

# Chapter 29

## 2008 – 2011 World Economic Crisis: New Paradigms, Science Methodology, Information Systems, and Decision Systems

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### **ABSTRACT**

*The human society and market structures need a “regulatory framework,” new paradigms which endogenize ethics, efficiency, rights, and minimize risks in decision systems, which can converge in peace and human sustainability. Ethics is a necessary condition for any system at the individual, institutional, corporation, national, and international levels. Globalization with automation transformed global market parameters. Information distortion in information systems may create high alternative costs such as problems of quantification of socio-economic phenomena and negative impacts on quantitative and qualitative distortions in decision-making structures. In the 21<sup>st</sup> century, it became a necessary condition to transform power driven systems to science and culture and endogenize ecology, ethics, which aims “human optimal” welfare decision systems at the world level.*

### **2008 – 2011 WORLD ECONOMIC CRISIS**

In the context of the 2008 world economic crisis, we observe that the world GDP was \$ 60 trillion at that time. However, the amount of financial operations in investment banking and markets were over \$ 600 trillion. Concerning this huge amount, we observe that there was no, and today

there is no any legal, economic regulatory framework concerning these operations and markets. It can be considered that it is appropriate to call it a “crisis of ethics.” The human society and market structures need definitely a “regulatory framework” which endogenize ethics, efficiency, rights and minimizing risks in decision systems which can converge to peace, environmental, nature and human sustainability.

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Financial and economic crisis requires urgently the establishment of a more realistic set of basic concepts and the promotion of tools for managing complex, dynamic, economic problems (Smith, 2010).

**Theorem 1998:** System Optimal =  $\alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \dots + \varepsilon$  (Güvenen, 1998; 2011)

$\alpha_0$  is necessary condition which represents ethics whether at individual, corporate, institutional, nation state, transnational corporations, international organizations and international sphere levels.

In the realization of any system optimal all explanatory variables ( $x_1, x_2, x_3, \dots, x_i$ ) may change through time and space dynamics. The necessary condition is that ethics ( $\alpha_0$ ) must remain constant. If this condition is not satisfied, the system will be under optimal.

Computerization with automation transformed substantially global market parameters (Volle, 2011). As a remarkable tool which contributes a lot to research, decision and daily life at the same time, we observe an abuse of this remarkable tool. This misuse can be considered also as another explanatory variable of the 2008 World Economic Crisis.

The actual European Union economic crisis is structurally different. EU does have very heterogeneous structures concerning financial, economic, technological, political issues. In practical and mathematical sense, EU optimal becomes purely an ambiguous concept. Given the substantial heterogeneity between 27 nation states, the practice of decision-making and its realization in terms of financial, economic, technological, political decision systems are highly exogenous to the realization of European Union optimality and complementarity. We observed these facts in the failure of “2000 – 2010 Lisbon Criteria” which aimed to reach at least the level of USA in terms of technology, research, competitiveness. Equally, the achievement of homogenous and complementary

decision systems concerning financial markets, economics, politics, and governance represents non-negligible problems.

The below mentioned theorem summarize this observation:

**Theorem:** Set Optimal  $\neq \Sigma$  subsets’ optima

$$\text{EU Optimal} \neq \sum_1^{27}$$

Individual EU country optimal (Güvenen, 2011a)

These factors can be considered as the main explanatory variables of the actual EU economic and financial crisis.

## WORLD DYNAMICS AND NEW PARADIGMS

The individuals’ basic instinct converges to survival and search for a *power driven system* behavior. In the search of power, humans created institutions and various strategies throughout the history. In terms of decision systems, the following decision making actors can be considered as the most influential ones: international sphere, nation states, international organizations, transnational corporations and enterprises, non-governmental organizations and the individual which represents the core of socio-economic systems. The individual remains the core and the “initial signal” provider of the system in normative approach. Welfare conditions of the whole world are determined by the mutual complex interactions of the above-mentioned institutions through competition, cooperation and complementarity.

In 2011, we live in a world driven by power and power of money imposed socio-economic systems (System 2). The mentioned approach cannot create a sustainable world system. We need to move to a normative system (System 1) driven by science, education, technology, innovation, ethics, values

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