exercise. The FutMan scenarios should be used as a tool to stimulate strategic thinking about policy options in order to be prepared for the manufacturing challenges ahead.

Besides: (a) from the development side (Wilkinson Kenneth 1991) focuses on the endogenous local development process / "bottom-up approach" (bargain, locally) 2nd, Friedman / Weaver – UCLA (1978) in their classic "Territory and Function" focused in the local development as an "ideology" , emphasizing in the endogenous local development; and (b) from the pure Sociological side (Coleman, 1988) as "Social Capital" describes the cooperation processes of individuals, which minimize possible dilemma, coming from individuals', networks and common actions. Putnam (2000) describes social capital as the basis of social schemes creation (i.e. networks). Emphasis is given to the endogenous force's (Garofoli and Latella, 1989) and (Stöhr W, 1986)

	SOCIAL CHOICE	SOCIAL FUNCTION	SOCIAL WELFARE

3.1 The Concept: Rural Development by the "Sensitization Process"

Rural Development by the Sensitization Process: We try a "Liaison of Social Welfare" with "Rural Development", by transferring the "focus" from voting to bargaining through the sensitization Process (by which, is been argued that COMMUNITY implements its intermediation role between (A-B): We focus on the sensitization process (or the 3rd part of any bargain between 2), towards welfare as the reaction to given information,. In its main version, based on the "bottom-up" approach, the local "team-psychology" creation and the local people's motivation, towards developing their place, then, : a "new" behavior may be resulted, such as each of the three rural tourism parts [local People, local Authorities and tourism services Consumers (P.A.C)] to win according to the win-win-win Papakonstantinidis model.(Papakonstantinidis LA, 2013).

Since the end of 90s, we applied a typical PAC concept based on S.H.I.E.L.D model (Papakonstantinidis, 1997) which was the forerunner of the "win-win-win Papakonstantinidis model in the rural development process thus creating the conditions for "building up" the "Local Standard" for small rural communities.

Table 2: Rural Development By the Sensitization Process

	Elementary common idea's acceptance	Sensitization as perquisite of rural tourism - rural development	Social choice as perquisite
1	Voting	Bargaining	Cooperation
2	Individuality	Flag theme	Local development

Source: Papakonstantinidis, 2015

ASSUMPTIONS (for rural development)
1. Community development depends mainly on endogenous forces' participation (public involvement) in the development process (Brugger, 1986);
2. Rural Tourism Plan in Rural Community is the output of public involvement around a Flag Theme (Thirion S- INDE 2000) which motivates its endogenous forces;
3. Policy planning must be structured on the trigocal layout "market-behavior-knowledge" (Papakonstantinidis, 2004).among 3 local power's poles (PAC), in the frame of bargaining best response (Spais, G. and Papakonstantinidis, L. 2012);
4. Each of them (PAC) is "Buyer" and "Seller" of the same need (tourism) on the others, simultaneously each side, seeks to maximize its profit (different view) (Spais, G., Papakonstantinidis, L. and Papakonstantinidis, S. 2009);

$$\left[\lim_{i\to\infty}\sum_{i=1}^{n} knowledge \rightarrow knowledge\_synthesis \rightarrow behavior\_synthesis \rightarrow behavior\_change \rightarrow new\_bargaining\_conditions\right]$$

Table 3: Knowledge Creation and Transfer-Types of Behaviour

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**

Source: Papakonstantinidis, 2003

Figure 1: Flag theme

Math: An Approach
Elements of Bargaining Problem: The two-person bargaining problem is a problem of understanding how two agents should cooperate when non-cooperation leads to Pareto-inefficient results. It is in essence an equilibrium selection problem; many games have multiple equilibria with varying payoffs for each player, forcing the players to negotiate on which equilibrium to target. Solutions to bargaining come in two flavors: an axiomatic approach where desired properties of a solution are satisfied and a strategic approach where the bargaining procedure is modelled in detail as a sequential game (Nash, 1950).
Nash bargaining solution

John Nash proposed [3] conditions that a solution should satisfy certain axioms:
1. Invariant to affine transformations or Invariant to equivalent utility representations
2. Pareto optimality
3. Independence of irrelevant alternatives
4. Symmetry
Nash proved (Nash, 1950) that the solutions satisfying these axioms are exactly the points (x, y) which maximize the following expression:

$$(u(x)-u(d))(u(y)-u(d)$$

Where, *u* and *v* are the utility functions of *Player 1 and Player 2*, respectively, and *d* is a disagreement outcome. That is, players act as if they seek to maximize $(u(x)-u(d))(u(y)-u(d)$, where *u(d) and v(d)* are the status quo utilities.

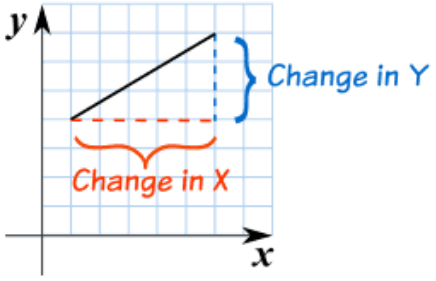
3.2 Utility Function: Law of Diminishing Marginal Returns (or Costs)

We start from an economic-math principle: the law of diminishing marginal returns goes by a number of different names, including law of diminishing returns, principle of diminishing marginal productivity and law of variable proportions. This law affirms that the addition of a larger amount of one factor of production, while all others remain constant, identified by the Latin term "ceteris paribus," inevitably yields decreased per-unit incremental returns. Two "concepts" for the utility:

1. The cardinal utility concept: is concerns the idea of a measured quantitatively, like length, height, weight, temperature, etc
2. The ordinal utility concept: expresses the utility of a commodity in terms of 'less than' or 'more than' in individual scale of preferences.

As each tries to maximize his/her own utility function (the "personal ordinal", not been measured as the cardinal) knows that more and more quantities over a point that he/she maximizes his/her satisfaction in personal terms, the less satisfaction from these more and more quantities. The derivative of a function of a real variable measures the sensitivity to change of a quantity (a function value or dependent variable) which is determined by another quantity (the independent variable). Derivatives are a fundamental tool of calculus.

From this "RULE" a crucial condition happens:

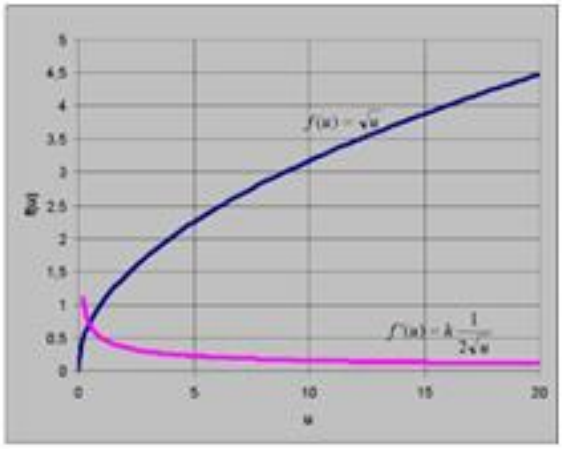


$$slope = \frac{change..in..Y}{change..in...X} = 1^{ST}\ \textbf{DERIVATIVE OF}\quad \textbf{U'=f(x)',possible N.E}$$

The "win-win-win Equilibrium"

From the two graphs above, and the "Pareto Efficiency" conditions is resulted that the "utility functions" follows the law of diminishing marginal returns, The law of diminishing marginal returns, includes the marginal productivity and law of variable proportions (Turgot (1727-1781)

$$It\ is\ \ If..u = f(x)..is..a..utility..function,..then..\frac{d(f(x))}{dx},or..$$
$$f(x)'..is..its..MARGINAL...UTILITY....FUNCTION$$



ΠΑΠΑΚΩΝΣΤΑΝΤΙΝΙΔΗΣ 2008

As..the.."rational...individual...objective....is..to....MAXIMIZE..individual....profit then,on.the.MAX..POINT..in..his/her..Utility..function.the..aditional marginal ..quantity.must..be..zero..or..in.the..neghiborhood..of..ZERO
It..is...assumed.that.the....MAX..Utility..function.for....all..people. $\Rightarrow$ *MARGINAL.UTILITY* $= ZERO,$
If $....U_A, U_B, U_c$ *..are..UTILITY ..FUNCTIONS..of....A,..B,...AND..C,..then.the..product.*$U_A * U_B * U_C$
responds."social.welfare".So....if ..the..product.....$U_A * U_B * U_c = MAX$ *..then.MRS* $= 0$ *..that's..the.END..of the..development...process..(IDEAL...CASE)..We..can.measure..the..result.in.terms..of ..deviation from ideal.case...The.."win– win– win..papakonstantinidis."EQUILIBRIUM*

Pareto Efficiency'

Pareto efficiency, also known as "Pareto optimality," is an economic state where resources are allocated in the most efficient manner, and it is obtained when a distribution strategy exists where one party's situation cannot be improved without making another party's situation worse. Pareto efficiency does not imply equality or fairness.

$$PARETO...EFFICIECY$$

$$MAX...Utility...Function: ..MAX..U(x_1,..x_2,...x_n)$$

$$\sum p_i x_i \leq M,...\forall x_i \geq 0,...\forall x_i \in \{1,..2,..n\}$$

$$p = price,...x_i = quantities.....\sum px_i = sum..of..all,,px_i$$

$$M = FRONTIER...MAX..sources..for..allocation$$

$$U_i = u_i \times p_i$$
$$U_A = u_A \times p_A$$
$$U_B = u_B \times p_B$$
$$U_C = u_C \times p_C$$

U = pleasant experience according to a strictly personal positive list
u = individual utils (not measuring)
p = probabilities, these pleasant experience's util to occur in the A B C individuals

U_A, U_B, U_C

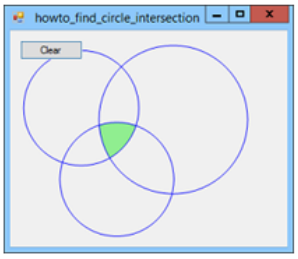
when

$U_A = x$
$U_B = y$
$U_c = (100 - x - y)$

$$U_A \cap U_B \cap U_C = U_A \times U_B \times U_C = MAX \Leftrightarrow (U_A \times U_B \times U_C)' = 0$$

$$xy(100 - xy)^n = MAX \Leftrightarrow [xy(100 - x - y)^n]' = 0$$

generally,
$$(f(x) * g(x))' = f'(x) * g(x) + f(x) * g''(x)$$



But,

$U_A \cap U_B \cap U_c = U_A * U_B * U_c = \max$
$(U_A * U_B * U_c)' = 0$

$u_i = f_i(z)$

$xy(100 - x - y)^n = \max \rightarrow [xy(100 - x - y)^n]' = 0$

$[xy(100 - x - y)^n]' = x'y(100 - x - y)^n + xy'(100 - x - y)^n = xy[(100 - x - y)^n]' = 0$

$xy(100 - x - y)^n]' = y(100 - x - y)^n + x(100 - x - y)^n + nxy(100 - x - y)^{n-1} = 0$

$(f(x) * g(x))' = f'(x) * g(x) + f(x) * g'(x)$

$[xy(100 - x - y)^n]' =$
$y(100 - x - y)^{n-1}(100 - x - y) + x(100 - x - y)^{n-1}(100 - x - y) + nxy(100 - x - y)^{n-1} = 0$

It...must :.....$xy(100 - x - y)^n = \max \rightarrow \lim_{x \to \infty} [xy(100 - x - y)^n] = 0$

sup ...*that*..$(100 - x - y) \neq 0$
$y(100 - x - y) + x(100 - x - y) + nxy * 1 = 0$

$(x + y)(100 - x - y) + nxy = 0 \Rightarrow \left(\frac{x+y}{xy}\right)(100 - x - y) = (-1)n$.....*by..putting*,....$\frac{x+y}{xy} = \lambda > 0$

$\lambda(100 - x - y) = (-1)n \Rightarrow (100 - x - y) = \frac{-n}{\lambda} = (-n)\frac{1}{\lambda}$

but,.....$(100 - x - y) = $ %..*Community*.."*share*"..*of*...*o*..*budget*,..$b = 1$.....*EXPECTED* ..*payoff*....*from*.."$b = 1$"

%..*Community* ...*share* $= (-n)\frac{1}{\lambda}(b)$.....*ths*..$(-n)$...*denotes*,,*ths*..*reduction*

result ...*which*..*comes*..*from*..*the*..*Community*.."*reaction*"..*in*..*any*..*BARGAIN* ,..(*by*...*its*..3*rd*...*role*,....*i.e*
as..*an*..*Agent*..*of*..*the*..*CITIZEN* .– *PRINCIPALr elation*,..*Arbitrator* ,,,*and*..*as*..*ths*..
Indepented..3*rd*..*barty*)..*to*..*the*..*total*..*budget*.."b"...*of*..*the*..*BARGAIN*

then,...*the*.i^{th}..*player*;*a best*..*mixed*...*strategy* (*probability* = ..*a*.*lottery* ..*over* ..
a..*trinomial* ...*distributi on*),*is*..*ths*..*best*..*strategies* ...*for*..*h imself* ,*as*..*well* ,*as*..*ths*..*best*...*strategies*
..*for*..*the*..*other*..*players* , *aswell* ...*as*..*ths*..*best*..*strategy*..
for..*ths*..*Community*..(*ths*..*common*..*welfare*)

4. Probability Rule

To take inter consideration, the uncertainty of the outcomes of Von Neumann and Morgenstern joint work (Neumann, John von and Morgenstern, Oskar 1946) addressed situations in which the outcomes of choices are not known with certainty, but have probabilities attached to them. A notation for a lottery is as follows: if options A and B have probability p and 1 − p in the lottery, we write it as a linear combination:

$$L = p(A) + (1-p)B$$

$$Generally,$$

$$L = \sum p_i A_i$$

$$where,...$$

$$\sum p_i = 1$$

notes:

A, B.C...do,,, not...cooperate..forward

A, B, C..must..collaborate..in..and..during..the..b arg *ain.(ins* tan *t..reflection.winning..strategies)*

"C"... exp *resses...not..only..the..rest..(no..b* arg *ain..participants),,but...also..the..total..community..the..word cultural..heritage,world...cultivation...the.." human...being"..." Homo...Sapiens"*

From...this..point ..of...view,...Community...participation..in..any..b arg *ain...between.TWO(2)..is..necessary*

Also,..COMMUNITY − the." c"..factor..MUST... exp *ress ..the." Community..Fear"..from..the...b* arg *ain,..between..A, B*

For..this.." Community..participation"..is..captured..as...$(100 - x - y)^{*}$*, where..n = the..fear..factor..(nonlinear), while.. the..A, B..utility..functions...must..be..linear*

$$\lambda = 1,.x * \%... \frac{n}{1}\% = 100\ \% = \max(\ quite.unequality.and..unjustice..in..distibution...of\ ..A, B, and..Community)$$

$$\lambda = 2...x * \% = \frac{n}{2}\% = 50 - 50 - 0$$

$$\lambda = 3...x * \% = \frac{n}{3}\%.. = 33{,}3333\ ...IDEAL...SITUATION$$

$$\lambda = 4 + ...x * \% = .\frac{x}{4+}\% = UNSTABLE\ .(THEOCHARIS\ - OSCILLATIO\ N)...of\ ..A, B, C..\text{exp}\ ectations$$

Figure 2: Flag theme

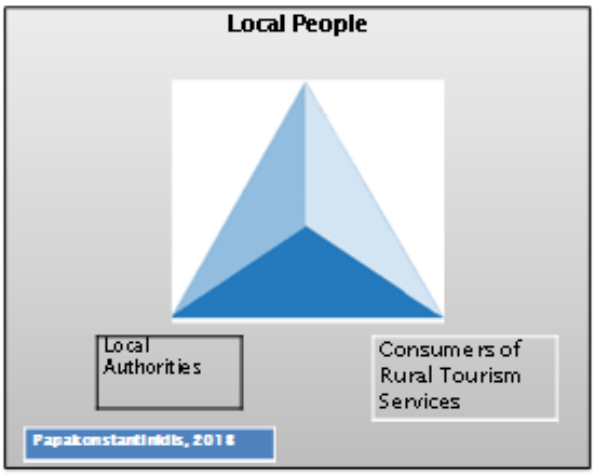


Figure 3: Pac system triangular layout
Source: Papakonstantinidis, 2015

4.1 The Principal-Agent Problem

The principal-agent problem (Jensen and Meckling 1976) develops when a principal creates an environment in which an agent's incentives don't align with its own. Generally, the onus is on the principal to create incentives for the agent to ensure they act as the principal wants. This includes everything from financial incentives to avoidance of information asymmetry (Definition from Investopedia)

Community as subject of the Principal-Agent Problem & Aggregation Morality: Solving The Principal-Agent "Win-Win-Win" Problem, "C" the 3rd part a new view is under investigation concerned the "satisfaction level, not only for bargainers, but also for the Community (potential revenues, coming from selling "State Bargaining Services (SBS) , toward the bargainers:

Let's γ a commonly acceptable level of citizens' satisfaction coming from a mix of policies, (state services packages) with more, (little above the Average), ie education or health measures, or policies for protecting the bargaining weak players coming from a bargain with rational players and also depending on the cultural specificities of each country-state and $q_i \in R_+$ the commonly accepted quality of living, $t_i \in R_+$ the price of bargaining services, in the form of taxes, that every citizen of this the State pay, and which belongs to some bounded domain $\Gamma \subset R^p$ Besides bargainers expect payoffs, from any bargain $p_{i,j} = payoffs$ with its probability.

Now, let $g(\gamma, q)$ denote the satisfaction of each of bargainers of type γ using state guarantees i.e with quality q . Then the welfare or utility, from community intervention in any 2-persons bargain, by its "State Bargaining Services (SBS) is of this agent, defined here by a is:

$$U_a(\gamma) = g(\gamma, q(\gamma)) - t(\gamma)$$

Generalization, let $U_a(\gamma)$ quantifies how much a customer with the majority of the γ preferences (i.e, enjoys the safety and services of the state in negotiations with another or others to the extent possible quality q_+^m knowing that he spends the amount t for it. If $C(q)$

represents the cost of "producing" state bargaining and safety state services, of a quality q_+^m , then the utility of the principal (defined here by $"p"$ is

$$U_p(\gamma) = t(\gamma) - C(q(\gamma))$$

Here $U_p(\gamma)$ can be viewed as the profit that the **State** (the Community, with its Services) makes in "selling" the safety and its services, to the Citizens in negotiations with another or with quality q_+^m to the CITIZEN with, a "level of accepted state /political bargaining services" γ Since the goal of the owner is to make more profit, then he tries to anticipate the customers' choices so that each customer reveals his taste by choosing the food that is targeted for him. Therefore, the principal's (CITIZEN) utility $U_p(\gamma)$ is subject to some constraints, called incentive compatible constraints, meaning that the CITIZENS are given incentive to reveal their real accepted level of "bargaining State services" Mathematically, the incentive compatible constraints can be represented as

$$h(\gamma, q(\gamma) - t(\gamma) \geq h(\gamma, q(\gamma')) - t(\gamma'), ... \forall \gamma, \gamma' \in \Gamma$$

So, the principal-agent problem, or, **CITIZEN- State** (Community) problem, especially, as for state services quality level, can be formulated as follows:

$$P(A).. \underset{q(\gamma), t(\gamma)}{MAX} \int_{\Gamma} t(\gamma) - C(q(\gamma)) f(\gamma) d\gamma$$

is the objective function

$$where, ... d\gamma .. the .. \inf initesimal ... change .. of '... preferred .. state .. services .. bar .. level$$

under the constraints:

$$h(\gamma_i, q_i) - t_i \geq 0, ... \forall i = 1, ..2, ...n)$$

$$h(\gamma_i, q_i) - t_i \geq g(\gamma_i, q_j) - t_j ..... \forall i, j = 1, ..2, ...n$$

So, the principal-agent problem can be formulated as follows:

$$P(A).. \underset{q(\gamma), t(\gamma)}{MAX} \int_{\Gamma} t(\gamma) - C(q(\gamma)) f(\gamma) d\gamma$$

5. Conclusions

The win-win-win Papakonstantinidis model is (a) a methodological tool for conflict resolution, especially in the case of decision-making, (b) a "path" to social justice, (c) the basic process for sensitizing local population on the development, around a local "flag theme" (d) a way to "feel free" through involvement in the development process (e) to develop "new" bargaining behavior

(f) to convert conflict into cooperation. (g) As the sensitization process tends to infinity, then the limit of PAC relations tend to the absolute collaboration. That's the end of the real development process, Genrerally

$$\lim_{sen\to\infty} P.A.C..r = absolute..collaboration$$

The "win-win-win Papakonstantinidis model" is a "tool of consent" useful in socio-economic human relations It is focused on "transferring the "voting perception (Arrow, 1951) from a single individual choice, in the «bargaining multiple decision making, thus taking into consideration the "Community Profit" (The 3rd part so a "peer-pressure perception" Bargainers A-B and the Community as a whole (the "C" Factor), or as "a Moral Aggregation"

Special regard is given to regional and local development field both as a regional and social sciences (as above)

I tried to identify the "win-win-win" as a key tool for the approach to social welfare by clicking on the incompatibility of five basic theorems that define it - each one of its own side-either positive (justice theorem) or negative (the impossibility theorem)

The suggested "win-win-win Papakonstantinidis model" is built up on a number of incompatibilities, in particular as regards the pairs" Pareto efficiency – Impossibility Theorem" "paradox liberty (Amartya Sen) - Pareto Efficiency" , "Theorem of Justice – Pareto Efficiency" and (the most important) "the Theorem of incompleteness-the Impossibility Theorem"

Win-win-win: from the behavior side, 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 From the other, "sensitization" may be concerned as a marginal- additional information, thus changed the 3 parts' imperfect information, into a complete information as Harsanyi's conditional probabilities claims.

The win-win-win Papakonstantinidis model is a methodological tool for conflict resolution, in and during the bargain It deals with local development, both as a regional and social scientific field It proves that building social capital at local level mainly depends on "social trust links" among local people: Social cohesion based on social capital may be measured by the diversification Rate from strict globalization rules: It introduces senses as local identity, including communication code, customs, ethics, culture. The "win-win-win Papakonstantinidis Model" should facilitate local people to "readjust" bargaining globalization rules locally, through a sensitization process: Community –as a discrete spatial / cultural entity- is defined as the limit of its sensitization process

Finally it is a method of "measurement" the social welfare development levels : Starting from the "win-win-win" equilibrium (the absolute welfare/happiness, or "development") one can measure the % from the "grades of deviation from the "win-win-win equilibrium"

"Social welfare" exists and can coexist with the capitalist economic model, if and only if it will be based on the contradiction of the relevant literature, thus leading in a 3-polar "contract" among all parties, including the Community (The Intermediate Community- the "C" factor), in a 3-dimensional space. If it is true, then it will be feasible a social welfare policy in a new world that will not resemble the current (centralized structure)

Papakonstantinidis conjectures:
"At any bargain between two, each one of the 2 bargainers represents the whole of the community and (at the same time) him/her self interest From the other side, Community may be concerned as an aggregate entity that participates in a political game, towards "social welfare". (officially, at least)

People have by nature, a strong trend to cooperate each-other. From this point of view, "a win-win-win situation may be possible if and only if the human mind (as expressed in terms of interaction), is built to accept this situation (the universal cooperation) bargainers think double, as separate rational units AND as "the COMMUNITY" Creg Tovey, 2016)

The problem of interaction in a bargain is transferred from the negotiators' intentions into share's distribution in a possible solution by agreement. People want to cooperate , but in the depth of their mind seek such an agreement that will give them shares such that to maximize the satisfaction of personal needs. This point is very important for our work : Social welfare is the product of "ordinal" (and not cardinal) individual/personal utilities (to maximize the satisfaction of personal needs or else, there is nothing to be added such as to increase personal or individual satisfaction (MRS=0)

5.1 Proposal-Bridge Between Theoretical Welfare and Practical Rural Development
The Implementation of rural development, of a small-mainly- rural community, has as a perquisite the community's "sensitization process" around a "flag theme" "Sensitization process", thus could be a new form of "information" coming from a 3-pole bargaining (A,B bargainers AND the "Community" as the third pole in the same bargain)
By this way, "sensitization" is the "tool" for achieving the "win-win-win bargaining equilibrium": the bargaining situation in which the three parts (Bargainers A-B and the "Community" win (ideal case) On that ideal point of a bargaining situation, all three parties (A-B-"C") have not any possibility to improve their own situation from any relocation of sources , (Pareto Efficiency, Pareto Optimality)

Sensitization process is the outer characteristic by whish community implements its role as the 3rd part in a bargain between 2. So, it is the sensitization process (or else the implementation of its role as 3rd part, or else 'social welfare') in order to succeed rural tourism it a spiral process quite different from past experience: Firstly social welfare and then the development
That means, a faired wealth allocation for achieving better conditions for development, or even "rural development. Especially in rural development spiral process, that is absolutely necessary.

5.2 Final Conclusions - Proposal
Coming from the above mentioned, it is resulted that a "social welfare concept" is feasible: "the win-win-win Papakonstantinidis model" is launched as a tool for transferring the "economic focus" from "individuality" to "cooperation", and even more to "Moral Aggregation" , through the bargaining rules, with the "Community" (village, State, parish, Culture, Values etc) to "participate" in any negotiation between 2 (A-B), as a discrete entity, in a peer-pressure process This process is able to reform the 'socialism" in a more efficient result, taking into account both the "Pareto Optimality criterion" and the Principal-Agent Theory by the bargain If these conditions will be sure then the "aggregating social welfare" will be in a position to operate as incentive for rural development. Community as "a "Moral Aggregation, which participates in a political game" (Creg Tovey, 2016) is in the focus In terms of "Rural Development" Community Aggregation" has its practical characteristic of the "sensitization process" at local level (mainly in isolated rural communities) around the "flag theme" which is a "open theme, discussed at local level", and focusing in rural development Rural Development –Social Welfare are given as a two form of Limits

a. As the sensitization process tends to be integrated, rural dev succeeded
b. As social welfare conditions tends to be max, then Aggregation exists

$$\lim_{sensitization..process \to \infty} dev..process \to MAX$$

$$\lim_{social..welfare..conditions \to \infty} SENITIZATION.PROCESS \to AGGREGATION$$

5.3 A Rural Tourism Case

The WERT: "Women Entrepreneurs Rural Tourism" European Project. The Women Entrepreneurs in Rural Tourism' project (WERT) is a collaborative partnership between eight training institutions and networks from six countries across Europe (DESTI NET, 2012). From the Greek side, "PRISMA Development Studies S.A" with a very important contribution in the rural development in Greece, was the WERT partner The project is supported by the European Union through the Leonardo da Vinci programme, aimed at improving the vocational education systems of Europe. The project aims to meet the needs and build the skills of women entrepreneurs involved in rural tourism and crafts and to improve the quality of training provided by the vocational education sector. The WERT training programme developed within this pilot initiative is aimed to help the following groups: (1) women entrepreneurs involved in rural tourism, crafts and food production; (2) women who wish to enter the sector in order to become economically active and independent; (3) vocational training providers to help women entrepreneurs develop the required business skills e.g. Management, Information Technology and Marketing. The WERT training course help women entrepreneurs across Europe to build new skills and jobs in rural economies During the period March-June 2012, twenty two (22) women candidate entrepreneurs in Rural Tourism in a small Greek village, "Rovies" (Evia Island, Middle Greece) were trained on how it should be possible to work together in the rural tourism. I was invited by the PRISMA Development Studies SA to work as trainer, in Rovies-Evia Isle. During the 3-months training, I had the chance to develop the "win-win-win Papakonstantinidis model" as methodological tool for producing the conditions of closer collaboration among them. After training, the 22 women established a rural tourism cooperative, covering not only "accommodation", but also "local food and sweets", "cultural activities", swimming/climbing activities etc. After training, the 22 women established a rural tourism cooperative, covering not only "accommodation", but also "local food and sweets", "cultural activities", swimming/climbing activities etc. so that they have obtained a higher income (2012). The success of the Agricultural Co Rovies of Evia, mobilized the entire endogenous potential of the village, involving residents in the development process. In its final evaluation in Crete (Greece), WERT evaluated the experiment as a successful one because it led in the creation of Women Cooperative. The project leader of the WERT Dr Rosaleen Courtney Planning and Development (Norton Radstock College South Hill Park Radstock BA3 3RW UK) asked from me the "Power Point" copy to include it in the educational material WERT (e-school training). This material is now presented simultaneously to all actors involved in the educational process WERT.

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