YILDIZ SOCIAL SCIENCE REVIEW (YSSR)

Editor's Introduction

It gives me great pleasure to welcome you to the first volume and second issue of YILDIZ Social Science Review for which I have acted as Editor-in-Chief.

In this second issue of YSSR, there are six papers. The first author is Massimo Bagarani who is the member of the University Guglielmo Marconi at the department of Public Policies and Science of Administration. Bagarani's paper is about the an application of multicriteria analysis in supporting policy decisions. ELECTRE TRI method is applied for evaluating an Operational Programme co-financed by EU in the structural policy framework 2000-2006. This paper was presented in the first AICSS 2015 Conference at Istanbul. I would thank Mr. Bagarani for the participation to the conference and contribution to our journal.

Second paper is written by Stefano Fantacone, Petya G. Garalova and Carlo Milani from Centro Europa Ricerche Rome Italy. The paper is about the NAWRU estimated by the European Commission appears to be distorted in the stages of economic downturn, leading to pro-cyclical fiscal policies. This paper was presented in the first AICSS 2015 Conference at Istanbul too. I would thank Mr. Milani for the participation to the conference and contribution to our journal.

Third paper's authors are Gözde Ünal and Ömer Faruk Tan, respectively, from Boğaziçi University and MEF University, Istanbul Turkey. Their paper is about evaluate the performance of A-type Turkish funds between January 2009 and November 2014. This study period coincides with the period of quantitative easing during which developing economies in financial markets have been influenced dramatically. This paper was presented in the first AICSS 2015 Conference at Istanbul too.

Fourth paper is written by by Çiğdem Dikmen from Istanbul Bilim University. The paper analyzes the learning organization and success criteria in hospitals.

The fifth paper is written by Dhananjay Tripathi from South Asian University, New Delhi, at the department of International Relations. The paper presents a case that Asian regionalism is possible provided India and China cooperate with each other and this process is also supported by the ASEAN.

The last paper is written in Turkish by Ahmet Hakan Yüksel from Işık University at the department of Management. This conceptual paper intends to diagnose the need to replace the prolonged assumptions that reigned throughout the history of organizational studies by the ones extracted from complexity thinking, which might serve as the kernel of the new organizational and managerial studies in the future. I appreciate the six papers for the second issue of the first volume of Yıldız Social Science Review.

All comments are welcome.

Prof. Dr. Murat Donduran
Editor-in-Chief
YILDIZ SOCIAL SCIENCE REVIEW (YSSR)

Contents

Applying Multicriteria Analysis in On-Going Evaluation of EU Structural Programmes[*]

Massimo Bagarani[†]

University Guglielmo Marconi, Department of Public Policies and Science of Administration

Abstract

This contribute proposes an application of multicriteria analysis in supporting policy decisions. ELECTRE TRI method is applied for evaluating an Operational Programme co-financed by EU in the structural policy framework 2000-2006. This work has two objectives: i) to ensure that the use of multicriteria approach, through the ELECTRE TRI method, could represent a useful methodological tool to evaluate, in a systematic way, complex programmes, such as EU Structural Funds Program; ii) to demonstrate that the application of this method to a regional programme, could help to achieve satisfactory results in terms of improving the decision making process. To this end, the analysis will test if and to what extent a classificatory not hierarchical multicriteria method, could be useful in supporting policy makers during the implementation of EU programme. The contribute synthetically describes the general characteristic of the method and then focuses on the criteria utilised to evaluate the programme, within the context of an in itinere evaluation. The application of ELECTRE TRI method will allow the evaluator to cluster the program's actions in two scenarios and three different risk level classes in each scenario.

Keywords: Criteria for decision making, Planning policy, Regional policy

1 Introduction

In general, evaluation aims to achieve an appropriate level of information and knowledge so that the policy makers can adopt decisions regarding single projects or families of projects proposed in specific programmes (Owen, 2006) in a more appropriate way. The type of information and the level of detail vary depending on: i) the type of evaluation (ex-ante, in itinere or ex-post); ii) the characteristic of the investments; iii) the number and dimension of the projects included in the programmes; iv) the technical structure of the programmes.

The information, gathered and elaborated by the evaluation process and offered to the stakeholders of the programme (or project), highlights what in the programme (or the project)

---

works and what does not work as expected ((Berk and Rossi, 1999);(Chen, 2004); (Chen, 2005)), in terms of programme's performance but also of priorities achieved (Rossi, Freeman, and Lipsey, 1999). Based on the results, the stakeholders can adopt the appropriate choices for solving problems, overcoming bottlenecks and managing a better designed programme ((Weiss, 1972); (Cronbach, 1982)).

Chen in his works proposes a distinction between "change" model and "action" model arguing about the theoretical basis of programme evaluation (Chen, 1990). Starting from this theoretical framework, in this work we will utilize a specific multicriteria evaluation technique, the ELECTRE TRI ((Roy and Bouyssou, 1993); (Roy and Mousseau, 1996)). Our main scope is to demonstrate that this approach could represent an innovative and effective tool in processing the in itinere evaluation of programmes during the implementation phase, through the identification of Measures which present several difficulties in their implementation. It could therefore represent a valuable tool for decision support for the stakeholders of the programs.

In this work, the model TRI was applied to the Regional Operational Program (ROP), operated by a southern Italian Region (the test Region) during the period 2000-2006, within the mid-term evaluation framework. In the application, we collected all information, results and considerations emerged during the evaluation through interviews, meetings, and analyses performed by the evaluator in respect of key stakeholders and beneficiaries of the implementation.

The work is structured as follows: the typical structure of a Communitarian operational program is described in section 2 and a brief discussion of the role played by this type of intervention in the policy choices of the structural development of EU and Member States is provided; section 3 is devoted to presenting the ELECTRE TRI method adopted for the evaluation of the selected program; in section 4 we proceed to an application of the method to the case study represented by the operational program of the test Region; in Section 5 some concluding remarks are provided about the systematic application of the proposed method.

2   Structure and Logic of the Regional Operational Programs (ROP)

From a historical point of view, the political approach utilizing ROP started with the first cycle of Communitarian planning, in the period 1989-1993, inheriting the experience gained in previous years with the Integrated Mediterranean Projects (IMPs). The choice of the former European Economic Community (EEC) was twofold: i) to intervene with economic policy actions to address the problem of structural differences between areas of the member countries, ii) to assure that the Regions, and no more the States, are the centre of the Communitarian action in terms of territorial jurisdictions.

This choice implicitly rejects the neoclassical hypothesis of "natural" convergence of the economic systems, while assuming that public spending has a decisive role in overcoming the structural imbalances. Through the preparation and implementation of structural programs at regional level, public spending has the main purpose to achieve the priorities of the macroeconomic structural development: the economic and social convergence, and the preservation and the improvement of the environment ((European Economic Community, 1987); (European Union, 1992); (Monti, 1996); (The European Commission, 2004)). In the cohesion policy, Re-

gions have the responsibility to implement and govern "from below" a public system structured on several levels of jurisdiction, the so-called multi-level governance, ((Scharpf, 1994); (Marks, Hooghe, and Blank, 1996); (Mayntz, 1999); (Liesbet and Marks, 2001); (Boccia and et al, 2003)). In this context, the operational program represents the most important planning tool, and it is the actual way to operate with the public expenditure in the regional territories.

Figure (1) shows the general structure of a Communitarian program divided into Axes, Measures and individual projects within the Measures. The arrows identify logical causal connections among projects, Measures, Axes and Program. In summary, the set of projects within a Measure contributes to the achievement of the objectives of the Measure. The realization of a set of Measures allows the Program to achieve the priorities at Axis level and eventually the realization of the Axes allows the Region to obtain the priorities of the Program.
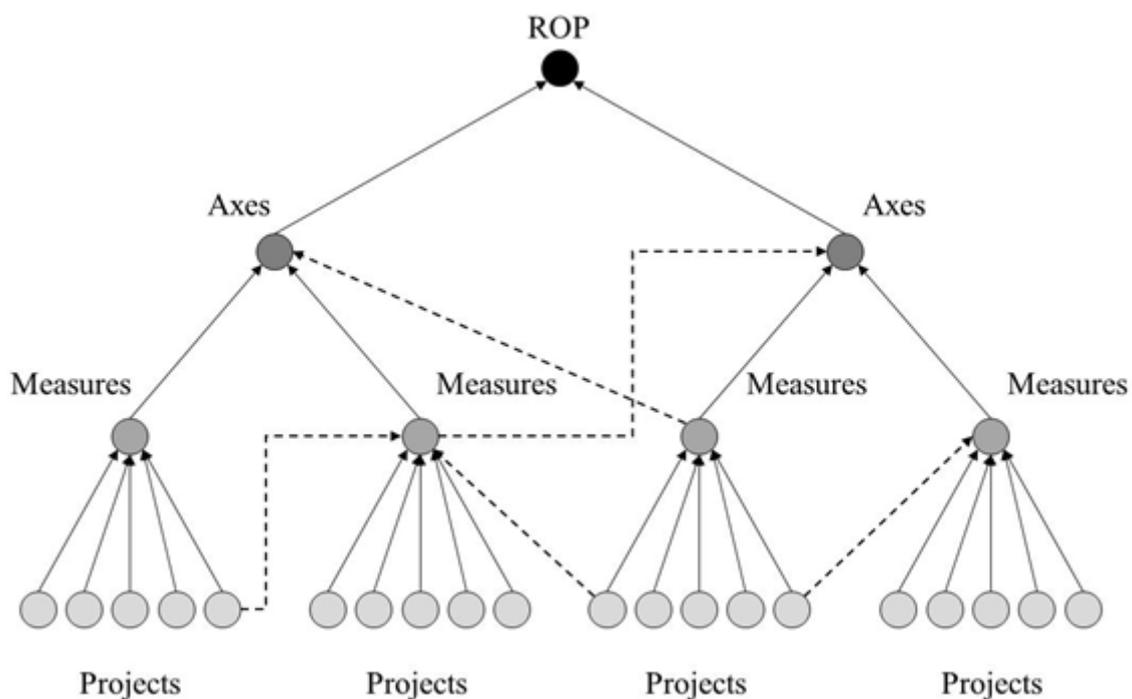
Figure 1: Scheme of the Structure of a Communitarian Program

Because of the interdependence between each level of the hierarchy, some projects or Measures will contribute to meet both the specific objectives of the Measure or the Axis of belonging and the objectives of other Measures or Axes (functional relationships represented by the dashed lines in Figure (1)).

During the 2000-2006 programming period, the Measure represented the "atomistic" unit in the "program cycle" (again, within 2014-2020 programming period, the Measure plays the same role). This implies that all government actions (monitoring, evaluation and reprogramming) were carried out primarily on the basis of the results obtained by the Measures during the program execution. Moreover, the definition of Measure provided by the Council Regulation 1260/99 in article 9 (j) stated that it was *the means by which a priority is implemented over several years which enable operations to be financed.*

In general, the Measure plays a key role in controlling the program's performance in different

evaluation phases: before (*ex-ante*), on-going (*in itinere*) or mid-term, and after (*ex-post*).

In particular, evaluators have a deep interest in the expected or actually achieved results from projects during the *ex-ante* and *ex-post* evaluation phases; on the other hand, the Measures become more interesting during the *in itinere* evaluation, precisely because they represent the centre of administration and program management. It is always possible to realize at least two types of analysis, in an interim evaluation at level of Measure: i) an evaluation of the effects generated by the complete realization of one or more Measures (Brancati and P., 2003); ii) an evaluation of the program implementation under a technical, political and administrative point of view. In the first case, the evaluation will produce an estimate of the expected effects, either for individual projects, or for Measures, or for the entire Program. In the second case, the analysis is performed on the entire set of Measures, assessing their performance, based on physical, financial, economic, and procedural indicators.

In the latter case, it is therefore possible to verify the applicability of a methodological approach that, starting from an accurate assessment of the critical issues related to the progress of the Measures, allows the management bodies of the program to improve their decisions.

3   The ELECTRE TRI Method

ELECTRE is a multi-criteria method based on outranking relations used to select, sort, or classify a set of alternatives with respect to multiple criteria. In particular, the version of ELECTRE TRI allows a classification of alternatives with respect to some equivalence classes predefined by the user.

From a formal point of view, in the multi-criteria methods, a set of alternatives, or shares, A of variable size (coinciding with the number of Measures of a Regional Operational Programme, in the present case), can be analysed using a multi-criteria decision aid tool. With reference to the literature ((Roy and Bouyssou, 1993), (Roy and Mousseau, 1996); (Mousseau and Slowinski, 1998); (Lourenço and Costa, 2004)), we have three different ways to analyse the actions (in this case Measures): selection, classification and sorting.

In the case of selection, a sub-set $A_1 \subset A$ of accepted actions and a sub-set $A - A_1$ of rejected actions are defined, minimizing the number of elements contained in A_1. In the case of classification, the elements of A are assigned to a predefined set of categories based on the value of each alternative a, without any pairwise comparison with other alternatives contained in set A. Finally, in the case of sorting, a system of preferences on the set of alternatives that belong to A is defined.

Given the political and economic characteristics of the elements analysed in this paper (the Measures of a ROP), it appeared advisable to choose the method of classification, excluding both the hypothesis of rejection, hardly acceptable in the context of the program implementation, and the hypothesis of sorting, which would limit too much the choices of the policymakers.

ELECTRE TRI is a well-established method of classification characterized by allocation of alternatives to predefined categories[1]. The assignment to a given category occurs through the identification of a number m of non-default criteria g_j, with $j \in F$ being $F = \{1, 2, ..., m\}$ the set of indices of g, and the comparison with a number p of profiles b_h, with $h \in B$ being $B = \{1, 2, ..., p\}$ the set of indices of b. The definition of the p profiles generates a set of $p + 1$

---

[1]In this work the method has been entirely reconstructed within an Excel spreadsheet and subsequently applied to the Measures of the Operational Programme of the test Region.

categories such that b_h constitutes the upper limit of category C_h and simultaneously the lower limit of category C_{h+1}. Schematically, this approach is represented in Figure 2.
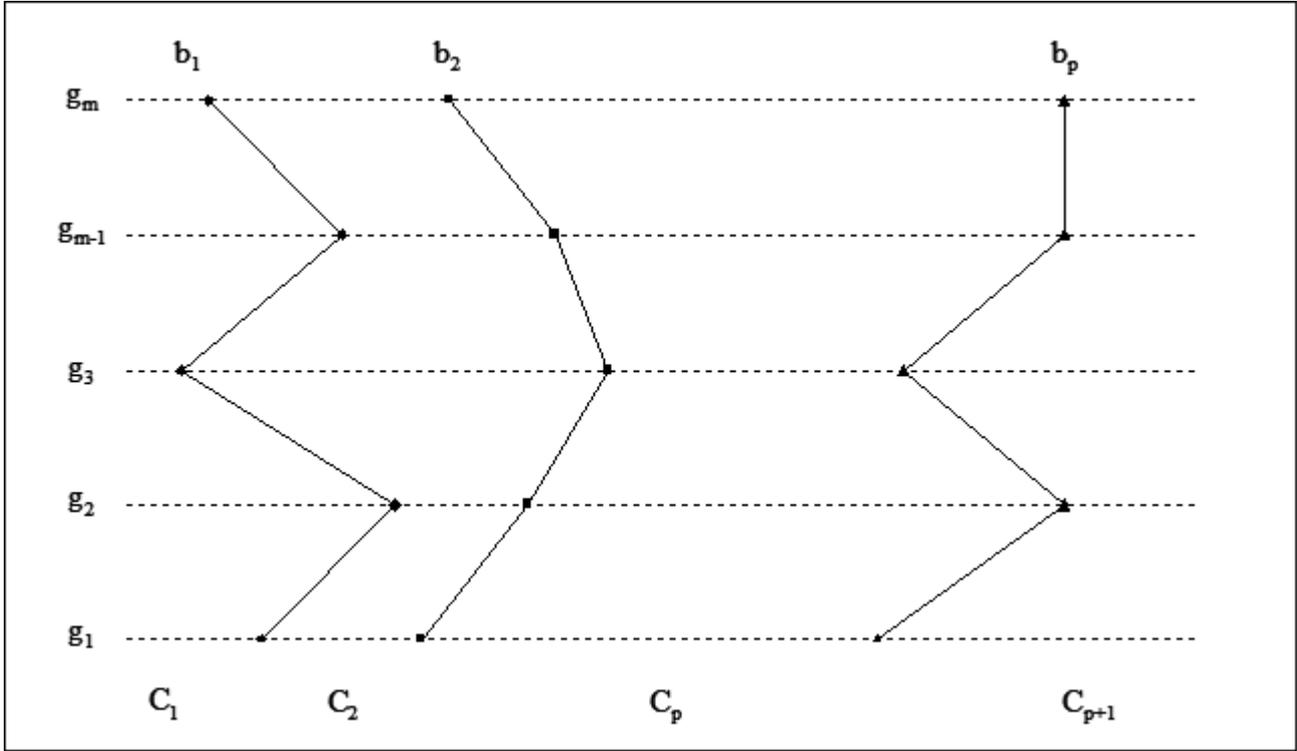
Figure 2: Representation of the Distribution of Criteria, Profiles and Categorization in the Case dell'ELECTRE TRI **Source:** representation derived from Mousseau, Slowinski, 1998.

If we indicate with $g_j(a)$ the value assumed by the actions in the $j-$th criterion and with $g_j(b_h)$ the corresponding value assumed by the $h-$th profile, then the relationship of preferences O (outranking) will be such that aOb_h when the assertion that "a is at least as preferable as b_h" or, in other words, that $g_j(a) \geq g_j(b_h)$, is verified[2]

The classification method also considers the introduction of inter-criteria parameters consisting in: indifference thresholds q_j, preference thresholds p_j, veto threshold v_j, and the weights w_j.

Therefore, this leads to construct a relation O of preferences articulated in at least three preferential orders: indifference (I), weak preference (Q), strong preference (P), in general assuming that $I \prec Q \prec P$. In the present case:

$$\begin{cases} \text{if } aIb_h & \text{then } g_j(b_h) - q_j(b_h) < g_j(a) \leq g_j(b_h) + q_j(b_h) \\ \text{if } aQb_h & \text{then } g_j(b_h) - p_j(b_h) < g_j(a) \leq g_j(b_h) + q_j(b_h) \\ \text{if } aPb_h & \text{then } g_j(b_h) + p_j(b_h) \leq g_j(a) \end{cases}$$

A residual fourth category (R) "corresponds to the absence of clear and positive reasons that

---

[2]Without any loss of generality, we can assume to be in the presence of increasing preferences with increasing values of the criteria. Hypotheses of decreasing preferences with increasing values of the criterion will also be used in the subsequent analyses.

may justify any of the three previous reports" (Roy and Mousseau, 1996) and, consequently, represents a condition of lack of comparability.

Based on these four preferential relations, the following sets of variables, of indices and of procedures were built:

i) partial indices of concordance $c_j(a, b_h)$ and $c_j(b_h, a)$;

ii) partial indices of discordance $d_j(a, b_h)$ and $d_j(b_h, a)$;

iii) general index of concordance $c(a, b_h)$ and $c(b_h, a)$;

iv) fuzzy variable on the degree of credibility of the preference relation $\sigma(a, b_h)$;

v) derived variable of binary relations of preference (crisp relation or "outranking" relationship);

vi) procedures for allocation in pessimistic and optimistic hypothesis.

The application of the method requires particular attention, especially for what concerns the development of the phases relating to:

• definition of the criteria g_j;

• definition of the profiles b_h;

• definition of the values assigned to the weights w_j.

The definition of the criteria should comply with the principles underlying the valuation processes as well as briefly described in the introduction. In particular, in this case, the choice should be made in consultation with stakeholders, based on the proposal put forward by the evaluator, taking into account the characteristics of the implementation process and the findings of several investigations to officials responsible for the implementation of the Measures.

Likewise, the definition of the profiles should also take into account the priorities of the decision maker (DM) when assigning values to the criteria gj for each profile. In this regard, the assessment involves the use of optimization techniques that, starting from what is expressed by the DM, define the optimal values of gj(bh) and the thresholds of indifference and preference, in order to minimize the differences between the values assigned by the ELECTRE and the assignment made by the DM ((Mousseau and Slowinski, 1998), but also (Rogers and Bruen, 1998); (Dias and Clímaco, 2000)). In this work, the assignment was made by the evaluator, which assumed the role of DM, in the light of the available information. Although the optimization method has not been applied, the differential variables (slack variables) of Mousseau and Slowinski, however, have been calculated.

Finally, this paper adopts the hypothesis of absence of differences in the related importance of criteria (the weights), assuming $w_j = 1$ for all criteria ((Roy and Mousseau, 1996); (Figueira and Roy, 2002)).

4 Application to a 2000-2006 Regional Operational Program (ROP)

The 2000-2006 Community Support Framework (CSF) for Italy, following the provisions of the Community regulations, in particular the 1260/99, provided for the formulation of ROPs, based on the scheme proposed earlier in figure 1 ((Ministero del Tesoro, 1999); (Ministero del Tesoro, 2000); (Unione Europea, 2000)), by the Objective 1 Regions and by Regions under the transitional support. The CSF provided an articulation of programs in six axes: 1. Natural Resources; 2. Cultural resources; 3. Human resources; 4. Local development systems; 5. Cities; 6. Networks and nodes. The definition of Measures, actions and projects is Region's competence.

The test Region chose to develop its own Program in just five Axes, giving up the Axis City, and in 43 Measures.

During the implementation, the Program has been characterized by an evaluation activity, carried out by an independent evaluator, and by technical assistance to support the choices of the Managing Authority (MA).

In the first phase of implementation, the attention of these three players, evaluators, technical assistance and MA, was mainly directed to identify the existence of any difficulties in realization within the 43 Measures, with particular reference to bureaucratic constraints and administrative delays, or inefficiencies, due to the complexity of the management of the Program.

This evaluation activity was carried out through a set of actions:

a) direct inquiries at the offices of the heads of individual Measures;

b) repeated meetings with the officials in charge of the Measures;

c) submission of questionnaires to representative subjects of economic and social partnership;

d) submission of questionnaires to the beneficiary of actions envisaged in the Program;

e) systematic verification of the results obtained between the three actors: evaluators, technical assistance and MA.

4.1 The Individuation of the Criteria g_j

Based on the findings of the above activities, the study focused on four indicators of implementation (four criteria, so that $m = 4$):

1. Number of Managers of the Measures (MM);

2. Number of regional officials assigned to support the MM;

3. Percentage of payments compared to the total of the appropriations;

4. Numbers of changes in the position of MM occurred during the time laps.

Number of Managers for each Measure (MM) - Criterion 1

The indicator varies from a minimum of zero (absence of MM) to a maximum of 1. The case with a value equal to unity is the most frequent with 31 cases out of 43. The second value in terms of frequency is 0.11 which is present in 9 Measures. The value of 0.5 is present in only 2 Measures and zero in 1 Measure. The value of 0.11 is determined by the fact that the same manager was responsible for nine Measures of Axis 3 "Human Resources", as well as, in the case of 0.5, the same manager was responsible at the same time for two Measures, always included in Axis 3 "Human Resources". The absence of MM (zero value) is relative to only Measure 4.15 "Natural disasters" not yet activated at the time of mid-term evaluation.

In order to achieve maximum administrative efficiency and the maximum social and economic impact, the decision maker should aim at minimizing the number of cases in which an MM is only partially involved in the implementation of the Measure. In other words, an efficient management should appoint one responsible manager for each Measure in order to ensure the best possible partnership in each action. A direct relationship between program efficiency and number of MMs is expected.

Number of officials assigned to support the MM - Criterion 2

The structural complexity of the Communitarian programs requires an administrative organization where officials able to help to implement the program in the faster and the more efficient way support the MMs. In many cases, in the course of investigations, MMs complained about the shortage or lack of this support and the consequent inability to fully discharge by the necessary speed, the obligations imposed by Community rules. Also, the existence of a direct relationship between this indicator and the utility function of the decision maker is assumed, while stressing the existence of at least two caveats:

i) the number of officials in support of a Measure will also depend on the importance that the DM assigns to the Measure in the broader context of programming and the economic and social development of the Region;

ii) the growing of the number of officials support do not necessarily lead to an improvement in the efficiency and effectiveness of the management of the Measure, rather an excessive number of units, could drive to diseconomies in the implementation of the Measure.

Regarding the first point, it is difficult to imagine an explicit DM statement on the importance of each Measure in terms of development policy for the Region. Actually, an indirect indication could be inferred from the financial values associated to each Measure in the program, even if the indication could be partially distorted by the decision of policy makers to simultaneously activate other policies financed by funds from other sources. A simple analysis of the correlation between the two variables (number of officials and financial dimension), for the 43 available cases, shows the substantial absence of a positive relationship.

Regarding the second point, the analyst should verify the optimal number of officials to engage in the realization of the Measures, without any prejudice on the relationship between the number of officials and speed and quality of the execution of the program.

Percentage of payments compared to the total of the amounts available - Criterion 3

This is an indicator usually adopted in the analysis of public expenditure and allows a measurement of the financial progress of each Measure. Also in this case, several factors may affect

the value of the share: i) a greater procedural simplicity; ii) the existence of specific structural characteristics that may affect the flow of spending; iii) a greater efficiency in management practices; iv) a more effective demand response; v) a better interpretation of the actual needs of the area; vi) a more adequate preparation of the communication and dissemination activities.

Therefore, conditions of greater preference are reasonably associated with higher values of the ratio payments/programmed by the program managers, as in the two previous cases.

The distribution of the indicator is bimodal where the first modal class equals to zero (no payments), which, in economic terms, means the failure to initiate Measures that fall into that class. This is not justified by procedural or market-related reasons, given that, in the tested Region, the Program started four years before.

Actually, the average financial Program does not seem to have been proceeded at very high speed, at the date of December 2003, but this is a quite common condition in multiannual Community programs rather articulated in the destinations of expenditure and rather complex in procedural execution. On the other hand, a too low level of budget execution should generate an alarm in management, given the limited time frame to complete the payment of the programmed amounts.

Numbers of changes in the position of MM - Criterion 4

This indicator indicates the number of changes of managers occurred, in each Measure, during the Program until the expiration date of the reprogramming (31 December 2003). Decreasing preferences are assumed in this case.

The succession of managers inevitably generates delays, although in some cases it may be essential and also efficient. However, when the shifts become too frequent, the implementation of the Measure is seriously affected both in terms of efficiency and effectiveness. In fact, the new responsible manager, not only tends to partially modify some administrative aspects related to the implementation of the planned operations, but also needs to restart the contacts with the partnership and with beneficiaries and to solve the structural problems that limited the implementation of the Measure, that were, most likely, behind the changes themselves. The indicator varies from a minimum of zero to a maximum of five changes; this is a very high value considering that the actual implementation period covers a time span of just three years. Only five Measures showed no change in the management during the three years of effective implementation, while 15 Measures experienced one change and 29 one or two changes. A rather large group of 9 Measures showed 5 changes.

The correlation matrix (see Table 1) shows the absence of redundancy among the four indicators, with the exception of the high correlation value between "Number of Managers for Measure (MM)" (Criterion 1) and "Number of officials assigned to support the MM" (Criterion 2).

Table 1: Correlation matrix of the indicators chosen as criteria

	Criterion 1	Criterion 2	Criterion 3	Criterion 4
Criterion 1	1			
Criterion 2	0.5354	1		
Criterion 3	0.1019	0.2276	1	
Criterion 4	-0.7981	-0.4433	-0.1169	1

4.2   Profiles Identification by Criteria - Thresholds of Indifference, Preference, Veto and Weights

The applied method defines two profiles $(b_{1,2})$ for the set of four criteria. The decision to adopt only two profiles was suggested both by the low variability of the indicators used as criteria, and by the objective analytical and interpretive difficulty, related to the choice of a higher number of profiles. The choice of two profiles $(h = 1, 2)$ automatically leads to the identification of three categories (we define C_{h+1} the third and last category). The three categories represent the following conditions of aggregation:

Category C_1: Measures with high risk

Category C_2: Measures with intermediate risk

Category C_3: Measures with low risk

The profiles defined on the criteria $g_j(b_{1,2})$ have been associated with the thresholds of strict preference $p_j(b_{1,2})$, indifference $q_j(b_{1,2})$, veto $v_j(b_{1,2})$ and the weights w_j. The conditions imposed on the system are as follows[3]:

$$g_j(b_{h+1}) \geq g_j(b_h) + p_j(b_{h+1}) + p_j(b_h), \forall j \in F, \forall h \in B \quad \text{categories consistency} \quad (1)$$

$$p_j(b_h) \geq q_j(b_h), \forall j \in F, \forall h \in B \quad \text{thresholds consistency} \quad (2)$$

$$q_j(b_h) \geq 0, p_j(b_h) > 0, \forall j \in F, \forall h \in B \quad \text{constraints of non-negativity} \quad (3)$$

$$v_j(b_h) = 0, \forall j \in F, \forall h \in B \quad \text{absence of veto thresholds} \quad (4)$$

$$w_j = 1, \forall j \in F, \quad \text{weights invariance} \quad (5)$$

$$\lambda \in [0.5, 1] \quad \text{variation range of } \lambda \quad (6)$$

From equation (1) to (3) it follows: $g_j(b_{h+1}) > g_j(b_h)$,

Given the difficulty of establishing shared values of veto, a condition of absence of veto thresholds has been imposed[4]. Similarly, a condition of absence of differentiation based on the weights was imposed, introducing a weight equal to one for all criteria[5].

The two profiles $g_j(b_h)$, as well as the relative thresholds, have been defined taking into account: i) the results of the analysis on the statistical distributions of the variables used as criteria; ii) the considerations expressed by the intermediate evaluator and by the technical experts supporting the MA; iii) what emerged during the preparation of this work.

In Table (2), the values assigned to the profiles and the thresholds according to the constraints listed above are reported. The value of the threshold λ was fixed in 0.8.

The overall pattern of the two profiles is shown in graphical form (see Figure 3), with the caveat that the graphic representation of the criterion with decreasing preference has been made possible by changing sign to the values.

The distribution of the values for each alternative (Measure) in the criteria, within the scheme of profiles and thresholds, allows us to assign the Measures to the categories, based on

---

[3]The policy makers state all the conditions in the case of increasing preference. The case of decreasing preference, which is only found for the indicator "number of changes of RM", comes with the appropriate adjustments.

[4]The hypothesis of absence of the veto thresholds, with $w_j = 0$, $\forall j \in F$, determines that the index of discordance $d_j(a, b_h)$ can assume only the two extreme values: $d_j(a, b_h) = 1$, or $d_j(a, b_h) = 0$.

[5]This hypothesis implies that the global concordance index is calculated as the simple average of the indices of partial correlation.

Table 2: Profiles, thresholds of indifference, preference, veto and weights per criterion

	MM	*Support*	*Pay/Appr.*	*Changes*
Profile 1				
$g_J(b_1)$	**0.6**	**0.95**	**8**	**3**
$q_J(b_1)$	0	0.3	2	0.5
$p_J(b_1)$	0.2	0,45	4	0,5
v_J	0	0	0	0
w_J	1	1	1	1
$g_J(b_1) + p_J(b_1) + p_J(b_2)$	**0.9**	**2.4**	**20**	**1.5**
Profile 2				
$g_J(b_2)$	**1**	**2.5**	**30**	**1**
$q_J(b_2)$	0	0.5	4	0.5
$p_J(b_2)$	0.1	1	8	1
v_J	0	0	0	0
w_J	1	1	1	1
Categories consistency	YES	YES	YES	YES
Thresholds consistency	YES	YES	YES	YES
Value of λ	**0.8**			

the values of the indices of concordance (partial and total) and discordance, into two different scenarios: pessimistic (π) and optimistic (ω).
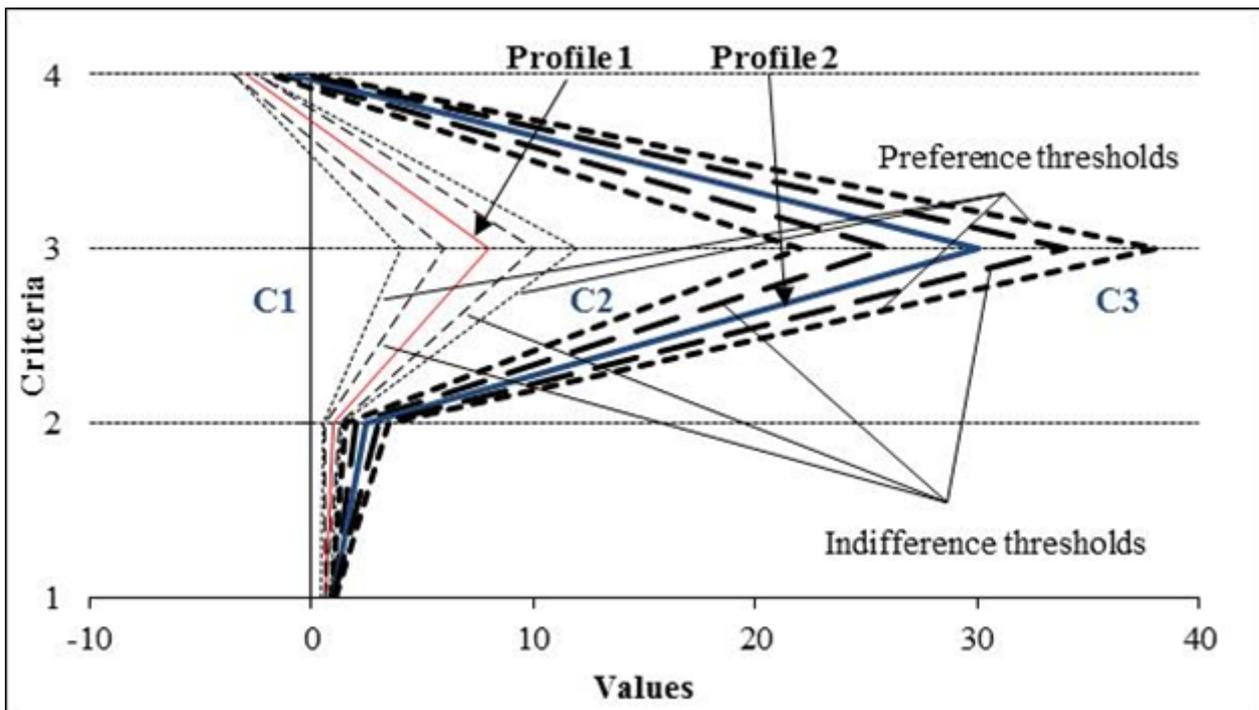
Figure 3: Graphical Representation of the Profiles and Intervals of Indifference and Preference

Once assigned the values of $p_j(b_h)$ and $q_j(b_h)$, the threshold λ affects the process of assigning the categories, given that $\sigma(a, b_h) \geq \lambda \Rightarrow aOb_h$[6].

The three binary relations of preference ($\succ$ or $\prec$), indifference (I) and non-comparability (R) are defined as follows:

- $aIb_h \Leftrightarrow aOb_h$ and b_hOa

- $a \succ b_h \Leftrightarrow aOb_h$ but not b_hOa

- $a \prec b_h \Leftrightarrow$ not aOb_h but b_hOa

- $aRb_h \Leftrightarrow$ not aOb_h not b_hOa (not comparability)

It should be noted that the less favourable outcome i.e the non-comparability in both profiles is present only in three out of 43 Measures. The non-comparability in both profiles (case of double R) is a condition that makes the assignment to the categories in the two proposed solutions (pessimistic and optimistic) unreliable.

Overall, 21 category changes in the transition, from pessimistic scenario to the optimistic scenario, are identified, thus leaving unchanged the position of 22 Measures, slightly more than 50% of the program. As already noted above, the assignment to categories in both scenarios is strictly dependent on the value imposed to the threshold λ. For this reason, a sensitivity analysis was carried out aimed to evaluate the effect of a variation of λ on the distribution of the Measures between the classes.

In particular, it was noted that - for values of $0.5 \leq \lambda < 0.8$ - only one Measure changes category and only in the case of pessimistic procedure (with transition from C_3 to C_2). For values of $\lambda > 0.8$, in a sufficiently small threshold around 0.8 (for example, by introducing an increase of 0.01, then with $\lambda = 0.81$), there is a shift of four Measures, three from C_3 to C_2 in pessimistic scenario and one from C_2 to C_3 in optimistic hypothesis. The observed movements are therefore quite limited and affect only marginally the results of the analysis. Moreover the group of Measures assigned to the category C_1 (the worst category) remains constant. This category is representative of a high-risk conditions so it is also the most interesting for the choices of DMs.

5   The Results of the Analysis

Table (3) shows the distribution of the Measures in the three classes of risk associated with the two scenarios, "pessimistic" and "optimistic". The analysis of the results shows a positive assessment of the program as a whole, the overall picture is obtained for the two scenarios in Table (3).

In the pessimistic hypothesis, though the proportion of Measures in category C_1 (high risk) is greater than 50%, some Measures with financial dimensions below average are also included, so that the percentage of the category, in terms of the total budget of the program, falls to 38%. On the contrary, the category C_3 is composed by Measures with a financial value higher than the average (12% in terms of number of Measures, 24% in terms of appropriations).

---

[6]In absence of the thresholds of veto, as in this case, the indicator of credibility has a direct relationship with the threshold of indifference and inverse with the threshold of preference.

Table 3: Distribution of Measures between classes of risk in the two procedures

	Number of Measures	% on total (43)	% of appropriations
Pessimistic procedure π			
$C_{1\pi}$ High risk	23	53.49%	38.01%
$C_{2\pi}$ Medium risk	15	34.88%	37.75%
$C_{3\pi}$ Low risk	5	11.63%	24.24%
Optimistic procedure ω			
$C_{1\omega}$ High risk	4	9.30%	6.16%
$C_{2\omega}$ Medium risk	27	62.79%	56.08%
$C_{3\omega}$ Low risk	12	27.91%	37.77%

In the optimistic hypothesis, Measures at high risk account for only 9% of the total and a similar percentage is found in the calculation of the appropriations (about 6%). The share of low-risk Measures grows, in comparison with the previous assumption, respectively to 28% and 38%.

Five Measures, which fall in the category C_3 in both solutions and represent almost a quarter (24%) of the total budget, can be judged as "excellent", while a high-risk condition is detectable only in three Measures because they are present in category C_1 in both solutions. These three Measures represent only 6% of the total budget.

In order to obtain a rough representation of the implicit weights associated to each criterion, a simple regression model was implemented. As stated above, the multicriteria model has been set up without any explicit determination of weights (i.e. $w_j = 1, \forall j \in F$) and this choice permits to estimate the "natural" relevance (the implicit weight) that the criteria have in the explanation of the final classification within the set of alternatives.

The first step in this analysis consisted in assigning a score to the three categories (C_1, C_2 and C_3) in the two alternative scenarios: pessimistic (π) and optimistic (ω). Considering that $*gamma \in B$ being $B = \{1, 2\}$, where $\gamma = 1$ corresponds to the pessimistic scenario and $\gamma = 2$ to the optimistic one, then[7]:

$$\text{if } \sigma(a, b_h) \geq \lambda \quad \text{then } C_{1\gamma} = 3, 3 \tag{7}$$

$$\text{if } \sigma(a, b_1) \geq \lambda \text{ and } \sigma(a, b_1) < \lambda \text{ and } \sigma(b_2, a) < \lambda \quad \text{then } C_{21} = 2, C_{22} = 3 \tag{8}$$

$$\text{if } \sigma(a, b_1) \geq \lambda \text{ and } \sigma(b_2, a) \leq \lambda \quad \text{then } C_{2\gamma} = 2, 2 \tag{9}$$

$$\text{if } \sigma(a, b_1) < \lambda \text{ and } \sigma(b_1, a) < \lambda \text{ and } \sigma(b_2, a) \leq \lambda \quad \text{then } C_{21} = 1, C_{22} = 2 \tag{10}$$

$$\text{if } \sigma(b_h, a) \geq \lambda \quad \text{then } C_{3\gamma} = 1, 1 \tag{11}$$

$$\text{if } \sigma(a, b_1) < \lambda \text{ and } \sigma(b_h, a) < \lambda \quad \text{non comparability} \tag{12}$$

In the second step a new ordinal variable, named E, was defined, associating the score values of E with given combinations of C_h values, for each alternative (Measure) a, in pessimistic (π) and optimistic (ω) scenarios. New variable E ranges from a minimum of 2 to a maximum of 6, as the Table (4) below shows.

---

[7]In the cases $\sigma(a_k, b_h) < \lambda$ and $\sigma(b_h, a_k) < \lambda$ a double R condition is verified.

Table 4: Values of E variable for each level of rank

Ranking	π	ω	E
C_1 Highest rank	3	3	6
C_2 Medium ranks	2	3	5
	2	2	4
	1	2	3
C_3 Lowest rank	1	1	2
non comparability	1	3	-

A simple regression model (13) estimates the values of the implicit weights for each criterion g_j, $E = \theta[g_j(a)]$ then, assuming linear hypothesis,

$$E_k = \beta_0 + \sum_{j=1}^{m} \beta_j a_{k,j} + \varepsilon_k \tag{13}$$

With $k \in A$ being $A = \{1, 2, ..., n\}$, where $n = 40$ (total number of alternatives, Measures, excluding three Measures falling in the hypothesis of non-comparability) and $j \in F$ being $F =< \{1, 2, ..., m\}$, where $m = 4$ (number of no default criteria).

Correlation matrix shows the presence of a possible collinearity in criterion MM (see Table (5)), so the results of the regression model, without criterion MM omitted, due to the collinearity, are presented in Table (6):

Table 5: Correlation matrix between dependent variable E and four criteria

	E	MM	Support	Pay./Appr.	Changes
E	1				
MM	0.4579	1			
Support	0.3769	0.5354	1		
Pay./Appr.	0.5772	0.1019	0.2276	1	
Changes	-0.5927	-0.7981	-0.4433	-0.1169	1

All the three criteria are significant in explaining the distribution of the Measures in the ranking expressed by the variable E. Implicit weights are relatively high for "Number of officials assigned to support the MM" (criterion 2, with a coefficient of 0.368) and "Numbers of changes in the position of MM" (criterion 4, with a coefficient of -0.283), rather low for the criterion "Payments/Appropriations" (criterion 3, with a coefficient of 0.028). The organizational aspects inheriting the management of the Measures seem to be more effective in improving the quality level of the Measures.

6   Conclusion

The application of ELECTRE TRI method to the data of the Regional Operational Program has led to the assignment of the Measures into three categories: high Risk (C_1), medium risk

Table 6: Estimation of criteria implicit weights. Dependent variable: ranking variable E

Criteria	Coefficients	t values
Support	0.368***	4.71
Pay/Appr.	0.028***	7.62
Changes	-0.283***	-5.97
Constant	3.269***	17.27
Number of obs	40	
R-squared	0.8721	
Adj R-squared	0.8614	
F (3, 36)	81.81	

(C_2), low risk (C_3). The assignment in the three categories was done through two scenarios: pessimistic and optimistic. The program was therefore assessed through the distribution of the Measures in the categories for the two scenarios.

This work had two objectives:

i) on one hand, to ensure that the use of multi-criteria approach, in particular through the ELECTRE TRI method, could represent a possible methodological tool to evaluate complex programs, such as EU Structural Funds Program, in a systematic way;

ii) on the other hand, to demonstrate that the application of the ELECTRE TRI method to a regional operational program, can get satisfactory results in terms of classification of the Measures and could improve the decision making process of stakeholders and policy makers.

Regarding the first objective, it is possible to conclude that the ELECTRE TRI can be a useful tool to build up the programming choices but the evaluation targets must be clearly stated and a collection of specific information, integrated with the action of the evaluator and technical assistance must be developed. Other key aspects are: i) continuous contact with the responsible Managing Authority for the implementation of the program; ii) and a deep understanding of the needs of beneficiaries. Overall all the needed qualitative and quantitative information are actually available within the system of co-ordination, monitoring and evaluation of Community programs. This methodological approach does not propose any hierarchical ranking among Measures, but a structured classification of the same, thus allowing the DM to decide in more appropriate way, taking in consideration the political and territorial constraints that are often crucial during the implementation of a long-term and financially relevant program. In this study, no weights on criteria have been used, but no doubt, this could be an additional tool to further refine the results of processing: the choice of weights could largely simplify the introduction of the territorial and political constraints mentioned above.

With regard to the second objective, the few observations on the analytical results proposed in the previous section show that the adoption of the method is an effective tool of interpretation and management.

In a clear and concise way, the policy maker gets the information about how critical the Measures are so that he can adjust the classification just unveil which weights has been assigned to all criteria, on the basis of the policy directions that he considers most relevant. The

model can also be used to simulate the effects of policies aimed to improve the efficiency and effectiveness of the Program.

References

BERK, R., AND P. ROSSI (1999): *Thinking about Program Evaluation*. SAGE Publications.

BOCCIA, F., AND ET AL (2003): *I Mezzogiorni di Europa - Verso la riforma dei fondi strutturali*. Il Mulino, Bologna.

BRANCATI, R., AND P. R. P. (2003): "Un approccio metodologico per la valutazione inter-media: il caso del Programma Operativo della Campania 2000-2006," *cienze Regionali*, 3, 29–56.

CHEN, T. H. (1990): *Theory-driven Evaluation*. SAGE Publications, Newbury Park.

———— (2004): "The Roots and Growth of Theory-Driven Evaluation: An Integrated Perspective for Assessing Viability, Effectuality, and Transferability," in *Evaluation roots*, ed. by M. C. Alkin. SAGE Publications, London.

———— (2005): *Practical Program Evaluation*. SAGE Publications, London.

CRONBACH, L. J. (1982): *Designing evaluations of educational and social programs*. Jossey-Bass, San Francisco.

DIAS, L., AND J. CLÍMACO (2000): "ELECTRE TRI for Groups with Imprecise Information on Parameter Values," *Group Decision and Negotiation*, 9(5), 355–377.

EUROPEAN ECONOMIC COMMUNITY (1987): *European Single Act*. J L 169 of 29.6.1987, Luxembourg.

EUROPEAN UNION (1992): *Treaty on European Union (Maastricht Treaty)*. OJ C 191 of 29.7.1992: Office for Official Publications of the European Communities, Luxembourg.

FIGUEIRA, J., AND B. ROY (2002): "Determining the weights of criteria in the ELECTRE type methods with a revised Simos' procedure," *European Journal of Operational Research*, 139(2), 317–326.

LIESBET, H., AND G. MARKS (2001): *Multi-Level Governance and European Integration*. Rowman and Littlefield, Buolder.

LOURENÇO, R. P., AND J. P. COSTA (2004): "Using {ELECTRE} {TRI} outranking method to sort {MOMILP} nondominated solutions," *European Journal of Operational Research*, 153(2), 271 – 289.

MARKS, G., L. HOOGHE, AND K. BLANK (1996): "European Integration from the 1980s: State-Centric v. Multi-level Governance*," *JCMS: Journal of Common Market Studies*, 34(3), 341–378.

MAYNTZ, R. (1999): "La teoria della governance: sfide e prospettive," *Rivista italiana di scienza politica*, 1(3), 3–21.

MINISTERO DEL TESORO (1999): *Programma di sviluppo del Mezzogiorno*. Donzelli, Roma.

——— (2000): *del Bilancio e della programmazione Economica. La nuova programmazione e il Mezzogiorno*. Donzelli, Roma.

MONTI, L. (1996): *I fondi strutturali per la coesione europea*. SEAM, Roma.

MOUSSEAU, V., AND R. SLOWINSKI (1998): "Inferring an ELECTRE TRI Model from Assignment Examples," *Journal of Global Optimization*, 12(2), 157–174.

OWEN, J. (2006): *Program evaluation - Forms and approaches*. SAGE Publications, London.

ROGERS, M., AND M. BRUEN (1998): "Choosing realistic values of indifference, preference and veto thresholds for use with environmental criteria within {ELECTRE}," *European Journal of Operational Research*, 107(3), 542 – 551.

ROSSI, P. H., E. H. FREEMAN, AND M. W. LIPSEY (1999): *Evaluation - a systematic approach*. SAGE Publications, London.

ROY, B., AND D. BOUYSSOU (1993): *Aide multicritere a la decision: Methodes et cas*. Economica, Paris.

ROY, B., AND V. MOUSSEAU (1996): "A Theoretical Framework for Analysing the Notion of Relative Importance of Criteria," *Journal of Multi-Criteria Decision Analysis*, 5(2), 145–159.

SCHARPF, F. W. (1994): "Community and Autonomy Multilevel Policy-Making in the European Union," Discussion Paper 1, European University Institute (EUI), Robert Schuman Centre of Advanced Studies (RSCAS).

THE EUROPEAN COMMISSION (2004): *A new partnership for cohesion convergence competitiveness cooperation - Third report on economic and social cohesion*. The European Commission, Luxembourg.

UNIONE EUROPEA (2000): *Quadro Comunitario di Sostegno per le Regioni Italiane*. Decisione C(2000) 2050 del 01.08.2000, GUCE L186/4 del 17-7-2002, Bruxelles.

WEISS, C. H. (1972): *Evaluation*. Prentice Hall, 1972, New Jersey.

Structural Budget Balance and Fiscal Policy: the Limits of the European Approach[*]

Stefano Fantacone[†1], Petya G. Garalova[2], and Carlo Milani[3]

[1,2,3]Centro Europa Ricerche, Via Bruxelles 59, Rome 0018, Italy

Abstract

Under the Fiscal Compact's rules, the structural balance has become a crucial variable in the EU budgetary framework. This should facilitate the operativeness of the automatic stabilizers and avoid pro-cyclical fiscal policies . However, in the past years peripheral member countries have witnessed a widespread budget restriction in front of a deep downturn of the economic cycle. We show that this occurred due to the distorted information provided by the model used by the European Commission to calculate the structural budget balance. Starting from the direct relationship between this latter and the NAWRU, we shed some light on the estimation methodology and its implication on member states' fiscal policy. We focus our attention on the poor economic significance of the NAWRU and its large volatility over time. Finally, by the means of panel data estimations, we find out that the NAWRU is correlated with the economic cycle, which implies pro-cyclical effects on structural balances. Peripheral European countries seem to be more affected by these pro-cyclical effects than core countries.

Keywords: Potential GDP; structural balance; non-accelerating wage rate of unemployment (NAWRU); fiscal rules; austerity

1 Introduction

The European Commission (2015) has recently adopted a new framework aimed at making the best use of flexibility within the existing rules of the Stability and Growth Pact (SGP). These new guidelines seem to loosen the so-called austerity that appeared in Europe in the second half of 2011. More specifically, some corrections are made on the fiscal targets, which after the introduction of the Fiscal Compact are based on the concept of general government structural balance, i.e. the nominal balance adjusted for cyclical components, as well as one-off factors. Theoretically, a target constructed taking into account the cyclical effects should allow the functioning of the automatic stabilizer of the public balance. This is because in a recession the

---

structural deficit is typically smaller than the nominal one, thus, *ceteris paribus*, also the fiscal corrections should be smaller. However, in the recent past this mechanism failed to work for two main reasons: i) notwithstanding the deep recession, all the Mediterranean countries had to apply restrictive fiscal policies in order to reduce their structural balance, as requested by the zero target fixed by the Medium-term Budgetary Objective (MTO); ii) the methods used by the European Commission to estimate the output gap and calculate the structural budget balance proved to be inadequate.

In this paper, developing the work done in Fantacone, Garalova, and Milani (2015), we highlight the methodological limits of the Commission's approach. In Section 2 we define the fiscal rule based on the structural balance. In Section 3 we show how the structural balance measured by the Commission is strictly related to the level of the Non-Accelerating Wage Rate of Unemployment (NAWRU). In Section 4 we discuss, on the basis of the prevalent economic literature, some of the biases generated by the Commission's estimation of the NAWRU. In Section 5 we discuss our empirical results on the subject. In Section 6 we conclude.

2   The Structural Balance as a Target for Fiscal Policy

The Fiscal Compact set the target of fiscal policy in term of structural balance. The latter derives from decomposition of the nominal general government balance into the structural and the cyclical component:

$$\bar{I}_n = I_s + I_c \tag{1}$$

where. $(\bar{I}_n)$ is the government nominal balance as a percentage of GDP, which values are observable and detected by the National Statistical Offices (the above marked variables are the ones that may be directly observed), while the structural (I_s) and cyclically adjusted (I_c) components are not observable.

In the methodology adopted by the European Commission, the cyclical component is defined by the semi-elasticity of the budget (μ) to the output-gap (OG):

$$I_c = \mu \times OG \tag{2}$$

where the output gap is defined as the deviation of the actual GDP from its potential value (Y^*), in percentage of the latter.

$$OG = (\bar{Y} - Y^*)/Y^* \tag{3}$$

For countries with high public debt, the MTO impose that the target value of I_s is set to zero:

$$I_s = I_s^* = 0 \tag{4}$$

Therefore the target for nominal balance becomes:

$$I_n^* = \mu \times OG \tag{5}$$

For a given value of the semi-elasticity coefficient μ, the equilibrium level of government balance is determined solely by the size of the output gap, and therefore only by the automatic

stabilizers. Any value that exceeds such level should be eliminated through restrictive fiscal policy.

The meaning of this rule is twofold. On the one hand, the rigorous approach is imposed, as in a steady-state equilibrium with zero output gap the fiscal balance should be zero. On the other hand, there is the recognition of the stabilization role of fiscal policy, that can move counter-cyclically registering deficits in the presence of negative output gaps and, symmetrically, surpluses in the presence of positive output gap.

Within this framework, the calculation of the output gap assumes a crucial value because is the output gap value that determinates the amount of the observed deficit attributed to the cyclical state of the economy. The shortcoming of this approach is that the fiscal rule is anchored to an unobservable variable, subject to measurement uncertainty.

3   The Role of NAWRU in the European Fiscal Rule

The approach for calculating the potential output is commonly agreed at EU level. More specifically the European Commission estimates the potential GDP through a Cobb-Douglas production function:

$$Y^* = L^{*\alpha} \cdot K^{1-\alpha} \cdot TFP^* \tag{6}$$

Where L and K are the input of labour and capital and TFP is the total factor productivity, calculated as the residue of the equation.

The contribution of the labour is specified as:

$$L^* = Part^* \cdot Pop \cdot Hours^* \cdot (1 - \text{NAWRU}) \tag{7}$$

where $Part^*$ and $Hours^*$ are the trend component of the participation rate and the hours worked, respectively, and Pop is the working age population.

Equations (1) - (7) define the model that links the NAWRU and the structural balance:

$$\text{NAWRU}_{t+1} \uparrow \Rightarrow L^*_{t+1} \downarrow \Rightarrow Y^*_{t+1} \downarrow \Rightarrow |OG|_{t+1} \downarrow \Rightarrow I_{s_{t+1}} \uparrow \text{con} \quad OG_t < 0 \tag{8}$$

An increase of the NAWRU at time $t+1$ implies the reduction of the labour input and therefore of the potential GDP. If at t time the economy is in recession - which implies a negative output gap ($OG < 0$) - the reduction of the potential at $t+1$ decreases the absolute value of the output gap ($|OG|$) causing a deterioration in the structural balance. Therefore, during negative phases of the economic cycle there is a direct relationship between NAWRU and I_s, for which the higher is the NAWRU, the higher is the level of structural balance. Hence, as suggested by the fiscal rule, further budgetary measures should be implemented in order to reduce the deficit. This approach has an important counter-intuitive policy implication: an increase in structural unemployment must be followed by a tightening in fiscal policy. In other words fiscal policy assumes a *pro-cyclical* bias.

4   The Methodology for Calculating the NAWRU followed by the European Commission

NAWRU is an unobservable variable. In the model of the Commission it is estimated by the equation of the Phillips curve, specified as follows:

$$\Delta^2 w_t = \phi^{pr}\Delta^2(pr_t) + \phi^{ws}\Delta^2(ws_t) + \phi^{tot}\Delta^2(tot_t) - \beta.(u_t - nairu_t) + v_t^w \qquad (9)$$

where pr, ws, tot and uare, respectively, productivity, wage share, terms of trade and unemployment rate. The equation is estimated by applying a Kalman filter.

Estimating the NAWRU by the Phillips curve implies that - according to Friedman (1968) and Phelps (1968) - equilibrium unemployment is neutral with respect to inflation rate. Such an assumption is rather commonly used in econometric models. Since the NAWRU provides information on the inflationary pressures, it is a useful indicator for monetary policy, as proposed in the seminal work by Modigliani and Papademos (1975) and, in the later version of time-varying techniques, by Gordon (1997).

Much less obvious is the use of NAWRU within a fiscal rule framework, since an acceleration of inflation can loosen the constraint on the public budget. This occurs because of the presence of fiscal drag, the reduction of the real value of debt or the increase in nominal GDP, which drives an increase in fiscal revenues. It is not clear, therefore, why a rise in the NAWRU should automatically lead to a tightening of fiscal policy, as required by (8).

It should be also noticed that even in the models of monetary policy based on the natural rate of unemployment an increase of the latter does not involve an automatic rise in the interest rates. From this point of view, European automatic fiscal rule seems to cause a greater degree of restriction than that justified by literature. The choice to anchor an automatic rule of economic policy to NAWRU can be criticized from other points of view. Stiglitz (1997) shows that the measurement of this variable is strongly uncertain, especially in the presence of hysteresis in the labour market, stressing at the same time that its increase does not necessarily entail an increase in the inflation rate, while Blanchard and Katz (1997) show how the ability to represent the conditions of the labour market through the NAWRU is particularly unsatisfactory for the European countries. These cautions are not considered in the European model where, as we have seen, the NAWRU is the pivot on which is hinged the size of the country's automatic fiscal consolidation.

With regard to the estimation method, the use of a statistical Kalman filter implies that the NAWRU varies over time and follows the trend of the actual unemployment rate. This means that the equilibrium unemployment rate within the European approach is not a fixed target, as occurs in the United States and that higher values of unemployment are tolerated during recessions, and lower during expansion periods. This obviously weakens the stabilizing role apparently recognized to the public budget by equation (5). The problem of the sensitivity of the NAWRU to the economic cycle is indeed highlighted in literature. Estrella and Mishkin (2000) identify a long-term component of NAWRU, suggesting that only the latter, being less responsive to fluctuations in the cycle, should be used to measure the potential GDP. More recently, The European Commission (2013) itself and the European Central Bank (2014) have provided evidence on why underestimating the role of institutional factors in the European labour market will lead to incorporate cyclical factors in estimating the NAWRU, whose level
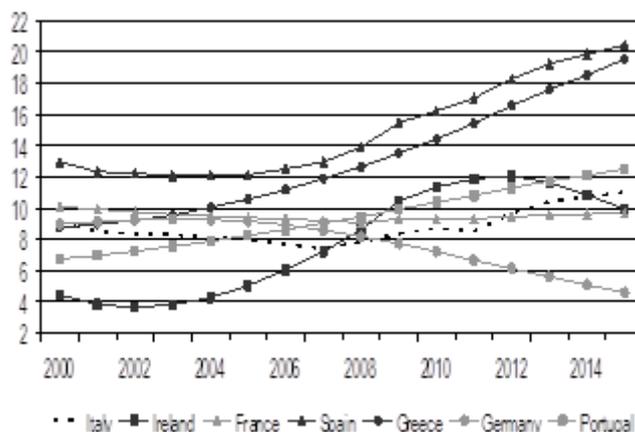
Figure 1: Euro area countries: European Commission's NAWRU estimates

would be overestimated, especially for peripheral countries, thus confirming the findings of Gianella, Koske, Rusticelli, and Chatal (2008).

Overall, according to the literature there are a plenty of shortcomings in the setting of the European fiscal policy approach. As we show in the rest of the paper, specific weakness in the estimation method of the NAWRU further limit the economic significance of the approach.

5   Is the NAWRU estimated by the European Commission a reliable indicator?

5.1   The Econometric Inconsistency

As we have seen, the NAWRU is measured by the Commission through the estimation of a Phillips curve (equation (9)), but taking into account the values of R-squared of these estimates (The European Commission, 2010) shows a wide range of values that is between the maximum of Austria (0.65) and the lowest in Italy (0.02). The figure reported for the Eurozone as a whole is 0.13, in line with the findings for the United States (0.16). On average, this values are extremely low showing that for some countries (besides Italy, surely Portugal, but also Belgium and Germany, for which the R-squared is less than 0.3) the Phillips curve estimated by the Commission is not representative of relationship inflation-unemployment underlying the determination of the structural balance. The fact that R-squared is so low even for the United States highlights the doubts on the general validity of the methodological scheme proposed by the Commission. What is surprising is that these bad econometric results have not been set aside, but are currently used to determine the fiscal effort required to single countries. A choice that reduces the credibility of the European fiscal rule.

To understand better this aspect, we consider the data reported in Figure (1), which shows the level of NAWRU attributed to some countries by the Commission's estimates in 2014. According to these data, the stability of inflation would require unemployment rates close to 20% in Greece and Spain, more than 12% in Portugal and 10.7% in Italy. Clearly, these calculations are not informative to the policy maker, who in the Italian case would have, for example, to choose whether to reduce unemployment to below 10% or preserving price stability.
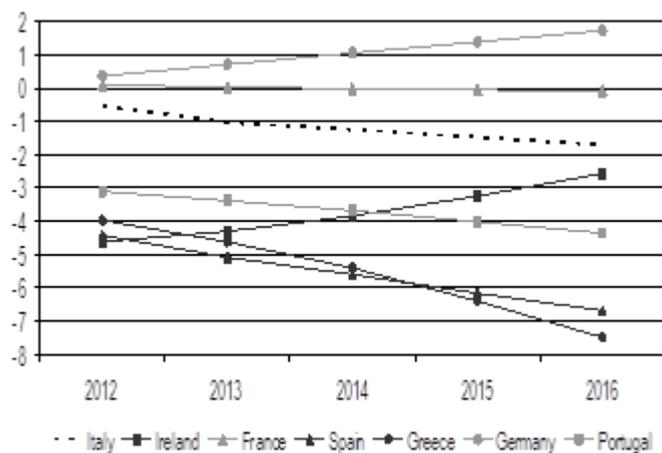
Notes: estimated on the base of the average unemployment
rate in the period 1997-2007, which was equal to 6.7% in
Germany, 5.3% in Ireland, 10.3% in Greece, 11.9% in Spain,
9.6% in France, 8.9% in Italy and 6.6% in Portugal.

Figure 2: Euro area countries: an alternative measure of output gap (difference with respect to
the European Commission's estimates), **Source**: *Our elaborations on European Commission,
Economic Forecast Data*

A trade-off that appears even grotesque considering that the deflationary environment in which
the Eurozone has slipped would suggests the need to promote, not to avoid, a price increase.
At this regard it should also be noted that the information extracted from the NAWRU and
incorporated into the European fiscal rule are in conflict with the current policy of the ECB,
which is promoting an increase in inflation expectations.

The use of these "bad estimates" influences the calculation of the output gap of many
countries. Figure 2 shows how the size of the output gap would change if the structural
unemployment rate is set equal to the average level observed in the decade before the financial
crisis (1997-2007), when the stability of inflation was still preserved. The differences are very
strong for all the peripheral countries: the output gap in 2014 would be wider by 5.5 points
wider in Greece and Spain, by 3.7 points in Portugal and Ireland, by 1.2 points in Italy. The
differences are even more pronounced in the years 2015-16.

5.2   The Excess of Volatility

The comparison of the current estimates of the NAWRU with the average of the decade preced-
ing the crisis - thus with a reference to the long-run - leads to focus on the excess of volatility of
the indicator proposed by the Commission. As we have seen, the NAWRU is estimated using a
Kalman filter applied to the Phillips curve. This implies that the measure of potential GDP is
subject to continuous revision over time, depending on the update of the historical series (this is
a property common to all statistical filters, which are nothing if not a method of interpolation
of the original series). The economic analysis makes extensive use of indicators of potential
output variable in time and, since Gordon (1997)'s contribute, also NAWRU measures that
show a certain degree of variability are commonly used. To be useful as part of a scheme of
fiscal policy based on a fixed rule, however, these variability should remain within a restricted
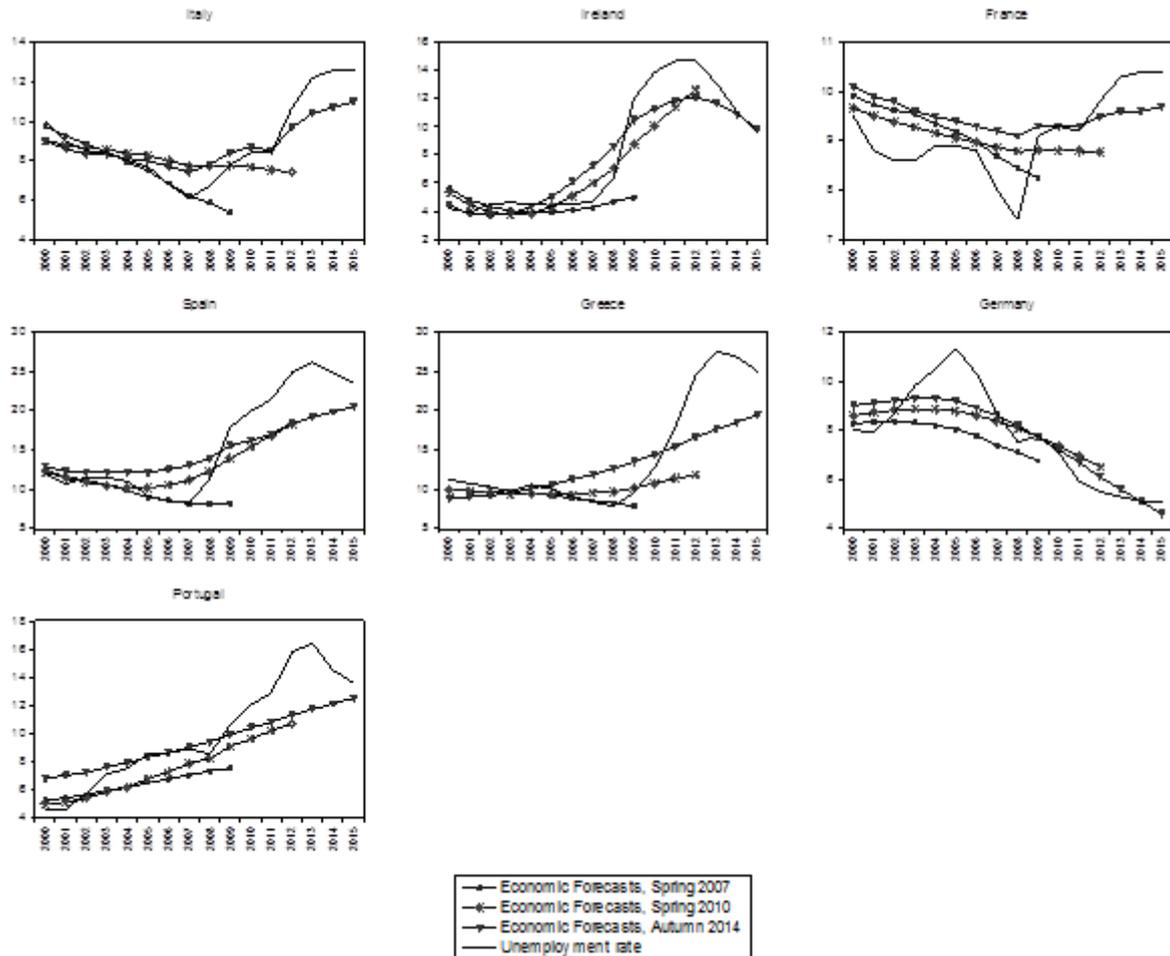
Figure 3: The revised NAWRU estimates during the European recession, **Source:** our elaborations on European Commission, Economic Forecast data.

fluctuation band. Otherwise, economic policy could be subject to abrupt changes, incurring in risks of overshooting, as in the case of wide shock, statistical filters lose their stabilizing function. This emerges clearly from Figure (3), where we show the large and sudden increase occurred to the NAWRU of peripheral countries in the aftermath of the European recession. This means that, according to the Commission's estimates, much of the actual increase of unemployment has structural nature and that would be impossible to compress it if not at the cost of causing an acceleration in prices. Such a the model establishes the impossibility for the peripheral countries to return to pre-crisis situation.

5.3   The Pro-cyclical Bias: Elements of Nonlinearity

The discussion carried out so far leads us to the heart of the problem, namely the fact that the European methods prove inadequate in ensuring a credible breakdown of structural and cyclical public debt. It is a failure that goes beyond that part of indeterminacy that is impossible to eliminate from the statistical methods of decomposition of the time series. The key element, culpably neglected, is that the measurements proposed by the European Commission contain an element of non-linearity, which reduces the ability to distinguish the cycle from the trend in

the presence of large and persistent shock.

In order to check this hypothesis, we have estimated the following panel ($t = 1981, ..., 2013$ and i = countries UE12 (excluded Lusemburg)):

$$
\begin{aligned}
EF_{i,t}^{nawru} = k &+ \sum \theta_i DEF_i + \beta_1 EF14b_{i,t}^{HPgap} + \beta_2 EF14b_{i,t}^{HPgap} Dcore Dperiod_y + \\
&\beta_3 EF14b_{i,t}^{HPgap}(1 - Dcore)Dperiod_y + \gamma_1 cuneo_{i,t} + \gamma_2 disocL_{i,t} + \\
&\gamma_3 sindac_{i,t} + \gamma_4 pilpro_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{10}
$$

EF = Economic Forecast European Commission from 2007 to 2014 (16 report)

EF14b = Economic Forecast European Commission autumn 2014

y = 2002-2007; 2008-2010; 2011-2013

As dependent variable we consider the NAWRU estimates reported in the Economic Forecast Reports published between 2007 and 2014 (a total of 16 reports). Unlike the European Commission (2013) and Orlandi (2012), our empirical analysis implicitly introduces another dimension to the panel, linked to different revisions of the estimates of NAWRU in Economic Forecast half yearly presented by the Commission in the period between 2007 and 2014.

The coefficients of greater interest for our purposes are the betas, those related with the HPgap variable, which is a simple cyclic measure given from the output gap obtained by the European Commission, in the Autumn 2014 Economic Forecast (latest available), using the Hodrick-Prescott statistical filter.

Through the coefficient β_1 it is possible to verify if in the NAWRU estimated by Commission there are cyclical factors that invalidate its use for estimating the potential GDP. A negative value of this coefficient indicates that in phases when the cycle is negative (positive), highlighted by a $EF14^{HPgap}$ negative (positive), the Commission's NAWRU estimates tend to increase (decrease), resulting in a pro-(anti-)cyclic effect.

By estimating the coefficients β_2 and β_3 it is possible to evaluate the different effect of the cyclical component in the core countries (Austria, Belgium, Finland, France, Germany and the Netherlands), identified through the dummy $Dcore$, versus peripheral ones (Greece, Ireland, Italy, Portugal and Spain) in three historical periods, in turn identified through the dummy $Dperiod$: i) the pre-crisis period, which runs from 2002 to 2007; ii) the first phase of the crisis, from 2008 to 2010, involving mainly the financial sector; iii) the second phase of the crisis, from 2011 to 2013, where it was observed the contagion to the sovereign bonds of two of the major European economies, Italy and Spain.

The other variables have been put in the equation (10) to be able to control:

- the effect of taxation on labour income (wedge), a factor that may have a negative impact on the meeting between the demand and supply of labour ((The European Commission, 2014); (Orlandi, 2012); (Gianella, Koske, Rusticelli, and Chatal, 2008));

- the share of workers in a state of unemployment for over 1 year (unempL), that for the so-called hysteresis can cause a higher rate of long-term unemployment ((Ball, 2009); (Blanchard and Katz, 1997); (Stiglitz, 1997));

- the degree of unionization of workers (union), index of potential rigidities in the labour market that tend to overly protect union workers compared to new entrants ((Orlandi,

2012); (Gianella, Koske, Rusticelli, and Chatal, 2008); (Stiglitz, 1997); Blanchard and Summers (1986));

- GDP per capita (gdp), indicator of the relative wealth of the countries considered, which may result in a process of catching-up, and that takes also into account population dynamics (Stiglitz, 1997). This variable is also included to capture the effects of any bubbles that in the pre-crisis period may have led to an increase in the product, which was followed by an adjustment with the outbreak of the crisis (see, for example, (Estevao and Tsounta, 2011)).

Some control variables identified in literature as possible determinants of the structural unemployment rate, were not included in the equation (10) because related to EF14HPgap, or because of a lack of historical data for all the countries considered, as in the case of the incidence of unemployment benefits in relation to GDP and the level of the minimum wage. The equation (10) is estimated by the random-effect estimator[1].

In Table 4 are reported the results of the estimation of equation (10) excluding the interaction of the variable $EF14^{HPgap}$ with the dummy that identifies the pre or post-crisis (Dperiod) and in which the control variables were included one at a time.

The HPgap coefficient is always negative and significant. The NAWRU estimated by the Commission is therefore being affected by cyclical components, resulting in a pro-cyclical effect of the estimates of potential GDP. Looking at the analysis of Estrella and Mishkin (2000), it can be said that with the methodology proposed by The European Commission (2010) we tend to estimate a short term NAWRU instead of calculating, as would more properly carried out, a long term one. With reference to the control variables the impact of taxation, in line with The European Commission (2013), Orlandi (2012) and Gianella, Koske, Rusticelli, and Chatal (2008), is positive and significant in all specifications considered.

Positive and significant is also the effect of long-term unemployment, thus highlighting the presence of a hysteresis effect in the structural unemployment rate, while neither the degree of unionization or GDP per capita are influencing the level of NAWRU estimated by the Commission.

In Table 5 are reported the results of regression in the different considered periods (pre-crisis, first and second post-crisis). We find that the evidence of Table 4 are also confirmed in the broader estimate.

Supporting the evidence of non-linear effects, the cyclical component is stronger in the last period of the financial crisis (2011-13), and mainly among peripheral countries. β_2 and β_3 coefficients in Table 5, model III, are both negative, but only the latter is significant and with a higher magnitude. Moreover, the Wald test shows that the two coefficients are statistically different. A one point reduction in HP output gap (negative cycle) implies an increase in the peripheral countries' NAWRU of 0.374 points (at 5% of significance level). For core countries the effect is smaller and not significant.

In the pre-crisis period (2002-07), we find that the cyclical effect on NAWRU is for both core and peripheral countries negative and significant. The Wald test does not show any difference among β_2 and β_3 (Table 5, model I).

---

[1]In the regression outputs are reported the Breusch-Pagan test and the Mundlak test. From these tests what emerges is that the random-effect estimator is not distorted and is preferable to the fixed-effect estimator. As a test of strength we have in each case used the fixed-effect estimator. The main results are robust to this test and are available on request.

The estimates for the first post-crisis period (2008-10) show that the cyclical component is smoothly negative for core countries (one point of reduction in HPgap implies an increase in nawru of 0.1 points), while for peripheral countries the European Commission's NAWRU estimates does not depend by the output gap (Table 5, model II).

6   Conclusions

In the midst of the great recession generated by the sovereign debt crisis, the Eurozone has moved to fiscal targets defined in terms of structural balance. However, this step has not been accompanied by an adequate reflection on the methodology by which estimates the many unobservable variables that are at the basis of the measurement of the structural balance. The solution that has been chosen is entrusting the methodology already adopted by the Output Gap Working Group - the group inside the European Union with the mandate to ensure technically robust and transparent potential output -, but this means that the new fiscal rule incorporates a model originally designed only to provide broad information to the economic debate, without any claim to rise at a normative role. The analysis carried out in this paper have highlighted the many limits of the method proposed by the Commission, which are not econometrically significant, it is too unreliable over time and strongly influenced by the state of the economic cycle. Our empirical findings show that the NAWRU estimated by the Commission appears to be distorted in the stages of economic downturn, leading to pro-cyclical fiscal policies. Particularly affected by this distortion appear to be the peripheral countries of the euro area, which at the height of the financial crisis have undergone a revision of the estimates of the NAWRU far more severe than that of the core countries.

This point is particularly critical, since the use of the structural balance is motivated by the desire to isolate the changes induced on the public finances by fluctuations in the economic cycle, as to focus the surveillance mechanism on the discretionary choices of governments.

In fact, the persistence of a strong pro-cyclical component in the calculation of the structural balance has resulted in an extension of the fiscal tightening that has slipped the Eurozone into deflation. The new guidelines on the Stability and Growth Pact implicitly recognize the inadequacy of the model adopted in the recession years and can facilitate, from now on, the stabilization role of budget policy. But more than four years have been lost, imposing to some Eurozone countries deep product losses and high social costs.

: Table 1. Summary statistics and definitions of variables (period: 1981-2013)

Variable	Description	Source	Mean	St.dv	Min	Max	Obs.
Dcore	Dummy equal to 1 for Austria, Belgium, Finland, France, Germany and the Netherlands; 0 otherwise	Our calculations	-	-	-	-	-
DEFj	Dummy equal to 1 for the j-th European Commission's Economic Forecast published every 6 months in the period 2007-14; 0 otherwise	Our calculations	-	-	-	-	-
Dperiod	Dummy equal to 1 for the y-th period of the financial crisis (pre-crisis=2002-07; first post-crisis period=2008-10; second post-crisis period=2011-13); 0 otherwise	Our calculations	-	-	-	-	-
gdp	Nominal GDP pro capita (in thousands euro)	Oecd	21,500	13,300	0,878	82,500	7002
HPgap	European Commission's output gap estimate based on Hodrick-Prescott filter reported in the winter 2014 Economic Forecast Report	European Commission	-0,207	2,720	-10,300	11,200	7740
nawru	European Commission's NAWRU estimate reported in the Economic Forecast Reports published in the period 2007-14	European Commission	7,880	3,740	1,680	28,000	6211
unempL	Unemployed for more than 1 year over total unemployed	Oecd	44,800	13,500	1,500	76,200	5670
union	Trade union employees over total employees (in %)	Oecd	35,300	17,300	7,500	80,700	7002
wedge	Fiscal taxation on labour income (in %)	Oecd	42,700	8,190	22,200	57,100	3024

: Table 2. Variables by country and period: average values

Variable	Country*										
	at	be	de	el	es	fi	fr	ie	it	nl	pt
labtax	48,1	55,9	51,3	41,0	39,2	44,1	50,0	24,8	46,8	38,3	37,5
2002-07	48,0	55,7	52,3	41,0	38,9	44,5	50,1	23,6	46,2	38,3	37,3
2008-10	48,4	55,8	50,4	41,0	38,7	42,9	49,8	24,3	46,9	38,4	36,9
2011-13	48,8	56,0	49,5	42,6	40,4	42,7	49,7	26,1	47,7	37,9	38,9
unempL	25,2	57,7	47,6	50,2	42,6	23,0	40,1	50,4	59,0	41,9	45,9
2002-07	25,1	49,4	52,6	52,6	27,6	24,2	39,3	32,1	52,3	35,2	43,2
2008-10	23,6	46,9	48,5	44,4	26,1	19,5	37,6	35,1	46,2	28,9	47,9
2011-13	25,0	46,3	46,0	58,8	45,2	21,8	40,8	60,5	53,9	34,4	51,1
nawru	3,8	8,2	7,4	9,2	14,5	8,0	9,0	10,2	8,6	4,8	7,4
2002-07	4,3	7,8	8,8	9,4	10,6	7,7	9,1	4,4	8,0	3,3	7,0
2008-10	4,4	7,8	7,9	10,5	13,2	7,0	8,9	8,2	7,6	3,6	9,3
2011-13	4,5	8,0	6,9	12,7	17,6	7,0	9,2	11,7	8,0	4,3	11,1
Hpgap	-0,2	-0,2	-0,2	-0,5	-0,4	0,1	-0,1	-0,3	-0,2	-0,3	-0,2
2002-07	0,3	0,4	-0,2	4,3	2,2	1,8	0,9	4,3	1,2	-0,1	0,5
2008-10	-0,1	0,2	-0,8	7,4	2,6	0,5	-0,5	-1,3	0,0	1,5	1,4
2011-13	0,1	-0,2	0,5	-7,6	-2,5	-0,5	-0,1	-4,6	-0,9	-0,8	-2,1
gdp	24,1	22,3	22,8	10,5	13,6	23,1	22,4	22,7	18,0	24,7	9,8
2002-07	30,5	29,3	28,1	17,8	21,0	31,2	28,7	39,8	25,2	33,2	15,0
2008-10	34,9	33,0	30,9	21,1	23,8	35,1	31,6	38,3	26,7	38,0	16,9
2011-13	37,5	34,6	33,3	18,1	23,1	36,8	32,7	37,7	26,7	38,4	16,3
union	40,1	52,5	27,1	30,4	15,3	73,0	9,9	42,0	37,8	23,6	28,6
2002-07	33,2	54,5	21,8	24,9	15,5	71,6	7,8	34,5	33,6	20,4	21,0
2008-10	28,7	54,4	18,9	23,2	17,6	69,5	7,7	32,6	34,5	18,8	20,0
2011-13	27,6	55,0	17,9	21,9	17,4	68,5	7,7	31,1	36,3	17,8	20,0

Notes: at=Austria, be=Belgium, de=Germany, el=Greece, es=Spain, fi=Finland, fr=France, ie=Ireland, it=Italy, nl=Netherlands, pt=Portugal. Source: our estimates.

: Table 3. Correlation matrix

	labtax	unempL	union	gdp	Hpgap
labtax	1,000				
unempL	0,180	1,000			
union	0,161	-0,191	1,000		
gdp	-0,050	-0,364	0,271	1,000	
HPgap	-0,100	-0,186	0,025	-0,003	1,000

: Table 4. Regression results with cyclical effect

	Model			
	I	II	III	IV
HPgap	-0,233***	-0,131***	-0,117***	-0,143***
	[0,073]	[0,029]	[0,030]	[0,040]
labtax	0,528***	0,359***	0,376***	0,380***
	[0,121]	[0,115]	[0,100]	[0,114]
unempL	-	0,114***	0,101***	0,107***
		[0,023]	[0,022]	[0,024]
union	-	-	-0,094	-0,006
			[0,100]	[0,137]
gdp	-	-	-	0,098
				[0,088]
k	-15,855***	-13,156***	-10,553*	-16,383**
	[5,469]	[4,445]	[5,561]	[7,874]
Economic Forecast Report Dummy (DEF)	included	included	included	included
R-squared within	0,339	0,442	0,411	0,426
R-squared overall	0,012	0,049	0,060	0,014
Breusch and Pagan test (p-value)	0,000	0,000	0,000	0,000
Mundlak test (p-value)	0,007	0,002	0,000	0,000
Number of countries	11	11	11	11
Obs	2.420	2.372	2.294	2.268

Notes: In the table are reported the estimation results of eq. (1) without the interaction between HPgap and Dperiod. Period: 1981-2013. Sample: UE12 countries (with the exclusion of Luxembourg). Estimator: random-effect. Dependent variable: nawru. ***, **, * statistical significance of the parameters at 1, 5, and 10%. Cluster-robust standard errors appear in parentheses. We use Stata11 for all calculations. Source: our estimates.

: Table 5. Regression results with cyclical effect in the pre- and post-crisis periods

Dperiod$_y$	Model		
	I (2002-07)	II (2008-10)	III (2011-13)
HPgap	-0,093**	-0,204***	-0,095***
	[0,045]	[0,047]	[0,036]
HPgap×Dcore×Dperiody	-0,132**	0,081**	-0,177
	[0,060]	[0,038]	[0,203]
HPgap×(1-Dcore)×Dperiody	-0,128**	0,244***	-0,279*
	[0,051]	[0,045]	[0,144]
labtax	0,423***	0,403***	0,315***
	[0,122]	[0,113]	[0,119]
unempL	0,109***	0,107***	0,098***
	[0,023]	[0,019]	[0,021]
union	-0,005	-0,001	0,018
	[0,169]	[0,149]	[0,154]
gdp	0,117	0,088	0,090
	[0,103]	[0,090]	[0,094]
k	-18,772**	-17,205**	-13,767*
	[9,327]	[8,669]	[8,350]
Economic Forecast Report Dummy (DEF)	included	included	included
$\beta_{Dcore} = \beta_{(1-Dcore)}$ (p-value)	0,928	0,001	0,706
derivate of nawru with respect to Dcore	-0,226***	-0,123***	-0,272
derivate of nawru with respect to (1-Dcore)	-0,221***	0,040	-0,374**
R-squared within	0,436	0,454	0,437
R-squared overall	0,009	0,018	0,017
Breusch and Pagan test (p-value)	0,000	0,000	0,000
Mundlak test (p-value)	0,000	0,000	0,000
Number of countries	11	11	11
Obs	2.268	2.268	2.268

Notes: In the table are reported the estimation results of eq. (1). Period: 1981-2013. Sample: UE12 countries (with the exclusion of Luxembourg). Estimator: random-effect. Dependent variable: nawru. ***, **, * statistical significance of the parameters at 1, 5, and 10%. Cluster-robust standard errors appear in parentheses. We use Stata11 for all calculations. Source: our estimates.

References

BALL, L. M. (2009): "Hysteresis in Unemployment: Old and New Evidence," Working Paper 14818, National Bureau of Economic Research.

BLANCHARD, O., AND L. F. KATZ (1997): "What We Know and Do Not Know about the Natural Rate of Unemployment," *Journal of Economic Perspectives*, 11(1), 51–72.

BLANCHARD, O. J., AND L. H. SUMMERS (1986): "Hysteresis and the European Unemployment Problem," Working Paper 1950, National Bureau of Economic Research.

ESTEVAO, M. M., AND E. TSOUNTA (2011): "Has the Great Recession Raised U.S. Structural Unemployment?," IMF Working Papers 11/105, International Monetary Fund.

ESTRELLA, A., AND F. S. MISHKIN (2000): "Rethinking the Role of NAIRU in Monetary Policy: Implications of Model Formulation and Uncertainty," Working Paper 6518, National Bureau of Economic Research.

FANTACONE, S., P. GARALOVA, AND C. MILANI (2015): "Deficit strutturali e politiche di bilancio: i limiti del modello europeo," *Rivista di Politica Economica*, 1(1).

FRIEDMAN, M. (1968): "The Role of Monetary Policy," *American Economic Review*, LVIII(1).

GIANELLA, C., I. KOSKE, E. RUSTICELLI, AND O. CHATAL (2008): "What Drives the NAIRU? Evidence from a Panel of OECD Countries," OECD Economics Department Working Papers 649, OECD Publishing.

GORDON, R. J. (1997): "The Time-Varying NAIRU and Its Implications for Economic Policy," *Journal of Economic Perspectives*, 11(1), 11–32.

MODIGLIANI, F., AND L. PAPADEMOS (1975): "Targets for Monetary Policy in the Coming Year," *Brookings Papers on Economic Activity*, 6(1), 141–166.

ORLANDI, F. (2012): "Structural unemployment and its determinants in the EU countries," European Economy - Economic Papers 455, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

PHELPS, E. S. (1968): "Money-Wage Dynamics and Labor-Market Equilibrium," *Journal of Political Economy*, 76(4), 678–711.

STIGLITZ, J. (1997): "Reflections on the Natural Rate Hypothesis," *Journal of Economic Perspectives*, 11(1), 3–10.

THE EUROPEAN COMMISSION (2010): "The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps," European Economy - Economic Papers 535, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

———— (2013): *Labour market developments in Europe, 2013*. The European Commission.

———— (2014): *European Economic Forecast*. The European Commission.

———— (2015): *Making the best use of the flexibility within the existing rules of the Stability and Growth Pact.* The European Commission.

Performance Evaluation of A-Type Turkish Mutuals Funds in the Era of Quantitative Easing

Gözde Ünal[1] and Ömer Faruk Tan[*2]

[1]Boğaziçi University, Bebek, Istanbul, 34342, Turkey
[2]MEF University, Maslak, Istanbul, 34396, Turkey

Abstract

This paper aims to evaluate the performance of A-type Turkish funds between January 2009 and November 2014. This study period coincides with the period of quantitative easing during which developing economies in financial markets have been influenced dramatically. Thanks to the increase in the money supply directed towards the capital markets, a relief was experienced in related markets following the crisis period. During this 5-year 10-month period, in which the relevant quantitative easing continued, Borsa Istanbul (BIST) yielded 21% compounded on average, per annum. A-type Turkish funds are investigated in order to compare these funds performance within this period. Within this framework, 15 A-type equity funds and 18 A-type variable funds are selected. So as to measure these funds' performance, Sharpe ratio (1966), Treynor ratio (1965) and Jensen alpha (1968) methods are used. Moreover, Jensen's alpha also provides information on selectivity skills of fund managers. Furthermore, Treynor&Mazuy (1966) regression analysis method is applied for market timing ability of fund managers.

Keywords: Performance Evaluation; Mutual Funds; Sharpe Ratio; Jensen's alpha

1 Introduction

The mutual fund performance has always kept its place of being one of the most researched points in finance studies. Using diverse technical measurement methods, all of these studies analyse fund performances of various markets from different perspectives. Notably, following the period of the liberalization of financial markets, mutual funds have gained much more importance in the eyes of the investors and this resulted in the broad studies that are carried out on the performance evaluations. Mutual funds bring those investors together who share a common goal. They invest the money they collect into capital market instruments such as shares, debentures and other investment securities. The total income acquired from investments

[*]Corresponding author. Tel.: +90 (212) 395 36 10; fax: +90 (212) 395 36 92, E-mail address: omerfaruktan34@gmail.com, omerfaruk.tan@mef.edu.tr

and the capital appreciation is equally shared among unit holders, by taking into account the units owned by them. In consequence, mutual fund is the best way of investment as it provides the opportunity of investing various and professionally managed basket of securities at a relatively low cost (Deepak, 2011).

After the global financial crisis in 2008, Fed decided to use quantitative easing policy in order to lower long-term interest rates. During the quantitative easing policy, monetary supply increases and creates excess of money in the financial markets. Quantitative easing (QE) policy began in December 2008 and ended in October 2014. Quantitative easing policy is divided into four terms QE1 (December 2008 - June 2010), QE2 (November 2010 - June 2011), QE3 (September 2012 - October 2014) and finally QE4 (January 2013 - October 2014). ("QE", Useconomy, 2015). During the period, huge amount of money inflow from developed countries to developing countries was experienced. Therefore, in this paper, we have attempted to investigate performances of Turkish equity funds and variable funds between 09 January 2009 - 31 October 2014 in the era of quantitative easing. Turkey is considered as an emerging market and during the study period of five years and ten months, Turkish stock market beat developed stock market indices. Turkish Borsa Istanbul yielded 21% compounded on average, per annum. In the sample period, the developed market indices S&P 500, DAX, FTSE 100 and CAC 40 yielded 15.1%, 12.1%, 6.8% and 4.1%, respectively. Turkish Borsa Istanbul also exceeds some important emerging markets' stock exchange; India (CNX500) Index, Johannesburg Stock Exchange (JSE), Mexican Stock Exchange (BOLSA), Taiwanese Stock Exchange (TWSE) and Warsaw Stock Exchange (WSE) grew by; 20.9%, 15.9%, 13.3%, 12.9% and 12.8%, respectively, per annum. We have tried to find out whether fund managers could show a parallel performance to that of BIST100 index. This paper is organized as follows: Section 2 gives the literature review of fund performances, Section 3 discusses methodology and data, Section 4 interprets empirical results and Section 5 is the conclusion of the study.

2   Literature Review

After the 1950s, there have been many studies carried out on the mutual fund performance. Treynor (1965), Sharpe (1965) and Jensen (1968) are among the first who measure fund performance related to risk and return measurements. Sharpe calculated 34 open-ended mutual funds between the years 1954-1963 by using Sharpe and Treynor ratio. As a result, while 11 funds denoted better performance than index, 23 funds underperformed their benchmark. Jensen (1968) studied on 115 mutual funds that were activated between the years 1945-1964 with alpha indicator that he had formerly generated. According to his results, funds couldn't exceed the market performance that revealed mutual fund managers, in general, did not have selective ability. The study found out that there is a positive correlation between risk and return. McDonald (1973), Blake, Elton, and Gruber (1993), Detzler (1999) also evaluated mutual funds. They found that funds couldn't beat the market.

Treynor and Mazuy (1969) found quadratic regression analysis method in order to measure market timing ability of fund managers. They applied this method to 57 open-end mutual funds. They could only reveal one fund that had statistically significant market timing ability. Henriksson and Merton (1981) and Henriksson (1984) developed both parametric and non-parametric statistical models to test market timing ability of portfolios. So as to test market timing ability of 116 open-end funds from 1968 to 1980 in the U.S.A market, Henriksson (1984)

applied these parametric and non-parametric tests, which were introduced by Henriksson and Merton (1981). The results disclosed that there wasn't any support of market timing ability. Furthermore, Henriksson found inverse relationship between selection ability and market timing ability.

In Turkey, studying on mutual fund performance has become popular among academicians after 1990s. Gürsoy and Erzurumlu (2001), Kılıç (2002), Arslan (2005), Akel (2007), Korkmaz and Uyguntürk (2009)), evaluated mutual funds. According to their results, funds couldn't beat the market and fund managers couldn't show both selectivity skills and market timing ability.

3 Methodology and Data

3.1 Methodology

In this study, we have tried to evaluate both funds and funds managers' performance of Turkish equity and variable funds. A total of 15 equity funds and 18 variable funds performances' are analyzed. In order to evaluate fund performance, Sharpe ratio (1966), Treynor ratio (1965) and Jensen alpha (1968) are computed. Jensen alpha also depicts selectivity skills of fund managers. For determining market timing ability of fund managers, Treynor&Mazuy (1966) regression analysis is applied.

3.1.1 Sharpe Ratio

The Sharpe technique was developed in 1966 and similar to the Treynor technique, but the Sharpe technique uses the total risk of the portfolio rather than systematic risk. This technique computes the risk premium earned per unit of the total risk. The Sharpe value can be calculated as follows (Noulas, Papanastasiou, and Lazaridis, 2005).

$$S_p = (R_p - R_f)/\sigma_p \tag{1}$$

Where S_p is the Sharpe's portfolio performance measure for fund p over the evaluation period. R_f is the average rate of return for fund p over the evaluation period. R_f is the average risk free return over the evaluation period σ_p is the standard deviation of the fund p over the evaluation period. Sharpe ratio (S_p) measures the risk-adjusted performance and the higher value of this ratio shows that the fund delivers a higher return performance for each unit of risk it carried (σ_p) (Duggimpudi, Abdou, and Zaki, 2010).

3.1.2 Treynor Ratio

The Treynor ratio is the first risk-adjusted performance measure of mutual funds that was put forward by Treynor in 1965. It is calculated as the ratio of excess return of the mutual fund divided by its beta (systematic risk) and is defined as: (Kouris, Beneki, Adam, and Botsaris, 2011).

$$T_i = (R_p - R_f)/\beta_p \tag{2}$$

where T_i = Treynor's performance index, R_p = Portfolio's actual return during a specified time period, R_f = Risk-free rate of return during the same period, β_p = Beta of the portfolio.

Whenever $R_p > R_f$ and $\beta_p > 0$ a larger T value means a better portfolio for all investors regardless of their individual risk preferences. In two cases, we may have a negative T value: when $R_p < R_f$ or when $\beta_p < 0$. If T is negative because of the fact that $R_p < R_f$ we deduce the portfolio performance as very poor, whereas if the negativity of T comes from a negative beta, fund's performance is glorious. Finally, when $R_p - R_f$, and $\beta_p < 0$ are both negative, T will be positive, but so as to qualify the fund's performance as good or bad, we should see whether R_p is above or below the security market line pertaining to the analysis period (Reilly, 1992).

3.1.3   Jensen Alpha

A portfolio manager's *predictive ability* - that is his ability to earn returns through successful prediction of security prices which are higher than those which we could expect to give the level of his riskiness of his portfolio (Jensen, 1968). Jensen model can be written as below:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{mt} - R_{ft}) + e_{pt} \tag{3}$$

α_p is the excess return of the portfolio after adjusting for the market, R_{pt} is the return on portfolio p at time t, R_{ft} is the return on a riskless asset at time t, R_{mt} is the return on the market portfolio at time t, β_p is the sensitivity of the excess return on the portfolio p with the excess return on the market.

The Jensen performance index permits the comparison of portfolio's managers' performance relative to one another or to the market. The numerical values of alpha permit the ranking of performance, with the higher scores showing the better performances. The sign of the alpha displays whether the portfolio manager is superior to the market after adjusting for risk. A positive alpha implies a better performance relative to the market, and a negative alpha indicates a poorer performance (Mayo, 2010).

3.1.4   Treynor & Mazuy Model

Investment managers may well beat the market, if they are able to adjust the composition of their portfolios in time when the general stock market is going up or down. That is, if fund managers believe the market is going to drop, they alter the composition of the portfolios they manage from more to less volatile securities. If they think the market is going to climb, they shift in the opposite direction (Treynor and Mazuy, 1969).

Mutual fund managers may hold a higher proportion of the market portfolio if they are qualified to predict future market conditions and envisage the stock market as a bull market. On the other hand, mutual fund managers may hold a lower proportion of the market portfolio if they expect the market to underperform in the future. Treynor and Mazuy (1969) developed the following model to evaluate market-timing performance:

$$R_{i_t} - R_{f_t} = \alpha_i + \beta_{i_0}(R_{m_t} - R_{f_t}) + \beta_{i_1}(R_{m_t} - R_{f_t})^2 + \varepsilon_t \tag{4}$$

where α_i is the timing-adjusted alpha, which represents the timing-adjusted selective ability of mutual fund managers. The quadratic term in equation (4) is the market timing factor and the coefficient of the market timing factor, β_{i_1}, represents mutual fund managers' market

timing ability. If β_{i_1} is positive, mutual fund managers have superior market timing ability i.e., the investment portfolios of mutual funds are adjusted actively to well-anticipated changes in market conditions. A negative β_{i_1} implies that mutual fund managers do not exhibit market timing ability (Chen, Gan, and Hu, 2013).

3.2   Data

In this paper, we analysed mutual fund performance of 15 Turkish equity and 18 variable funds by using Sharpe (1966), Treynor (1965) and Jensen (1968) measures. In order to test mutual fund managers' market timing ability, Treynor&Mazuy (1966) method is applied. Time period is chosen between January 2009-October 2014 on which quantitative easing (QE) term. Weekly returns of funds are used and 304 weeks (09 January 2009-31 October 2014) are observed for this study. Except for O/N Net Repo Index, all data are taken from the "Thomson Reuters DataStream". O/N Net Repo index is taken from Turkish Institutional Investment Managers' Associations (TKYD).

Mutual funds are categorized into A-type and B-type funds. A-type funds are those funds that invest at least 25% of their portfolio in stocks of Turkish companies. There is no such provision for B-type funds to invest in stocks. Since they hold a larger share of stocks in their portfolios, A-type funds have more risk and are more susceptible against stock exchange volatility and price fluctuations. Hence, A-type funds need more attention. According to containing of financial assets of A-type and B-type funds are identified to sixteen forms. These are; bonds and bills funds, stocks, sector funds, affiliated funds, group funds, foreign currency securities funds, gold and other precious metal funds, variable funds, mixed funds, liquid funds, index funds, fund basket, guaranteed funds, protected funds, special funds and hedge funds. These fund forms are established as either A-type or B-type, but liquid funds are merely B-type (Yolsal, 2012).

In Turkey, there are 135 A-type Funds and 354 B-type funds, a total of 489 mutual funds in Turkey based on data as of 31 October 2014. However, the volume of A-type funds is very low compared to B-type funds. Total net asset value of B-type funds is 33.3 billion TL, whereas A-type funds' total net asset value is only 1.9 billion TL. This study evaluates performances of 33 A-type funds (fifteen equity funds and eighteen variable funds) in Turkey. Among all mutual funds, equity funds and variable funds are those funds that carry company stocks, which are riskier and more vulnerable to volatility in prices. In total, there are 77 of these funds (48 variable funds and 29 equity funds). The performances of those funds that were closed, newly established or that merged with another fund in the study period were not evaluated. Also those equity and variable funds that had less than 50% equity shares in their portfolio were excluded in the study. Afterwards, 33 equity and variable funds were filtered to work with.

3.2.1   Returns of Funds

Logarithmic returns of funds were computed over weekly price indices of funds. For the study, 304 weekly data between 09.01.2009 and 31.10.2014 are used.

3.2.2 Benchmark

In this study, BIST100 price index is used as a benchmark to evaluate whether a fund could outperform the market. Logarithmic weekly returns of BIST100 are used in the corresponding study period.

3.2.3 Risk-free Rate

O/N Net Repo Index provided by TKYD, is used as the proxy for the risk free rate. TKYD O/N Net Repo Index uses daily value-weighted averages of BIST Repo/Reserve Repo rates as the overnight return. The rate that adds in the withholding tax is multiplied by the days to the maturity and finally divided by 365 in order to calculate the daily gross O/N repo index value. The same formulation is used to calculate the net O/N repo index by excluding withholding tax from the overnight return at first (Yalçın, 2012).

$$E_t = E_{t-1} \times [1 + R \times v/365] \tag{5}$$

E_t = Value of KYD Repo Index on day t, E_{t-1} = Value of KYD Repo Index on day $t-1$, R = Average rate of return realized BIST Repo/Reserve Repo Market v = Maturity of Repo/Reserve Repo agreement.

As the risk-free rate, we use weekly returns of the net overnight repo index provided by TKYD.

4 Empirical Results

Table (1) lists the Sharpe and Treynor ratios computed for these 33 funds. The higher the Sharpe ratio, the more return the investor is getting per unit of risk. The lower the Sharpe ratio, the more risk the investor is carrying to earn additional returns. Higher Sharpe and Treynor ratios imply better risk-adjusted performances. For Sharpe Ratio, Strateji Securities A-type Equity Fund, Alternatif Bank A-type Equity Fund, Alternatif Bank A-type Variable Fund, Gedik Securities A-type Equity Fund and Finans Yatırım Securities A-type Variable Fund have the highest performances. For Treynor ratio, Strateji Securities A-type Equity Fund, Alternatif Bank A-type Variable Fund, Alternatif Bank A-type Equity Fund, Garanti Bank A-type Variable Fund and Gedik Securities A-type Equity Fund have the highest performances.

Table (2) gives us the results of Jensen's alpha measure that indicate selectivity skills of fund managers. Fund managers have either higher or lower performance relative to the market. 21 of the 33 funds have positive alphas, but only 5 of these funds are statistically significant. Alternatif Bank A-type Variable Fund is statistically significant at 10% level, Finans Yatırım Securities A-type Variable Fund, Gedik Securities A-type Equity Fund and Finansbank A-type Equity Fund are statistically significant at 5% level, Strateji Securities A type Equity Fund statistically is significant at 1% level. It is interpreted that these funds' managers don't have selectivity skills in the quantitative easing era.

Table (3) shows results of Treynor&Mazuy (1966) model, which indicates the market timing ability of fund managers. If fund managers think that market is going up, they change their portfolio composition from less volatile to high volatile securities or when market is going down, they shift their portfolio composition from high volatile to less volatile securities. If fund

managers have market timing ability, they create their portfolios according to their estimating tendency of the markets. 8 of the 33 funds have positive market timing ability, but merely 3 of them are statistically significant. Eczacıbaşı A-type Variable Fund is statistically significant at 1% level, Yapı Kredi A-type Variable Fund is statistically significant at 5% level and Eczacıbaşı A-type Equity Fund is statistically significant at 10% level. 25 funds have negative market timing ability and 15 of them statistically significant. It is derived that fund managers don't have market timing ability during the study period.

Table 1: Results of Sharpe and Treynor Ratio

Fund Name	Sharpe	Rank	Treynor	Rank
Strateji Securities A Type Equity	0,1432	1	0,00561	1
Alternatif Bank A Type Equity	0,12187	2	0,0053	3
Alternatif Bank A Type Variable	0,11919	3	0,00546	2
Gedik Securities A Type Equity	0,11167	4	0,00425	5
Finans Yatırım Securities A Type Variable	0,10803	5	0,00396	7
Alkhair Capital Securities A Type Variable	0,1021	6	0,00423	6
Finansbank A Type Equity	0,09894	7	0,00354	9
Halk Bank A Type Variable	0,09443	8	0,00373	8
ING Bank A Type Equity	0,08862	9	0,00329	12
Kare Securities A Type Variable	0,08734	10	0,00329	11
Garanti Bank A Type Variable	0,08201	11	0,00496	4
Yapı Kredi A Type Equity	0,07903	12	0,00279	14
TEB Securities A Type Equity	0,07751	13	0,00274	16
Eczacıbaşı A Type Equity	0,07592	14	0,00274	17
Is Securities A Type Variable	0,07452	15	0,00275	15
Tekstilbank A Type Equity	0,07361	16	0,00338	10
Tacirler Securities A Type Variable	0,07148	17	0,00286	13
Akbank A Type Equity	0,07073	18	0,00251	19
Finansbank A Type Variable	0,06935	19	0,00253	18
Yapı Kredi Securities A Type Variable	0,06671	20	0,00236	21
Yatırım Finansman Securities A Type Variable	0,06071	21	0,00243	20
Denizbank A Type Equity	0,05839	22	0,00218	22
Garanti Bank A Type Equity	0,04824	23	0,00173	23
Is Bank A Type Equity	0,04749	24	0,00168	24
Vakıflar Bankası A Type Variable	0,04333	25	0,00163	25
Denizbank A Type Variable	0,04165	26	0,00155	26
Eczacıbaşı A Type Variable	0,02952	27	0,00111	27
Sekerbank A Type Equity	0,02145	28	0,00081	28
Ziraat Securities A Type Variable	0,02091	29	0,00078	29
Meksa Securities A Type Variable	-0,00694	30	-0,00029	30
Acar Yatırım Securities A Type Variable	-0,01258	31	-0,00053	31
Acar Yatırım Securities A Type Equity	-0,02521	32	-0,00153	32
Başkent Securities A Type Variable	-0,07793	33	-0,00488	33

Table 2: Results of Jensen's Alpha

Fund Name	alpha	t-stat	p-value
Eczacıbaşı A Type Variable	**0,54440**	144,606	0,14920
Strateji Securities A Type Equity***	**0,00279**	299,688	**0,00295**
Alternatif Bank A Type Variable*	**0,00126**	177,133	**0,07751**
Finans Yatırım Securities A Type Variable**	**0,00123**	218,878	**0,02938**
Gedik Securities A Type Equity**	**0,00119**	199,537	**0,04690**
Alkhair Capital Securities A Type Variable	**0,00110**	139,127	0,16517
Finansbank A Type Equity**	**0,00102**	207,990	**0,03838**
Halk Bank A Type Variable	**0,00091**	121,120	0,22676
Kare Securities A Type Variable	**0,00087**	103,013	0,30377
Alternatif Bank A Type Equity	**0,00083**	111,199	0,26703
ING Bank A Type Equity	**0,00062**	113,838	0,25587
Garanti Bank A Type Variable	**0,00058**	0,89887	0,36944
Tekstilbank A Type Equity	**0,00055**	0,57055	0,56873
TEB Securities A Type Equity	**0,00033**	0,78113	0,43534
Yapı Kredi A Type Equity	**0,00032**	0,88459	0,37708
Is Securities A Type Variable	**0,00025**	0,48143	0,63056
Eczacıbaşı A Type Equity	**0,00025**	0,57570	0,56525
Tacirler Securities A Type Variable	**0,00021**	0,40623	0,68486
Finansbank A Type Variable	**0,00011**	0,20811	0,83528
Akbank A Type Equity	**0,00010**	0,25434	0,79941
Yatırım Finansman Securities A Type Variable	**0,00002**	0,04129	0,96709
Yapı Kredi Securities A Type Variable	-0,00001	-0,04309	0,96566
Denizbank A Type Equity	-0,00014	-0,24078	0,80989
Vakıflar Bankası A Type Variable	-0,00040	-0,88242	0,37825
Denizbank A Type Variable	-0,00051	-104,164	0,29841
Garanti Bank A Type Equity	-0,00056	-110,390	0,27052
Is Bank A Type Equity	-0,00056	-155,686	0,12055
Acar Yatırım Securities A Type Equity	-0,00077	-136,333	0,17379
Sekerbank A Type Equity*	-0,00092	-176,938	**0,07784**
Ziraat Securities A Type Variable	-0,00094	-190,422	0,05783
Acar Yatırım Securities A Type Variable	-0,00097	-205,659	**0,04058**
Meksa Securities A Type Variable*	-0,00175	-193,512	**0,05391**
Başkent Securities A Type Variable	-0,00192	-241,182	**0,01647**

Table 3: Results of Treynor&Mazuy Regression Analysis

Fund Name	T&M	t-stat	p-value
Eczacıbaşı A Type Variable***	**0,67493**	264,852	**0,00851**
Finansbank A Type Equity	**0,41998**	158,914	0,11308
Eczacıbaşı A Type Equity*	**0,41561**	182,174	**0,06948**
Yapı Kredi Securities A Type Variable**	**0,27059**	250,188	**0,01288**
Yapı Kredi A Type Equity	**0,19270**	0,98799	0,32395
Garanti Bank A Type Equity	**0,04925**	0,18167	0,85597
Denizbank A Type Variable	**0,02487**	0,09466	0,92465
Is Bank A Type Equity	**0,00226**	0,01163	0,99073
Finans Yatırım Securities A Type Variable	-0,00596	-0,01961	0,98437
Garanti Bank A Type Variable	-0,05794	-0,16803	0,86667
Finansbank A Type Variable	-0,13826	-0,46827	0,63993
TEB Securities A Type Equity	-0,22919	-101,995	0,30857
Akbank A Type Equity	-0,27842	-132,569	0,18594
Tacirler Securities A Type Variable	-0,28139	-102,365	0,30682
Acar Yatırım Securities A Type Equity	-0,34901	-114,909	0,25143
Denizbank A Type Equity	-0,38133	-119,457	0,23319
Is Securities A Type Variable	-0,40009	-145,417	0,14694
Başkent Securities A Type Variable	-0,44802	-104,266	0,29794
Sekerbank A Type Equity**	-0,54839	-197,095	**0,04964**
ING Bank A Type Equity**	-0,58057	-20,005	**0,04634**
Yatırım Finansman Securities A Type Variable**	-0,66458	-222,214	**0,02701**
Gedik Securities A Type Equity**	-0,71032	-223,444	**0,02619**
Ziraat Securities A Type Variable***	-0,73999	-283,185	**0,00494**
Vakıflar Bankası A Type Variable***	-0,96918	-411,381	**0,00005**
Halk Bank A Type Variable**	-103,124	-258,618	**0,01017**
Acar Yatırım Securities A Type Variable***	-111,978	-454,313	**0,00001**
Tekstilbank A Type Equity**	-119,086	-229,811	**0,02224**
Kare Securities A Type Variable***	-119,176	-263,929	**0,00874**
Alkhair Capital Securities A Type Variable***	-126,558	-301,749	**0,00277**
Alternatif Bank A Type Variable***	-182,891	-496,793	**0,00000**
Meksa Securities A Type Variable***	-189,156	-397,885	**0,00009**
Alternatif Bank A Type Equity***	-211,741	-555,927	**0,00000**
Strateji Securities A Type Equity***	-216,151	-443,807	**0,00001**

5   Conclusion

In this study, Turkish equity and variable funds' performances are analysed over the period from 09 January 2009 to 31 October 2014. During this quantitative easing policy term, Fed increased money supply in order to lower the interest rates and this excess of money in financial markets made a significant contribution to capital influx from developed countries to developing countries. The study period overlaps with the QE era when stock market sizes have improved remarkably. Over this period, Turkish stock market returns could outperform many developed and developing stock market indices. Turkish equity and variable fund performances and funds managers' performances were analysed in this study by using Sharpe ratio (1966), Treynor ratio (1965), Jensen alpha (1968) and Treynor&Mazuy (1966) regression analysis method. There are different types of funds such as equity, mixed, bonds, variable and so on. This study solely investigates performances of equity funds and variable funds since these funds contain more stock shares in their portfolios, hence more volatility and risk. In Turkey, there are 29 equity funds and 48 variable funds based on the data as of 31 October 2014. In this study, those funds, which were closed, newly founded or that merged with other funds during this period were not covered. Also those funds that had less than 50% equity shares in their portfolio were not studied. Afterwards, 15 equity funds and 18 variable funds were filtered to study with. BIST100 Index and TKYD O/N Net Repo Index are employed as the benchmark index and risk-free rate, respectively. In order to find fund performances, we have utilized Sharpe (1966) and Treynor (1965) ratio. Funds that have higher Sharpe and Treynor ratios have better risk-adjusted performances. For Sharpe Ratio, Strateji Securities A-type Equity Fund, Alternatif Bank A-type Equity Fund, Alternatif Bank A-type Variable Fund, Gedik Securities A-type Equity Fund and Finans Yatırım Securities A-type Variable Fund have the highest performances. For Treynor ratio, Strateji Securities A-type Equity Fund, Alternatif Bank A-type Variable Fund, Alternatif Bank A-type Equity Fund, Garanti Bank A-type Variable Fund and Gedik Securities A-type Equity Fund have the highest performances. Moreover, we have used Jensen alpha (1968) for selective ability and Treynor&Mazuy (1966) regression analysis model for market timing ability of fund managers. Jensen (1968) alpha indicates that fund managers don't have selective ability, as only five out of 33 funds have positive and statistically significant alphas, which are Strateji Securities A-type Equity Fund, Gedik Securities A-type Equity Fund, Finans Yatırım Securities A-type Variable Fund and Finansbank A-type Equity Fund and Alternatif Bank A-type Variable Fund. Regression analysis of Treynor&Mazuy (1966) indicates market timing ability of fund managers. Eight out of these 33 funds have positive market timing ability, but merely three of them are statistically significant. Eczacıbaşı A-type Variable Fund is statistically significant at 1% level, Yapı Kredi A-type Variable Fund is statistically significant at 5% level and Eczacıbaşı A-type Equity Fund is statistically significant at 10% level. According to these results, Turkish equity and variable fund managers, in general, lack both selectivity skills and market timing ability during the quantitative easing era.

Acknowledgements

References

AKEL, V. (2007): "Türkiye'deki A ve B tipi yatırım fonları performansının devamlılığının parametric ve parametric olmayan yöntemlerle değerlendirilmesi," *Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 2, 147–177.

ARSLAN, M. (2005): "A tipi yatırım fonlarında yöneticilerinin zamanlama kabiliyeti ve performance ilişkisi analizi: 2002-2005 dönemi bir uygulama," *Gazi Üniversitesi Ticaret ve Turizm Eğitim Fakültesi Dergisi*, 2(2), 1–23.

BLAKE, C. R., E. J. ELTON, AND M. J. GRUBER (1993): "The Performance of Bond Mutual Funds," *The Journal of Business*, 66(3), 370–403.

CHEN, D., C. GAN, AND B. HU (2013): "An empirical study of mutual funds performance in China," Working Paper 2220323, Social Science Research Network.

DEEPAK, A. (2011): "Measuring performance of Indian mutual funds," Working Paper 131176, Social Science Research Network.

DETZLER, M. L. (1999): "The performance of global bond mutual funds," *Journal of Banking & Finance*, 23(8), 1195–1217.

DUGGIMPUDI, R. R., H. ABDOU, AND M. ZAKI (2010): "An evaluation of equity diversified mutual funds: the case of the Indian market," *Investment Management and Financial Innovations*, 7(4), 66–73.

GÜRSOY, T. C., AND Y. . ERZURUMLU (2001): "Evaluation of portfolio performance of Turkish investment funds," *Doğuş Üniversitesi Dergisi*, 4(8), 43–58.

HENRIKSSON, R. D. (1984): "Market Timing and Mutual Fund Performance: An Empirical Investigation," *The Journal of Business*, 57(1), 73–96.

HENRIKSSON, R. D., AND R. C. MERTON (1981): "On Market Timing and Investment Performance. II. Statistical Procedures for Evaluating Forecasting Skills," *The Journal of Business*, 54(4), 513–33.

JENSEN, M. C. (1968): "The Performance Of Mutual Funds In The Period 1945-1964," *Journal of Finance*, 23(2), 389–416.

KILIÇ, S. (2002): *Türkiye'deki yatırım fonlarının performans değerlendirilmesi*. İMKB Yayınları, İstanbul.

KORKMAZ, T., AND H. UYGUNTÜRK (2009): "Türkiye'de işlem gören hisse senedi ağırlıklı yatırım fonlarının performans karşılaştırması," *Kilis 7 Aralık Üniversitesi İktisadi ve İdari Bilimler Fakültesi Akademik Araştırmalar ve Çalışmalar Dergisi*, 1(1), 1–15.

KOURIS, A., C. BENEKI, M. ADAM, AND C. BOTSARIS (2011): "An assessment of the performance of Greek mutual equity funds selectivity and market timing," *Applied Mathematics Sciences*, 5(4), 159–71.

MAYO, H. (2010): *Investments: An Introduction.* Cengage Learning.

McDONALD, J. G. (1973): "French Mutual Fund Performance: Evaluation of Internationally-Diversified Portfolios," *Journal of Finance*, 28(5), 1161–80.

NOULAS, A. G., J. A. PAPANASTASIOU, AND J. LAZARIDIS (2005): "Performance of mutual funds," *Managerial Finance*, 31(2), 101–112.

REILLY, F. R. (1992): *Investments.* The Dryden Press, Florida.

SHARPE, W. (1965): "Mutual Fund Performance," *The Journal of Business*, 39.

TREYNOR, J. L. (1965): "How to rate management of investment funds," *Harvard business review : HBR*, 43(1), 63–75.

TREYNOR, J. L., AND K. K. MAZUY (1969): "Can mutual funds outguess the market?," *Readings in investment analysis*, pp. 158–166.

YALÇIN, . (2012): "The performance evaluation and persistence of A type mutual funds in Turkey," Master's thesis, Unpublished master's thesis Middle East Technical University, Ankara, Turkey, Unpublished master's thesis.

YOLSAL, H. (2012): "A tipi yatırım fonlarının performans karşılaştırması: Banka ve aracı kurum fonları üzerine bir inceleme," *Marmara Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 1(1), 343–364.

A Research on the Perception Level of the Success Criteria of Learning Organizations among a Group of Physicians and Nurses

Çiğdem Dikmen*

Istanbul Bilim University

Abstract

According to results in research considering learning organizations the humankind's unused potential can be brought to light if employees achieve personal development. Making the continuous development a way of life will improve the performance of employees and the performance of the organization in particular. A company's philosophy based on continuous learning will lead to an advantage for the learning organizations, which constantly increase their abilities of directing their future in the competition. We believe that the 'learning organizations' is a management model that should be employed particularly in the health care institutions. This way, each topic can be examined, tested for improvement and continuous development can be maintained. Thus, the purpose of our project is to make the common vision, personal ability, learning in a team and systematic thinking accepted as basic skills and to define the perception level of the success criteria of the learning organizations among the groups of physicians and nurses working in the health care organizations, which should be learning organizations. This project consists of two parts: a theoretical part and a fieldwork. The theoretical part uses scientific books, articles, and researches. As fieldwork, a survey verifies whether physicians and nurses attending learning organizations match the criteria of success. The survey is conducted in a group of private hospitals in the city of Istanbul, Turkey.

Keywords: Learning Organizations, Success Criteria, Physicians, Nurses, Hospitals

1   Learning Organizations

Learning organization concept arose in the early 1990s and has become one of the modern management philosophies, which trace to the present day. In the 1990s, the number of firms that identify themselves as learning organizations has significantly increased. The companies such as General Electric, Johnsonville Foods, Quad Graphics, and Pacific Bell in the United States; Sheemess Steel, Nokia, Sun Alliance, and ABB in Europe; Honda and Samsung in Asia have been among the early pioneers (Marquardt, 2011).

---

*E-mail: cigdem.dikmen@istanbulbilim.edu.tr

Learning organizations aim learning new information constantly, benefit from the information they learned, re-evaluate that information in practice, and benefit from the results. They also provide for the use by rendering all of the other processes that occur with system thinking.

Learning organizations intend to function with the help of courses, which may contribute to employees' personal development, so that they conduce toward innovation and transformation. The transformation should certainly not be only among individuals, it should be revealed among all employees in the organization, so that team performance would be increased. Thus, the company may have a competitive advantage in the market, in which it operates.

The main purpose of the learning organizations is to hold the competitiveness and the productivity at current levels at first and after that to increase them, when there are ambiguous market conditions and unclear technological development circumstances. Senge indicates that the important thing in organizations is not "change", but "transformation". The learning organization concept carried out the concept of "transformation" rather than "change". At this point, it is useful to highlight the difference of the concepts of "change" and "transformation". Transformation takes place in essence; change however is the reaction, shown to external influences. While "change" accommodates the company to the changing conditions, "transformation" creates change by hosting the dynamics of the change within.

Therefore, a learning organization aims to become a dynamic and a constantly evolving organization that is open for learning and personal development, in which employees can clearly demonstrate their ideas. It is very important in terms of the learning organization to question of each subject in all processes, to ensure compliance with the objectives and to emphasize the necessity of continuous learning. Lifelong learning can be explained essentially as people's awareness of new skills for learning needs, acquirement new information and development of new behaviors and approaches in their lives from 'cradle to grave' (Garcarz, Chambers, and Ellis, 2003).

If the awareness of continuous learning cannot be created in a company, the existence of that company cannot even be a matter of discussion in today's conditions. Therefore, the development should be started first from the employees within the system. The company must ensure people in the company to develop themselves, trainings should be organized that will help them to realize their weaknesses and strengths and as a result of these trainings people must perceive the organization as a system. A learning organization encourages learning at all stages of the organization, making the development of its employees, open communication and constructive dialogue a priority (Koçel, 2014). Thus, it opens the way for organizational learning by creating an environment that allows the development of individuals, who have the potential to create a system within a process of constant transformation.

2   Basic Principles of Learning Organizations

According to Senge (1990), there are five disciplines of learning organizations. (In this sense, discipline refers to the systematic of science or an understanding of a thought). These disciplines are considered as personal mastery, mental models, shared vision, team learning, and systems thinking. It is vital for an organization to possess all these five disciplines, developing together. It is much more difficult to integrate all the disciplines together rather than implementing them separately. However, the organizations that can achieve this will be learning organizations. For this purpose, the fifth discipline 'systems thinking' will help the organiza-

tions to bind other disciplines together and to combine them as a whole. Organizations may only learn through individuals. Individual learning does not guarantee organizational learning, but without individual learning, organizational learning cannot be realized.

2.1   Personal Mastery

People with high personal mastery level constantly improve their ability of creativity. From their continuous learning effort arises the spirit of learning organization. Learning organizations are characterized by the presence of a high degree of empowerment and personal learning (Sarlak, 2010).

Personal mastery is a discipline that constantly provides openness and depth to the views of people, develops patience, and allows people to see the facts objectively. Thus, it forms a basis to the learning organization. The willingness and the capacity to learn of an organization cannot be greater than its own members (Senge, 1990).

People in high personal mastery levels are in a constantly learning trend. Senge (1992), indicates that personal mastery is not a characteristic owned by people, but a process and a lifelong discipline. It also encourages the personal motivation to learn how activities affect an organization.

2.2   Mental Models

Mental models affect our conception of the world as well as our actions as ingrained assumptions, generalizations, and even imaginations, which are stuck at the back of our minds. For competitive advantage mental models create a unique resource for managers, by helping them to clarify assumptions, to explore the contradictions in assumptions and to think about new strategies based on new assumptions.

According to Senge (1990), even though people do not act upon the theory they defend, they act upon the mental models they possess. The more people reveal their different points of view of the world and develop efficient discussion capabilities, the more their decision-making processes go through a transformation. Mental models have the ability to eliminate the prejudices found in people's mentality. Developing the capacity to work with mental models in an organization requires either the development of new skills or the implementation of institutional innovations, which will ensure these skills in everyday life.

Mental models are "equivalent to the concept of paradigm because both paradigm and mental models represent an integrative set of ideas and practices that shape the ways people view and interact with the world." (Senge, 2012). Managers are often locked into a mentality due to which they inclined to separate out information that does not fit their current paradigm. In order to avoid this, managers have to break the old paradigm and stay outside their critical mental models to conform to a varying reality. As managers become "paradigm-busters" (Senge, 2012), they are prepared for constant challenges and have an imagination of 'new ways to understand the world that do not logically follow from past beliefs' (Wit and Meyer, 2004).

2.3   Shared Vision

Shared vision is vital for learning organizations, because it provides focusing and required energy for learning. Although it is possible to learn how to comply with others without vision,

creative learning only takes place when people give effort to achieve something that is very important for them. Shared visions emerge from personal visions. Organizations, which give importance to have a shared vision, create the environment that allows employees to develop continually their own personal vision.

Personal mastery is the foundation of vision development. People with personal mastery focus on the realization for the vision and can take the necessary decisions with courage. The vision of a company can become effective, only when information is shared throughout the organization (Senge, 1990). Shared vision also encourages future works.

2.4 Team Learning

Teams have a very important role in learning organizations, where continuous learning and regeneration for people is within possibility. In such an environment, people are in a mutual communication continuously. Today, new technologies, new tools, new opportunities, and cooperation are needed in the provision of health services in an effective and efficient manner.

According to the Joint Commission on Accreditation of Healthcare Organizations Anonymous (2002), teamwork is defined as a basic parameter to ensure optimum quality and safety for patient care.

In some studies, the four benefits of the efficacy of teamwork are shown as; learning and development, resource management, task performance and communication. Moreover, teamwork in health care has demonstrated very successful results (Ingram and Desombre, 1999).

Through techniques like dialogue and skillful discussion, teams transform their collective thinking, learning to mobilize their energies and ability greater than the sum of individual members' skills. Team learning builds on the discipline of personal mastery. It is a process for developing the capacity of a team to reach the goals, which its members really want. While individual learning at one level is important, it is inconsequential at another level. Individuals may learn, but for the organization as a whole, there is no organizational learning. Therefore, teams become the essential ingredient, a "microcosm" for learning (Senge, 1990).

2.5 Systems Thinking

Development of the five disciplines in one organization is vital. Integration of all disciplines with each other will be much more difficult than the implementation of each individually. (Senge, 1992) addresses "systems thinking", which is based on "holistic thinking" as the fifth discipline, because he accepts that systems thinking fuses disciplines together and combines disciplines as a whole.

Systems thinking has its roots in the General System Theory, which was advanced by Ludwig von Bertalanffy in the 1940s and furthered by W. Ross Ashby in the 1950s. This theory is telling us that the whole is more than the sum of its components by empowering other disciplines. In addition, this discipline shows us that the essential characteristics of a system are not determined by the sum of its parts, but by the process of interactions between those parts. Thus, systems thinking is fundamental to any learning organization as it is used to implement the disciplines. Without it, each of the disciplines alone would not achieve their goals consequently.

System thinking is the reference point of a learning organization, integrating the four disciplines and is a way of discovering solutions to modern complex problems. This discipline

enables interrelationships between systems and teams; it concurrently allows the organization to understand the external environment.

3   Success Criteria in Learning Organizations

Measuring learning in learning organizations is very difficult. However, the positive developments that occurred in the organization can provide information about whether the organization has succeeded in becoming a learning organization.

The most effective behaviors for success criteria of an organization in terms of learning can be ranked as; people's communication style, their attitude that they exhibit in the presence of changes within the organization, the use of information within the organization, their attitude mistakes and the reward system within the organization.

Apart from the rules for developing behaviors there are also a set of criteria for a learning organization, to be established within the organization, to become successful. These criteria are:

- **Spread Levels of Strategy and Vision**: One of the success criteria of learning organizations is strategic thinking and vision. Shared vision is of vital importance for learning organizations, because it provides focus and energy for learning. Although it is possible to learn how to comply with the others without vision, creative learning occurs only when people make an effort to achieve something that is very important for them. As information is renewed, vision is constantly revised and improved. However, it is important sharing the created strategies and visions with people and having these visions embraced by the people in an organization. The vision of the organization should be conveyed to all employees and make them aware of the vision. A vision teaches employees how to concentrate on learning in the organization.

- **Knowledge Acquisition and Information Sharing**: Organizational learning is defined as to collect information and methods by companies about their activities and to organize and use this information to increase the efficiency of the employees. According to Fiol and Lyles (1985), organizational learning is "the improvement of activities by understanding the created and developed knowledge". Huber (1991) indicates that learning depends on the effectiveness of organizational behavior, obtained via processing information in an organization. Therefore, organizations, which encourage organizational learning and forming units to develop strategies, have been named as learning organizations. Managers in learning organizations must constantly be busy in activities aimed at creating new knowledge and should provide the necessary environment for the formation of these activities.

- **Change Management and Perspective to Change**: Changes in organizations refers to transportation of any event or activity from one point to another. The constant change represents a recurring change in the circumstances related to the organization or the person bringing the organization or the person to a new position.

- **Individual Development and its Contribution to Organizational Development**: Consistent development is shown as one of the basic concepts of learning organizations.

Each individual of the organization is encouraged to learn, methods are created for acquiring knowledge and skills for all employees, and learning is realized through individuals (Argyris and Schön, 1996). Managers should create an environment that will give employees opportunity to improve themselves and facilitate learning.

- **Learning with Experiences and Perspective on Mistakes**: Learning occurs with the addition of new information on the existing information. Organizations should review their achievements and failures regularly and evaluate them in a systematic manner because they should be able to record the obtained results in a way that all employees can attain. Additionally, the lessons learned from the mistakes in an organization provide learning as well. Experiences should be transferred to other employees to avoid a repetition of the same mistakes. In a learning organization, employees should not be punished for the mistakes they make, but they should be able to take lessons from them.

- **Creating Organizational Memory**: All information obtained in the organization, is stored in the memory of the organization to be used again where necessary. It seems very important to establish the organizational memory to access the information and use them when required. It is the same for outdated information as well. Organizational memory leads to a mechanism for reducing costs in the organization and for effective decision-making.

- **Rate and Compliance of Technology Utilization**: Learning organizations use technology to obtain information, use information, store information and transfer it to all the employees. Information and technology systems used in learning organizations are defined as systems, which use, obtain, develop, regulate, and store information in memory for future use. Information system in a learning organization trains employees, provides coordination and cooperation in working with other employees.

- **Supporting and Rewarding Employees**: A tie will be established between organization and the individual by providing an environment for achieving self-growth, and rewarding success. As a result, employees will show more effort in order to create a learning organization.

- **Role of Leader and Team Work in Learning Organization**: In learning organizations, managers are required to possess a perspective based on general success and achievement within the organization, rather than on individual success and achievement. This perspective brings with it a leadership concept that is unique to learning organizations. Leadership is obtained through personal traits, rather than through hierarchical position, and it endures its influence with the factors of creativity and change. Learning organizations, within the scope of continuous change philosophy, aim to achieve information exchange within the organization through keeping its communication channels open and empowering its employees. Garvin, Edmondson, and Gino (2008) noted that behaviors of powerful leaders develop organizational learning.

- **Systems Thinking**: Systems thinking is an integral concept within the organization. Systems thinking considers all activities within all processes of the organization, which seem irrelevant to each other, as a whole. Systems thinking is the one that holds other disciplines together. Systems thinking keeps other disciplines ready to use by integrating

them. Systems thinking tries to strengthen other disciplines (personal mastery, mental models, shared vision, team-learning), and thus, provides more contribution to the organization. Specifically, a study by Akhtar, Arif, Rubi, and Naveed (2011) noted that only two dimensions of organizational learning had positive impact on organizational performance, namely inquiry and dialogue and systems connection. Supported by Jyothibabu, Farooq and Pradhan (2010), inquiry and dialogue promotes thinking collectively and communication which contributes positively to organizational performance. Additionally, systems connection had a similar impact on organizational performance as employees were found to be well-versed internally and externally with their surrounding environments and were able to establish link between the two (Akhtar, Arif, Rubi, and Naveed, 2011).

4 Learning Organizations in terms of Hospitals

Today, the importance of new technology, new instruments, new applications, and knowledge has been important in order to provide efficient healthcare services. Among the services that rely on knowledge, healthcare services might be the most important services. Healthcare employees, who carry these knowledge-intensive, labor-intensive, and technology-based services, must be open to change and innovations in order to achieve success.

Qualitative healthcare service could only be achieved, by the leadership of managers, physicians, nurses, and other healthcare personnel. Leadership in healthcare services is important in terms of following innovations and adapting to the current situations. In order to provide qualitative healthcare services and work efficiently, healthcare employees need leaders, who are cooperative, empowering, and good communicators.

Another way of increasing efficiency and effectiveness is developing new organizational structures. Difficulty of struggling with increasing costs and varying quality makes continuous research and continuous learning obligatory, thus, it forces hospitals to become learning organizations (Mahler, 2007). It is believed that introducing a learning culture in health care organizations could improve the quality of professional practice, satisfaction, lifelong learning, and patient care, while also lowering costs (Bell, Robinson, and See, 2013). However, despite the impressive documentation on learning organizations, studies on this topic in health care settings remain scarce in the current literature (Bell, Robinson, and See, 2013). Health care professionals are also in need of knowledge since their practice requires lifelong learning in order to improve their competencies and provide effective and quality care for their patients (Tsai, 2014).

Therefore, hospitals must be encouraged to be learning hospitals through developing and generating learning individuals, groups, and learning culture.

The process of becoming a learning organization for hospitals consists of three steps. The first step is based on developing learning individuals. The second step is developing learning teams. Lastly, the third step is establishing the learning organization. Organizations, in which these steps are not achieved, cannot be named as learning organizations. Creating a learning organization will be possible if these three steps are completed and internalized. Organizational learning emerges through shared knowledge, understanding, and behavioral scripts, and it ends up with organizational gain (Koçel, 2014).

5 Research

5.1 The Aim of the Research

The aim of this study is to measure the perception level of success criteria and to find out whether there is a difference between the perception levels of success criteria between doctors and nurses in learning organizations. Questionnaires were distributed to 404 doctors and nurses working in three foundation owned hospitals in İstanbul.

The hypotheses used are as follows:

- H1 : There is a difference between the perception levels of success criteria of Phisicians and nurses.

- H2 : There is a difference between the perception levels of success criteria according to tenure.

- H3 : There is a difference between the perception levels of success criteria according to position.

- H4 : There is a difference between the perception levels of success criteria according to gender.

5.2 The Design of the Research

Explanatory and analytical research design has been used in this study. Since it is carried out in the natural environment of the hospitals, it is a field survey. The questionnaire consists of two parts: First part includes demographic question and the second part includes perception levels of success criteria. Second part of the questionnaire was prepared by the author based on the basic principles of learning organizations and success criteria variables advocated by Senge. Likert scales were used for the items in the questionnaire with five point scale ("totally agree", "agree", "undecided", "disagree" and "totally disagree").

5.3 Unit of Analysis

The unit of analysis of this research is individuals, who are the physicians and nurses of the foundation-owned hospital group.

5.4 Method

The data received from the questionnaires returned by the doctors and nurses from the above-mentioned hospitals were subjected to statistical analysis using SPSS(21.0) Program. Reliability test (Crohnbach alpha), factor analysis and t-test was used in the analysis of the data.

5.5 Analysis of Results

Out of 404 questionnaires 385 questionnaires were filled properly; therefore 385 questionnaires were used for statistical analysis. The reliability coefficient of the questionnaire was found to be 0,951. Demographic characteristics of 385 people in total are shown in Table (1).

		FREQUENCY	PERCENTAGE
GENDER	WOMEN	237	61,5
	MEN	148	38,4
AGE	25 and below	146	37,92
	26-30	69	18,92
	31-35	65	16,88
	36-	105	27,27
EDUCATION	HIGH SCHOOL	55	14,28
	UNDER GRADUATE	143	37,14
	GRADUATE	69	17,92
	POST GRADUATE	118	30,64
SENIORITY	0-1 YEAR	62	16,1
	1-3 YEARS	94	24,41
	3-6 YEARS	104	27,01
	6+ YEARS	125	32,46
TITLE	PHYSICIAN	116	30,12
	NURSE	269	69,87
POSITION	MANAGER/TOP LEVEL	120	31,16
	EMPLOYEE/LOW LEVEL	265	68,83

Figure 1: Demographic Characteristics

Table 1: Reliability Test

TESTS	VALUE	LEVEL OF SIGNIFICANCE
CRONBACH'S ALPHA	0.951	0.05

Reliability analysis coefficient (Cronbach Alpha) of perception level of success criteria within learning organizations for physicians and nursing occupations is determined as 0.951, which refers to a high internal consistency.

It is seen that questionnaire items are related to each other, and, thus, they are forming groups among themselves. The items gathered under a common dimension are named as factor. Five factors were found according to the factor analysis done in this study. Variables having eigenvalues greater than 1 were taken into consideration.

Table 2: Kaiser-Meyer-Olkin and Barlett Test

TESTS	VALUE	LEVEL OF SIGNIFICANCE
KMO	0,918	> 0,005
BARTLETT	0,00	< 0,005

As it is seen in Table (2), KMO measurement value and Bartlett test results are significant for factor analysis.

As it is seen in Table (3), the five factors found in factor analysis explain %53.744 of the total

Table 3: Obtained Factors in Factor Analysis

FACTORS	EIGENVALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE OF VARIANCE
1	14.687	31.249	31.249
2	3.338	7.101	38.35
3	2.847	6.058	44.408
4	2.548	5.421	49.83
5	1.84	3.914	53.744

variance. These five factors obtained through component analysis and rotation were named. The aim of applying rotation technique is to name these factors in a meaningfully. Specifically, the items numbered with 43, 45, 42, 40, 44, 46, 39, 47, 41, 38 constitute the first factor, which is based on development criteria. The items numbered with 20, 19, 18, 21, 22, 23, 16 constitute the second factor, which is based on team criteria. The items numbered with 10, 11, 13, 12, 7, 9, 8, 6 constitute the third factor, which is based on strategy criteria. The items numbered with 30, 29, 32, 31, 28, 33, 26, 27 constitute the fourth factor, which is based on change criteria. Lastly, the items numbered with 35, 36, 34, 37 constitute the fifth factor, which is based on knowledge criteria.

It was seen that the five factors are statistically significant, and they are normally distributed. Thus, parametric tests were applied.

FACTORS	TESTS	VARIABLE		
		GENDER	TITLE	POSITION
GROWTH FACTOR	LEVENE TEST	0,621	0,845	0,133
	T TEST	0,735	1,254	1,724
	VALUE OF SIGNIFICANCE	0,463	0,211	0,086
TEAM FACTOR	LEVENE TEST	0,07	0,596	0,15
	T TEST	0,027	1,58	2,061
	VALUE OF SIGNIFICANCE	0,979	0,875	0,04
STRATEGY FACTOR	LEVENE TEST	0,678	0,053	0,139
	T TEST	1,703	2,764	0,762
	VALUE OF SIGNIFICANCE	0,08	0,06	0,447
CHANGE FACTOR	LEVENE TEST	0,072	0,18	0,202
	T TEST	0,368	0,942	1,193
	VALUE OF SIGNIFICANCE	0,713	0,347	0,23
KNOWLEDGE FACTOR	LEVENE TEST	0,264	0,28	0,15
	T TEST	0,25	0,952	2,647
	VALUE OF SIGNIFICANCE	0,803	0,342	0,009
*p>0, 05				

Figure 2: Independent Sample t Test

As it is seen in figure (2), development factor is not statistically significant on the perception

of success criteria in terms of tenure, position, and gender variables. Team factor is only significant for position variable. Specifically, there is a statistically significant difference between employees and managers in terms of the perception of success criteria. However, there is not a statistically significant difference for the perception of team factor according to gender and tenure. It was concluded that strategy factor is not statistically significant on the perception of success criteria in terms of tenure, position, and gender variables. It was concluded no significant differences in perception of success criteria according to the title, position, and gender variables. Knowledge factor is only significant for position variable. However, there is not a statistically significant difference for the perception of knowledge factor according to gender and tenure.

Development, strategy, and change factors are not statistically significant on the success perception of physicians and nurses depending on tenure, position, and gender variables. Moreover, it was found that perception levels are close to each other. However, it was found that subordinates' perception levels of knowledge and team factors are statistically higher than those of managers.

6   Conclusion

Changing environmental conditions and developing technologies bring the necessity of learning for organizations in order to survive. In order to comply with the developments in the environment and technology, organizations are required to possess skills that help its learning process. Individuals reached to personal mastery are in the act of continuous learning. Knowledge and experiences of these people might become important for the organization to develop new and successful solutions during the emergencies. Principally, concepts related to the principals of learning organizations are not new to the organizational scholars. Innovativeness of Senge's learning organizations approach is based on that his success of achieving a holistic perspective by examining these concepts all together. In addition to the behaviors necessary for the success of the learning organization, there are other criteria, which are required to be developed within the organization. These criteria are leadership, teamwork, continuous acquisition of new knowledge, dissemination the knowledge acquired, and establishment of the sufficient technical framework for accessing to the knowledge.

In this study, surveys obtained from physicians and nurses working in a hospital group were analyzed. In the application, measurement of the success perception criteria for physicians and nurses in learning organizations was aimed.

Development, strategy, and change factors are not statistically significant on the success perception of physicians and nurses depending on tenure, position, and gender variables. Moreover, it was found that perception levels are close to each other. However, it was found that subordinates' perception levels of knowledge and team factors are statistically higher than those of managers.

There is not a statistically significant difference between physicians and nurses, and the reason behind this might be attributed to the fact that both groups have higher education levels. Furthermore, the reason behind subordinates' higher perception toward knowledge and team factors might be based on the following factors such as increasing education levels among nurses, especially among young nurses, continuous internal trainings, support given to graduate and Ph. D. education, and encouragement toward participation in scientific conferences.

Consequently, concepts related to the principals of learning organizations are not new to

the organizational scholars; however, philosophy of learning organization should be a lifestyle for every healthcare personnel. Issues of potential improvements and how these improvements might be achieved should be analyzed continually. In every healthcare organization, due to the nature of the healthcare services, making learning an important part of the organizational culture, with the help of individuals reached to personal mastery level, will assist hospitals to provide higher quality services.

We made this study with the assumption that group hospitals are learning organizations. In further researches, it should also be considered whether there is a difference in terms of the perception of levels among physicians and nurses, as well as other staff groups, such as caregivers and sisters in a hospital.

References

AKHTAR, S., A. ARIF, E. RUBI, AND S. NAVEED (2011): "Impact of Organizational Learning on Organizational Performance: Study of Higher Education Institutes," *International Journal of Academic Research*, 3(5), 327–331.

ANONYMOUS, C. (2002): "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis," *Joint Commission on Accreditation of Healthcare Organizations*.

ARGYRIS, C., AND D. A. SCHÖN (1996): *Organizational Learning 11: Theory, Method and Practice.* Addison Wesley, Reading.

BELL, E., A. ROBINSON, AND C. SEE (2013): "Do written mandatory accreditation standards for residential care positively model learning organizations? Textual and critical discourse analysis," *International Journal of Nursing Studies*, 50(11), 1446 – 1458.

GARCARZ, W., R. CHAMBERS, AND S. ELLIS (2003): *Make Your Healthcare Organisation a Learning Organisation.* Radcliffe Medical.

GARVIN, D. A., A. C. EDMONDSON, AND F. GINO (2008): "Is Yours a Learning Organization?," *Harvard Business Review*, 86(3), 109.

HUBER, G. P. (1991): "Organizational Learning: The Contributing Processes and the Literatures," *Organization Science*, 2(1), 88–115.

INGRAM, H., AND T. DESOMBRE (1999): "Teamwork in Health Care: Lessons from the Literature and from Good Practice around the World," *Organization Science*, 13(1), 51–59.

KOÇEL, T. (2014): *İşletme Yöneticiliği, Yönetim ve Organizasyonlarda Davranış Klasik-Modern-Çağdaş ve Güncel Yaklaşımlar.* Beta Basım A.Ş.

MAHLER, A. (2007): *Auswirkungen des mittleren und höheren Managements auf das Krankenhaus als lernende Organisation: Ausgewählte Aspekte und entsprechende Schlussfolgerungen am Beispiel des ärztlichen Managements.* GRIN Verlag.

MARQUARDT, M. (2011): *Building the Learning Organization: Achieving Strategic Advantage through a Commitment to Learning.* Nicholas Brealey Publishing.

Sarlak, M. (2010): *The New Faces of Organizations in the 21st Century: A Management and Business Reference Book*, no. v. 1 in Management and business reference book. NAISIT Publishers.

Senge, P. (1990): *The Fifth Discipline: The Art and Practice of the Learning Organization*, A Currency book. Doubleday/Currency.

——— (1992): *The Fifth Discipline: The Art and Practice of the Learning Organization*, A Currency book. Doubleday/Currency.

——— (2012): "Learning to Alter Mental Models," `http://www.solonline.org/res/kr/mentmodel.html`, [Online; accessed 19-July-2015].

Tsai, Y. (2014): "Learning organizations, internal marketing, and organizational commitment in hospitals," *BMC Health Services Research*, 14(1).

Wit, B. D., and R. Meyer (2004): *Strategy: Process, Content, Context*. Thomson, London.

Beyond Pessimism: Analysing Prospect for Asian Regionalism with Cooperation Between India, China and ASEAN

Dhananjay Tripathi*

South Asian University, New Delhi, Department of International Relations

Abstract

This paper presents a case that Asian regionalism is possible provided India and China cooperate with each other and this process is also supported by the ASEAN. While accepting practical intricacies related to Sino-India relation that is discussed in this paper, an attempt is made to look beyond the dominant, prevalent and generally acceptable discourse on this subject. The paper also has policy suggestions based on neo-functionalist approach of regional integration. It is argued that cooperation in functional areas might potentially pave the way for Asian regionalism with involvement of India, China and ASEAN.

Keywords: South Asia, Southeast Asia, ASEAN, Asian Regionalism, Sino-India Relations

1   Introduction: Theoretical Perspectives on Regionalism

Before World War II regionalism was commonly accepted as state's strategy to promote trade at the regional level. Therefore study of regionalism was predominantly regarded as a subject of economics but European integration has changed this conventional academic understanding on regionalism (Fawcett, 2012). The success of European integration generated interest in academic community drawing attention of scholars from different disciplines and mostly from International Relations (IR). With growing interest and development of regional integration study two significant established notions were challenged. Firstly, European integration has had academically confronted traditional perception that regionalism is endorsed by nation-states only for economic motives. Secondly, it had contested the Federalist assumption that regional cooperation is primarily pushed and directed by supra-national organisation. European integration made the international community to realise the fact that cooperation in functional areas critical for nation-states can start the process of integration. Supra-national organisation could be subsequently established in the process for management and for legally supervising the

---

*E-mail: dhananjay@sau.ac.in

integration process. Critiquing 'supranational organisation', Mitrany argued that the League of Nations (LoN), "failed not from over strain but from inanition" (Mitrany, 1966). Mitrany further argued that "social interdependence is all-pervasive and all-embracing and if it will be well organised then the political side will also grow as a part of it". Mitrany developed functionalist theory of regional integration and he emphasized the relevance of cooperation in functional areas. "Functional integration would be pragmatic, technocratic, and flexible; it would deliberately blur distinctions between national and international, public and private, and political and non-political" (Mitrany, 1966). E. B. Haas revised functionalist theory of regional integration and this addition was later known as neo-functionalism. According to Haas, regional integration cannot be isolated from politics. For Haas, politics is not only a crude clash of interest; but has the potential of leading to problem solving. He asserted that interests need not be "reconciled" if they can be "integrated" at a higher level by engaging actors within a working effort (Haas, 1964). In brief, from neo-functionalist perspective cooperation in functional areas will have spillover effect and will create section of beneficiaries at regional level who will develop stakes in the process. Functionalist theorists assume that with passage of time, political elites will develop their own self-interest in such a regional project and will support regional integration.

Functionalism and neo-functionalism are most accepted theories of regional integration but other schools of thought of IR have also put forth theoretical propositions for explaining regional integration. In this, Realist school of thought of IR supports the idea of cooperation between nation-states for balance of power (Morgenthau, 1967). With time relevance of alliance has not faded and in contemporary era alliance is advocated for balance of the threat (Walt, 1990). Likewise, estimation of relative gains also enthused states to cooperate with each other (Grieco, 1988). Taking cognisance of post-cold war world order, Robert Gilpin is of the view that regionalisation is a mechanism for state to insulate itself from uncertainties that are associated with globalisation. State prefers to be a part of a regional organisation for safeguarding its own interest in the globalised world (Gilpin, 2011).

Liberal school of thought of IR believes that cooperation between states is possible by establishing institutions. According to liberal scholars, international institutions that are established with set of rules and regulations help states in overcoming those uncertainties, which are inherent in anarchic world order. In this regard, liberals support cooperation between states through international institutions and accept cooperation as a political act of the state. According to Keohane, "cooperation by contrast is highly political". He further argued ?cooperation should not be viewed as the absence of conflict but rather as a reaction to conflict or potential conflict. Without the specter of conflict there is no need to cooperate? (Keohane, 1984). While strongly defending cooperation between states, liberals also support the idea of regional cooperation and much of rationale for it is based in the regime theory. Liberals assume that increasing transnational economic, political and cultural flows will alter the conventional understanding of national interest and will increase compliance by offering focal points ((Wunderlich, 2008); (Mansfield and Solingen, 2010)).

Briefly, we can conclude that major schools of thought in IR support cooperation between states both at international and regional levels. Reasons for accepting significance of regionalism are different but there is a general consensus that it is advantageous. This is also a valid argument both for India and China. These two Asian giants are now participating in several multilateral forums and have shown enthusiasm towards regionalism. Therefore, it does not

make sense as to why these two cannot cooperate with each other to promote Asian regionalism. Notably, India's role in Southeast Asia and China's role in South Asia is well established and acknowledged but prevalent opinion is that 'Dragon' and 'Elephant' are indulging in a strategic competition in these two regions. Although there is no authentic evidence suggesting that race for acquiring prominence in Southeast and South Asia by China and India have led to any direct confrontation between the two Asian powers. Both India and China are cautious about dealing with each other in these two prominent regions of Asia. Consciously avoiding direct conflict is a mature decision and political understanding between two sides at this stage open a prospect of bilateral cooperation. In this if ASEAN will also join India and China then dream of Asian regionalism could be achieved. Said this, this is not an easy task and first we have to seriously contemplate as what issues can bring these two countries together in near future. This paper suggests that there is a possibility of interregional cooperation in functional areas between India, China and ASEAN.

2   Analysing Practical Aspects of Cooperation

Idea of cooperation due to its normative appeal is not often rejected directly by a state. However, acceptance of this idea largely depends on its practicality and state's own calculations about prospects of cooperation. It is even more difficult to pursue such an idea at regional level because neighbours have larger influence on a country compared to something that happens in a far-off region. A good example of this is the integration process of Europe.

Winston Churchill was amongst those pioneers who proposed concept of 'United States of Europe' in his speech at University of Zurich in 1946.

> *"It is to recreate the European family, or as much of it as we can, and to provide it with a structure under which it can dwell in peace, in safety and in freedom. We must build a kind of United States of Europe"* (The European Commission, 2014).

However, when process was initiated for European integration with presentation of Schuman Plan, Britain did not join the negotiations. Britain wanted to maintain its independent identity in Europe and also at the international level, which it calculated would be affected by being a member of Europe based organisation where it has limited maneuvering power (Milward, 2005). Interestingly, Britain did not change its position even after elections of 1951 when Conservative Party won and Mr. Winston Churchill once again became the Prime Minister (Dinan, 2004). This example proves how states can change views with regard to cooperation and regional integration.

Cooperation between two big states that are competing for same space is even more difficult to attain. India and China are two big countries in their respective regions and are not fully comfortable with each other in their regions of influence. In this context proposal of cooperation between them needs to be properly evaluated before such a scheme is presented for serious deliberation. A good proposal of cooperation between India and China cannot be prepared while ignoring political realities between these two countries. Here neo-functionalist lens can be applied because this theory does not ignore politics, at the same time it supports regional cooperation in functional areas that ultimately have a spill over effect. Neo-functionalism also assumes that regional cooperation in functional areas will create beneficiaries i.e. those who

will develop an interest in such regional projects. Thus, these direct beneficiaries of regionalism will potentially oppose any move of states to sabotage future and ongoing regional projects. This was quite evident in case of France when in 1965 French President Charles de Gaulle was under pressure by own his domestic constituencies, which included a strong peasant lobby, to accept the proposal of Common Agricultural Policy (CAP). French President had raised a number of objections on CAP and criticized functioning of the European Economic Community (EEC). After facing resistance from his own countrymen, President Charles de Gaulle softened his position on CAP (Lindberg, 1966).

There are ample of literature supporting the view that India and China are two big countries and competition between them is natural. Similarly it is reiterated that elites of both the countries do not have a common socio-political perspective and their world views are also different. Hence, power politics mars the prospect of long-term permanent cooperation between India and China. Without rejecting claims of competition, it is equally true that Beijing and New Delhi are cooperating on international issues of common interest. Even though convergences are limited to certain areas, it gives a realistic base for our argument of cooperation between India and China that otherwise may appear as hypothetical. In next part of this paper we will briefly highlight contemporary contours of India-China relations.

3 Sino-India Relations: From Bilateralism to Multilateralism

India and China represent two ancient civilisations that co-existed in peace during the ancient time (Zhu, 2011). India was first country outside the communist bloc that recognised communist China. Both these countries showed commitment for peace and friendship and signed Panchsheel Agreement in 1954. The relationship from 1954 to present day passed through several phases with worst been witnessed in 1962 when India and China had a war over border dispute. Even today border issues between India and China are unresolved. Despite these apparent problems of 'disputed borders' it is also a fact that at present China is amongst the top five trading partners of India. Likewise, India is amongst the ten largest trading partners of China. There is a convincing and good trade relation between these two countries, which in all likelihood will become stronger in future. It is projected that there can be two scenarios: one is 'Chindia' where both the countries emerge as new centres of the world economy. Second could be India-China scenario where there is a possibility of increase in North-South trade rather than South-South trade (Boillot and Labbouz, 2006). In the second scenario it is projected that Sino-India bilateral trade will not increase substantially in future but at the same time volume of trade between the two will also not going to decrease. Therefore from economic perspective it is been argued that India and China will avoid any major political and military confrontations in future. This is because both these growing economies will avoid any negative image that will affect their own economic prospects. Scholars are of the view that political cooperation for economic benefits will characterise the Sino-India relations in near future (Rusko and Sasikumar, 2007).

While discussing bilateral relationship of India and China it is also important to highlight that "between India and China they have a population of 2.5 billion, whose "creative energies" are being unshackled and only a cooperative relationship would ensure that both could benefit

from the Asian economic resurgence" Acharya (2008). This indicates that without a healthy closeness between India and China, it is impossible to realise the dream of an Asian century. Both sides also acknowledge the relevance of their partnership and this is accepted in the joint statement issued by India and China during the visit of Chinese Premier Wen Jiabao to India in 2005, "*the two sides agreed that India-China relationship has now acquired a global and strategic character*[1]". Moving ahead another joint declaration was issued in 2013 this time on the occasion of the visit of Chinese Premier Li Keqiang to India. The joint statement of 2013 accommodated several points highlighting willingness of Beijing and New Delhi to work in conjunction in international fora on issues of common interests. As per the joint declaration, "*strengthen coordination and cooperation in multilateral forums including Russia-India-China, BRICS, and G-20 to jointly tackle global issues ... and to establish a fair and equitable international political and economic system*[2]".

Another shot in the arm to bilateral ties of India and China was Chinese President Xi Jinping's visit to India in 2014 when he unveiled his intention to make massive investments in India. The visiting Chinese President announced $ 20 billion worth of investments in India over the next five years. This was a milestone in Sino-India relations and it came with an admission that both countries are emerging economic powers and it is a time for them to cooperate closely. This cooperation is vital because economic growth of both India and China is not insulated from rules and regulations of international trade. It is not necessary that rules and regulations governing international economic systems be loaded in favour of the emerging powers. Status quo is generally preferred by established powers and they will resist changing rules of the game for new emerging powers (Thompson, 2002). This entails cooperation between emerging powers. Therefore, India and China are rationally expected to collaborate economically and cooperate politically for safeguarding and promoting their economic interests at the international level. While talking of cooperation at international level it is a fact that first test of this relationship will be in Asia as how India and China could cooperate with each other particularly at the regional level- this will pave the way for Asian regionalism.

While discussing 'Asian Regionalism' we need to be cautious with use of this term. Asia is a very big continent and consists of several regions. Each region has its own characteristics and we will be indulging in an adventure if we try to analyse role of India and China in whole of Asia. In this paper we use the term 'Asian regionalism' to refer to our analysis of South Asia and Southeast Asia. As a matter of fact South and Southeast Asia are 'integrated regions' and have their own regional organisations. Although, level of integration are different for example Southeast Asia is a better-integrated region than South Asia. Notably South Asia is considered as one of the least integrated regions of the world in terms of trade in goods, capital and in involvement of ideas (Ahmad and Ghani, 2007).

4   China's Role in South Asia

Let us first discuss the case of South Asia. India due to its geographical size, economic growth and strategic depth is presumed as a regional hegemon and this image of India affects prospects

---

[1]This document can be accessed at URL: http://www.mea.gov.in/bilateral-documents.htm?dtl/6577/
Joint+Statement+of+the+Republic+of+India+and+the+Peoples+Republic+of+China

[2]This document can be accessed at URL: http://mea.gov.in/bilateral-documents.htm?dtl/22379/
Joint+Statement+A+vision+for+future+development+of+IndiaChina+strategic+and+cooperative+partnership

of South Asian integration (Dash, 2008). Contrary to this prevalent opinion scholars also defend an affirmative role of India that is related with its powerful position, as being a positive leader in South Asia (Bhashin, 2008). India is also blamed for not playing a proactive role despite its powerful position in South Asia, which according to few is essential for regional integration of South Asia (Prys, 2013). In brief, there are different interpretations about India's role, for some it being a big power is detrimental for the regional integration of South Asia whereas other scholars have different viewpoints on this powerful status of India.

We can critically examine India's role by looking into the history of South Asian regionalism. It is a noteworthy fact that small neighboring countries of India had taken the first initiative for establishing a regional organization of South Asian countries. These small neighbors were uncomfortable with the size and strategic strength of India and felt a need to coordinate with each other. This is one of the reasons why New Delhi initially was not enthusiastic about the idea of South Asian integration. It is also believed that for a long period of time South Asia was not a priority for New Delhi. Indian foreign policy after independence supported a number of normative agendas like decolonization, non-alignment and solidarity between Afro-Asian countries, etc. Interestingly India had a policy for promoting the cause of Asian solidarity but the same was not true for South Asia. Therefore, initial Indian interventions in its neighborhood were not primarily intended to win friends but to establish its hegemony (Crossette, 2008).

In fact, regional integration was not in priority for many countries of the world but success of the European integration in 1970s had changed discernment about regionalism. Cooperation with neighboring countries at the regional level started getting prominence and New Delhi was no exception to this new development in international relations. India joined efforts of its neighbors and showed keenness for regional cooperation and this common South Asian aspiration led to the formation of South Asian Association for Regional Cooperation (SAARC) in 1985. The SAARC for the first time stirred regional consciousness in South Asia but it failed to translate these creative ideas into practical projects and programmes of integration (Muni and Jetly, 2008). The question that follows is why SAARC is still struggling to achieve its set objectives, whereas the Association of Southeast Asian Nations (ASEAN) has been able to provide a necessary environment to its members stimulating economic growth and fostering political cooperation.

What has restrained the integration process in South Asia? Analysts have identified a number of factors for lack of integration in South Asia. Political discord particularly between India and Pakistan is one of the most serious problems and even creation of SAARC has not improved this situation. These two neighbours have yet to learn the art of living together. Similarly, rampant poverty, lack of democracy, despotism, religious fundamentalism, and terrorism are some of other noticeable factors dampening the prospect of regional integration in South Asia. Undoubtedly, there have been a sense of pessimism in regard to regional integration in South Asia; however, the situation is changing since the last decade. There is a silver lining and this optimism is due to recent economic growth that is being witnessed in every South Asian country. In fact South Asia is one of the fastest growing regions of the world (see Table 1).

Economic growth of the region is widely believed to have been stimulated after South Asian economies were integrated with international economy. After the end of cold war, India and other South Asian countries opted for liberal economic system. The opening of economy helped in initial growth as visible in terms of growth rate of South Asian countries but now it requires a regional effort to sustain this growth in the long run. Economic growth in future is

Table 1: Annual GDP Growth Rate of South Asian Countries (in %) (2008-12)

Year	2008	2009	2010	2011	2012*
Afghanistan	3.6	21	8.4	7.2	11.9
Bangladesh	6.2	5.7	6.1	6.7	6.3
Bhutan	4.7	6.7	11.8	5.6	7.5
India	3.9	8.5	10.5	6.3	5
Maldives	12.2	-4.7	5.7	7.5	5
Nepal	6.1	4.5	4.8	3.9	4.6
Pakistan	1.6	3.6	3.5	3	3.7
Sri Lanka	6	3.5	8	8.3	6.4

Source: World Bank

possible by economic collaboration at the regional level. At this stage, promotion of trade in the service sector, building of regional infrastructure and creating better regional institutions will induce economic growth and subsequently it will promote regional integration of South Asia (Ahmad and Ghani, 2007). In brief, economic growth has opened up an opportunity for regional integration of South Asia (Tripathi, 2013).

New economic opportunities in South Asia will probably act as a catalyst for regional cooperation but for deep integration, political unanimity and willingness is of paramount importance. For political integration, firstly India and Pakistan must resolve disputes between them, which at present appears to be a daunting task. There is always an uncertainty on bilateral cooperation between India and Pakistan but collaboration at multilateral forum will be comparatively easy to attain. Secondly, India's image of a big brother has to be changed. Smaller neighbours of India should feel comfortable with the idea of regional integration and not be apprehensive of it been an Indian project. In the second scenario, there is a role for China in South Asia but it has to be first agreed by the New Delhi.

China has always been watchful of South Asia and in last couple of decades there has been a change in its policy towards the region. Initially China perceived South Asia as a region dominated by western powers and ideologically opposed to it. 'China believed that South Asia was likely to be used by the western powers for undoing China's communist revolution' (Singh, 2003). Thus, it was a security centric approach of China towards South Asia that became India-centric approach after Sino-India war of 1962. After the 1962 war China developed a closer strategic partnership with Pakistan that is regarded as an anti-India alliance by many Indian analysts. Although, with time things changed due to development of closer economic ties between India and China. In short, there remained three different phases of Chinese policy towards South Asia. Firstly it was the security centric policy towards South Asia that was changed to an India centric policy but contemporary policy of China towards South Asia is of neutrality and engagement (Singh, 2003).

Foreign and strategic policy of a country is not permanent. This is a common phenomenon in international relations and for China big shift started in late 1970s. Promoting economic interest became guiding principles for Chinese foreign policy and due to this South Asia also acquired prominence in the overall foreign policy discourse of Beijing. Economic engagement of China with South Asian countries has increased lately. Chinese trade to South Asia increased from $40 billion in 2006 to $85 billion in 2011; bilateral investment increased from $500 million

in 2005 to \$2.8 billion in 2010. Seeking profit motivates this massive investment of China in South Asia (Brunjes, Levine, Palmer, and Smith, 2013). With this substantial economic investment, China would logically prefer a stable South Asia for safeguarding its economic interests.

Old paradigms have changed and issues of yore may not be of contemporary relevance. Keeping in mind the present reality one cannot discard role of China in South Asia. Whether China is a full-fledged member of SAARC or not its strong presence in South Asian region is quite visible (China is an observer of SAARC). There is a viewpoint that India's changed policy of constructive engagement in South Asia is also due to increasing role of China. It is difficult to establish these claims that Chinese policy in this region is India centric but it is quite apparent that China is active in South Asia ((Parajuli, 2010);(Mohan, 2013); (Sitaraman, 2013); (Malik, 2001)). China is making huge economic investments; increasingly making diplomatic moves to strengthen bilateral ties with South Asian countries that include India. It is also a noticeable fact that Pakistan and few political groups in Nepal support China's membership to SAARC but this proposal do not have support of India. Pakistan's support for China can be dismissed as an anti-India position but the same is not the case with other countries of South Asia. In the recently concluded 18th SAARC summit (2014-Kathmandu) demand for inclusion of China as a full-fledged member has become more strident. Even though demand of full membership was not approved, the declaration of 18th SAARC summit accepted enhancing of partnership with observer countries. Observer countries can now be dialogue partners of SAARC. According to the 18th SAARC Summit declaration,

> "[I]n furtherance of earlier decisions on establishing dialogue partnership with States outside the region, the Leaders appreciated the Study undertaken by the SAARC Secretariat to review and analyze the engagement with the existing Observers to establish dialogue partnership. The Leaders directed the Programming Committee to engage the SAARC Observers into productive, demand-driven and objective project based cooperation in priority areas as identified by the Member States".[3]

This is an indication that SAARC is now more open for collaboration with observer countries and China could play a bigger role in South Asia. China had already taken a number of leads in this direction. Chinese Vice Foreign Minister Liu Zhenmin who attended 18th SAARC summit at Kathmandu announced \$ 30 billion for infrastructure development in South Asia and 10,000 scholarships to young South Asians (Muni, 2014). China is increasing its engagement in South Asia and barring India other South Asian countries are not adherently opposed to the idea of its membership to SAARC.

Since in this paper we are making an argument of Sino-India partnership for Asian regionalism we need to examine reasons for India's discomfiture with the suggestion of Chinese membership to the SAARC. It is not that Indian foreign policy is guided by past events and Indian foreign policy establishment is not willing to look beyond 1962. India has few strong reasons to be suspicious of China. In this, foremost is Beijing's strategic closeness with Pakistan. Second is linked to border issues. China has resolved boundary disputes with number of countries including in South Asia but not with India and Bhutan. Thirdly, some of the

---

[3]For full declaration is available at:
http://www.narendramodi.in/ebooks/KATHMANDU%20DECLARATION%20d2014112801.pdf

international positions of China are opposed to India like, "China did restrain both the Asian Development Bank and lately even Japan, from supporting projects in India's northeastern state of Arunachal Pradesh. China is also opposing Indian oil exploration projects in what it considers disputed waters of Vietnam in the South China Sea" (Muni, 2014). With all these issues a cautious approach towards China from New Delhi is not unexpected. There is another apprehension and it is related to the functioning of SAARC. According to the prominent expert of South Asia Prof. SD Muni, a full-fledged membership of China to SAARC might create hurdles in taking prompt decisions. Prof. Muni is indicating to article X of the SAARC charter that is on decision-making. According to article X (i), "decision at all levels shall be taken on the basis of unanimity". He is also of the opinion that China's inclusion in SAARC may stimulate tension between India and Pakistan[4].

Without discarding India's apprehensions in regard to China there is another perspective. China is a growing world power and in all likelihood it will try to expand its range of influence just as India is trying to reach Southeast Asian region. Thus, Chinese role in South Asia is inevitable and with its economic power subsequently it will create a space for itself. If China is active in South Asian region and India is not averse to the Chinese presence then it opens up a prospect for cooperation. Earlier we have discussed that cooperation as a concept may not be objected but states can have its own calculations about such a proposal. In case of China, Indian position can change provided former also makes similar concessions. Testing ground for China will be Southeast Asia where it wants to limit Indian involvement. In next part we will discuss India's association with countries in the Southeast Asian region.

5   India's Role in Southeast Asia

We have presented a case that China has a role in South Asia in the changed scenario. Number of South Asian countries is more than willing to provide space to China in SAARC. Likewise, it is also important to note that the ASEAN members accept India as their partner. India and countries of Southeast Asian region shares historical and traditional relationship but there was considerable gap in this relationship during the cold war. Before collapse of the Soviet Union (1991), India and many countries of Southeast Asian region had different strategic perspectives. For ASEAN, India was a friend of the Soviet Union. Similarly, India perceived ASEAN as close to the Western bloc. Meanwhile international relations have changed after fall of the Berlin Wall (1989) and it also influenced India's foreign policy. After collapse of the Soviet Union, India started establishing new relationships and partnerships in international relations. This was the time when New Delhi introduced its Look East Policy (LEP) to develop economic and political ties with the ASEAN (Amador, Bobillo, and Peñalber, 2011). The LEP delivered and India - ASEAN relationship entered into a new phase of political and economic closeness. As a result total trade between India and ASEAN that was $ 2.9 billion in 1993, within a decade it shot up to $ 12.9 billion in 2003 and in 2012 this figure crossed the $ 70 billion mark. Similar to economic partnership India and ASEAN also developed a strong political and strategic partnership (see Table 2).

India is an active partner of ASEAN and this relationship in all likelihood will get strengthened in future. There are two specific reasons for this fast growing smooth economic and

---

[4]Please see Institute for Defence Studies and Analyses (IDSA) video,
URL: http://www.idsa.in/video/ChinaandSouthAsianCooperation_sdmuni

Table 2: India - ASEAN Relationship

Year	Milestones
1992	India became a sectoral dialogue partner of ASEAN
1996	India became a full dialogue partner of ASEAN
1996	India became the member of ASEAN Regional Forum (ARF)
2002	India-ASEAN started annual summit
2005	India became a member of East-Asia Summit
2009	India-ASEAN signed Free Trade Agreement (FTA)

political partnership of India with ASEAN. One, after the breakup of the Soviet Union, India started looking for new avenues for expanding its economic ventures and political horizons. Southeast Asia was certainly a region that was most suitable for both economic and political requirements of India in the post-cold war world order. India had good relations with countries like Vietnam and it easily established strong diplomatic ties with Cambodia, Laos and Myanmar. Two, ASEAN member states also embraced India as a country that could provide a balance to China. India is a strong military and nuclear power of Asia and has considerable naval presence in Indian Ocean. This makes India a formidable partner for ASEAN members who are apprehensive of asserting China and also of its monopolistic claim on South China Sea (Hong, 2007). China is well aware of deepening strategic partnership between India and ASEAN. For this reason time and again China has attempted to block India's role in Southeast Asia. For example China is opposed to Indian state owned oil company's contract for oil exploration in Vietnamese maritime boundary (Pant, 2013).

Ironically both India and China are not comfortable with each other in South and Southeast Asia almost for similar reasons. Still the case of South Asia is somewhat different from Southeast Asia because the latter is a better integrated region compared to former. ASEAN is a notable regional organization carrying weight in international relations and also has a distinct identity. Therefore, in South Asia we can discuss the role of China but in case of Southeast Asia it has to be a trilateral cooperation between ASEAN, India and China. Some of the international political and economic positions of ASEAN, India and China are similar. All three are supporters of multilateral world order, impartial and fair international trade regimes, less interference by global powers in the internal affairs of Asia, etc. These converging positions in international relations can be a cementing factor between the three. There are other possibilities of deepening economic ties because according to some estimates economies of these three are all set to double in size to that of the American economy by 2030. The ASEAN, India and China with their present economic status and by future estimate are likely to dominate international relations and thus, trio needs to be more active in different international forums to pursue their agendas and should also contribute in international rule making (Zhang and Shen, 2012).

Cooperation between India, China and ASEAN is necessary but for this China must accept India's role in Southeast Asia. Although, China don't have much choice provided ASEAN has already keen on developing closer ties with India. Still Chinese opposition to India in this region will only make things complicated. On the other hand, we can approach this complex

situation from a different perspective. Cooperation at international level and economic and political linkages if not interdependence could possibly bring India and China close to each other. Such cooperative ventures will make India comfortable while dealing with China and vice-versa. On a more optimistic note, we can hypothesize that if China accepts and also facilitates a bigger role for India in Southeast Asia it will only help in promoting closer ties between the two countries and may prove advantageous for Asian regionalism. It is difficult to assume that without a complementary role for both China and India in South and Southeast Asia; Asian regionalism would meet projected targets (Francois, Pradumna, and Wignaraja, 2009).

It is also argued in this paper that nations do not remain reluctant to the idea of cooperation but circumstances sometimes influence their decisions. This paper presents that India and China have covered a long distance in their bilateral relations. The old memories of border disputes doesn't eclipse present ties between India and China; instead pragmatism is the guiding principle of contemporary partnership. It has also been established that China is actively engaged in South Asia and regarded as an important economic partner by all the South Asian countries. Similarly, the Indian role is also projected in Southeast Asia. Additionally, South and Southeast Asia by virtue of their economic growth are now in a position to influence the international economic system, provided the two giants i.e. India and China along with ASEAN cooperate with each other in promoting Asian regionalism.

Next question is how to proceed in the direction of interregional cooperation that we believe will open the prospects for Asian regionalism and here we have to search some functional areas of cooperation. What will be those areas of functional cooperation, which will link both South and Southeast Asia by involvement of India, China and ASEAN? Some prospective functional areas of cooperation such as infrastructure projects, energy security, collaboration in developing green technology, and collaboration in space technology are discussed in last part of this paper. There are few suggestions regarding how these functional areas will promote interregional cooperation between South and Southeast Asia with a definite role for India, China and ASEAN. Further research is required for making more concrete recommendations in regard to functional areas of cooperation.

6   Prospective Functional Areas of Cooperation

South and Southeast Asia are regarded as two fastest growing regions of the world. These enhanced economic activities have created several demands at regional level. The first and foremost is need for improved interregional infrastructure that will connect South Asia to Southeast Asia. A better physical connectivity is essential for increasing trade and for bringing people close to each other by providing cheap transportation. India, China and ASEAN can contribute in building this interregional infrastructure with their expertise as well as by financially supporting such big projects. Likewise, energy security is another sector in which India, China and ASEAN can work together. India is energy deficient country; also China is looking for improving its energy security. Southeast Asia can be a source of cheap energy both for India and China. Competition for securing energy resources between India and China in Southeast Asia will have its own repercussions on their relationship. Cooperation in this regard is essential and this is another functional area of cooperation for India, China and ASEAN.

Developing countries of both these regions are under constant international pressure for

adopting green technology. Particularly India and China comes under the category of highly polluting countries. India and China have drawn up joint strategies on climate change but these have been limited to resisting pressure from developed world on cutting the emission of greenhouse gases. While joint strategies at international forums are justified considering convergence of interest but this is not a solution to the problem. Climate change is a reality and green technology is the future. India and China along with ASEAN are capable of working together on research and projects for development of green technology. The three should promote joint ventures in the sphere of 'green industries'. This can become a game changer as far as the relationship of India and China is concerned.

Another important functional area where there is a possibility of collaboration between India, China and ASEAN is space technology. India and China have considerable achievement in space technology and this can appropriately be used for benefit of both the regions. Advantages of satellites and other space technologies are manifold. Both these regions will derive immense benefits if India and China were to work together to develop facilities related to space technology for common use of South and Southeast Asian countries. Collaborative functioning on sophisticated areas of science and technology will also help in fostering better ties between these two countries.

Service sector related to information technology, tourism and health could be developed in both the regions through joint projects supported by India, China and ASEAN.

While arguing for cooperation in functional areas it is also important to note that one should not make too many ambitious plans but take small steps in the beginning. Success has to be assessed and shortcomings have to be rectified.

7   Conclusion

To summarize, this paper has four specific points. First, theoretically neo-functionalist perspective is applied for supporting the idea of Asian regionalism with an assumption that it is be possible only by cooperation between India and China and with the support of ASEAN. Second, there is an important role of China in South Asian regionalism. China is already active in the region and criticism of India as being a regional hegemon will dilute with China getting more space in South Asia. Third, India can be supportive of China's role in South Asia if the level of cooperation between the two countries improves. For this, China should desist from blocking India's role in Southeast Asia and the three (India, China and ASEAN) should work together in functional areas. Fourth, joint projects in functional areas between India, China and ASEAN will lead to interregional cooperation and this is the way for Asian Regionalism.

References

Acharya, A. (2008): "India-China Relations: Towards a 'Shared Vision'," *Economic and Political Weekly*, 43(4), 10–13.

Ahmad, S., and E. Ghani (2007): *South Asia Growth and Regional Integration.* Macmillan India Ltd, New Delhi.

Amador, J. S., A. Bobillo, and A. Peñalber (2011): "Issues and Challenges in ASEAN–India Relations Political-Security Aspects," *India Quarterly: A Journal of International Affairs*, 67(2), 111–127.

Bhashin, M. (2008): "India's Role in South Asia–Perceived Hegemony or Reluctant Leadership?," *Indian Foreign Affairs Journal*, 3(4).

Boillot, J.-J., and M. Labbouz (2006): "India-China Trade: Lessons Learned and Projections for 2015," *Economic and Political Weekly*, 41(26), 2893–2901.

Brunjes, E., N. Levine, M. Palmer, and A. Smith (2013): "China's Increased Trade and Investment in South Asia (Spoiler Alert: It's The Economy)," in *Workshop in International Public Affairs*.

Crossette, B. (2008): "Indira Gandhi's Legacy Vying for Mastery in South Asia," *World Policy Journal*, 25(1), 36–44.

Dash, K. C. (2008): *Regionalism in South Asia: Negotiating cooperation, institutional structures*, vol. 8. Routledge.

Dinan, D. (2004): *Europe recast: a history of European Union*, vol. 373. Palgrave Macmillan Basingstoke.

Fawcett, L. (2012): "The history and concept of regionalism," in *European Society of International Law (ESIL) Conference Paper Series*, no. 4.

Francois, J., B. R. Pradumna, and G. Wignaraja (2009): "Introduction and Overview," in *Pan Asian Integration Linking East and South Asia*. Palgrave Macmillan.

Gilpin, R. (2011): *Global political economy: Understanding the international economic order*. Princeton University Press.

Grieco, J. M. (1988): "Anarchy and the limits of cooperation: a realist critique of the newest liberal institutionalism," *International organization*, 42(03), 485–507.

Haas, E. (1964): *Beyond Nation-State: Functionalism and International Organization*. Standford University Press.

Hong, Z. (2007): "India and China: rivals or partners in Southeast Asia?," *Contemporary Southeast Asia: A Journal of International and Strategic Affairs*, 29(1), 121–142.

Keohane, R. O. (1984): *After hegemony: Cooperation and discord in the world political economy*. Princeton University Press.

Lindberg, L. N. (1966): "Integration as a source of stress on the European Community system," *International Organization*, 20(02), 233–265.

Malik, J. M. (2001): "South Asia in China's foreign relations," *Pacifica Review: Peace, security & global change*, 13(1), 73–90.

MANSFIELD, E. D., AND E. SOLINGEN (2010): "Regionalism," *Annual Review of Political Science*, 13, 145–163.

MILWARD, A. (2005): *Politics and Economics in the History of the European Union.* Routledge.

MITRANY, D. (1966): *A working peace system*, vol. 205. Quadrangle Books.

MOHAN, C. R. (2013): *South Asia Rising.* http://www.cprindia.org.

MORGENTHAU, H. J. (1967): *Politics Among Nations The Struggle for Power and Peace.* JAlfred A Knopf.

MUNI, S. D. (2014): "A Disappointing SAARC Summit Rivalry Between India and Pakistan Overshadows Meeting of South Asian Country Leaders," *Al Jazeera.*

MUNI, S. D., AND R. JETLY (2008): "SAARC: The Changing Dimension," *UNU-CRIS Working Paper, W-2008/8*, pp. 1–27.

PANT, H. V. (2013): "The South-China Sea: A New Era in Chinese-Indian Rivaraly," *The Nation.*

PARAJULI, A. (2010): "China's Growing Role in South Asia," *Daily Times.*

PRYS, M. (2013): "India and South Asia in the world: on the embeddedness of regions in the international system and its consequences for regional powers," *International Relations of the Asia-Pacific*, 13(1), lct004.

RUSKO, C. J., AND K. SASIKUMAR (2007): "India and China: from trade to peace?," *Asian Perspective*, 31(4), 99–123.

SINGH, S. (2003): *China-South Asia, issues, equations, policies.* Lancer's Books.

SITARAMAN, S. (2013): "Is South Asia moving into the Chinese orbit and setting off alarm bells in New Delhi," *Foreign Policy Journal*, 31(4), 99–123.

THE EUROPEAN COMMISSION (2014): "Winston Chruchill: Calling for a United States of Europe," Discussion paper, The European Commission.

THOMPSON, W. (2002): *The emergence of the global political economy.* Routledge.

TRIPATHI, D. (2013): "Is South Asia moving into the Chinese orbit and setting off alarm bells in New Delhi," *UNU CRIS Working Papers.*

WALT, S. M. (1990): *The origins of alliance.* Cornell University Press.

WUNDERLICH, J.-U. (2008): *Regionalism Globalisation and International Order Europe and Southeast Asia.* Ashgate Publishing, Ltd.

ZHANG, Y., AND M. SHEN (2012): "Emergence of ASEAN, China and India and the regional architecture," *China & World Economy*, 20(4), 92–107.

ZHU, Z. (2011): "India-China Relations in 21st Century: A Critical Inquiry," *Indian Journal of Asian Affairs*, 24(1-2), 1–16.

Örgüt ve Yönetimde Makina Metaforunun Açmazları: 'Interregnum'da Ontolojik ve Epistemolojik Yenilenme

Ahmet Hakan Yüksel*

Işık Üniversitesi

Özet

Newton paradigmasının filtresinden dünyaya bakan modernist düşünce akımı nesnel ontoloji ve buna bağlı olarak gelişen mekanik epistemoloji ve enstrümantal praksiyoloji varsayımı altında örgütleri birer makina olarak tasavvur etmiştir. Örgütlerin, denge halini muhafaza etme eğiliminde, determinist, rasyonel olarak tasarlanmış, parçaların toplamından oluşan bir bütün olarak algılanması, 19.yüzyıldan itibaren yönetim kuramlarının şekillenişini etkisi altına almıştır. Ancak, ağ tipi bütünleşmenin sonucunda eşi görülmemiş biçimde karşılıklı olarak bağlı ve bağımlı olunan küresel bir sistemde, umulmayan fırtınalar artık bir kelebeğin kanat çırpmasıyla tetiklenebilmektedir. Akışkanlar çağında, muazzam hacimdeki veri ve enformasyon paylaşılarak ağdaki aktör sayısı kadar farklı yorumların etkileşime girmesine ve nitel olarak benzersiz hallerin ve anlamların doğmasına neden olmaktadır. Böyle bir ortamda örgüt ve yönetim çalışmalarında modernist ontoloji ve epistemolojinin ışığında ilerlemenin mümkün görünmediği yönündeki görüşler güçlenmektedir. Bu kavramsal çalışmada, günümüzde ve gelecekte örgüt ve yönetim bilim alanındaki araştırmalara yön verecek bir yaklaşım olarak, özellikle son yirmi yıldır artarak rağbet gören kompleksite kavramının varsayımlarından hareketle ontolojik ve epistemolojik dönüşüm ihtiyacının teşhisi, makina metaforunun ussal köklerine atıfta bulunularak konulmaya gayret edilecektir.

Anahtar Kelimeler: Örgütsel yönetim, kompleksite, doğrusal-olmayan sistemler, modernizm, akışkanlık, innovasyon

1 Giriş

Son birkaç on yılda yaşanan gelişmeler işletmecilik faaliyetlerinin yürütüldüğü küresel ortamın başkalaşmasına yol açmıştır. Geçmişi, bilgisayarın temellerini attığı kabul edilen Charles Babbage'ın 'Difference Engine' ve 'Analytical Engine' adını verdiği, matematiksel hesaplama yapabilen ve hesaplama sonuçlarını hafızasında depolayabilen cihazları icat ettiği 1830'lu yıllara

---

*E-mail: hakan.yuksel@isikun.edu.tr, İşletme Bölümü, Şile, Istanbul, Turkiye

kadar uzanan teknolojinin gelişimi yeni boyut ve derinlikler kazanarak sürmektedir (Collier ve Maclachlan, 1998). Kaynak akışkanlığı ve hacmi tarihte benzeri görülmemiş seviyelere ulaşarak tüm küresel aktörler (belirleyici değişkenler) arasında etkileşime dayalı bir ağ örmüş ve ülkeleri, toplumları ve haliyle tüm örgütsel yapıları birbirilerine bağlı ve bağımlı hale getirmiştir (Held ve McGrew, 2003); (Kamoche, Cunha, ve Cunha, 2002). Değişkenler arasındaki bağlantıların doğuracağı sonuçları doğrusal (linear) yaklaşımlar ile öngörebilmenin mümkün olmadığı pazar ortamında hedef koymak, planlama yapmak, rekabet etmek, büyümek gibi kavramların irdelenirken geleneksel bakış açılarını terk etmek gerektiği yönündeki kanaat güçlenmektedir. Doğrusal olmayan (nonlinear) dinamiklerin sosyal bilimlere, dolayısıyla da örgütsel yönetim bilim alanına uyarlanmasının geçerli küresel pazar koşullarında hayatta kalmayı mümkün kılacak örgütsel bünyenin tesis edilmesi için gerekli olduğu, özellikle son yirmi yıldır sıklıkla vurgulanmaktadır.

Görülen o ki, örgüt ve yönetim alanındaki çalışmaların tarihsel süreçte benimsediği mekanik ontoloji ve bunun şekillendirdiği mekanik epistemolojinin dayattığı, örgütsel görüngünün uzay-zamanda sistematik olarak birbirine bağlı nesnel bileşenlerden meydana geldiği yönündeki hakim algı (Tsoukas ve Cummings, 1997) pek de kolay aşılabilecek gibi görünmemektedir. Pozitivizmin yücelttiği rasyonelliğe olan kuvvetli inanç ussal süreçlerde tutunmaya devam etmektedir. Bir diğer deyişle, örgütsel yönetim ile ilintili konularda ürettiğimiz fikirler, bundan sakındığımızı sansak dahi, makina metaforundan hatırı sayılır derecede etkilenmektedir. Örneğin, gerek bilimsel yazının gerekse iş hayatındaki uygulayıcıların söz dağarcığının en değerli birkaç kelimesinden birisi olarak ön plana çıkan inovasyon (yenileşim) konusundaki söylemlerde iş süreçlerinde yeni kabiliyetler edinmeyi ifade eden etkili olmaktan (effectiveness) ziyade etkinlik (efficiency) vurgusunun daha ön planda olduğu gözlemlenebilmektedir.

Modernist düşünce akımının bir uzantısı olan neden-sonuç ilişkilerine vakıf olduğumuz yönündeki varsayım güncelliğini muhafaza etmektedir. Morgan (2006)'in ifade ettiği üzere örgütleri betimlerken bir bütün içerisinde, işlevi belirli parçaların ait oldukları yönetsel tasarımın öngördüğü şekilde birbirleri ile mekanik bağlantı kurduğu varsayılmakta ve aslında onlardan bir makinaymış gibi bahsedilmektedir. Bir makinadan ne bekleniyor ise örgütlerden de aynısı talep edilmektedir. Bütünü oluşturan aktörlerin tamamının iletişim ağları ile birbirine bağlı olduğu, dolayısıyla bu aktörlerin herhangi birinin alacağı kararın tetikleyeceği olaylar zinciri neticesinde ilk bakışta ilintisiz görünen aktörlerin dahi bu karardan etkileneceği küresel ortamın varlığını yadsımak mümkün değildir. Küresel sistemde akmakta olan muazzam miktardaki veriyi yorumlayabilen ve anlamlandırabilen bir yönetim düşüncesi arayışlarının hız kazanmasının nedeni burada aranabilir.

Sanayi devrimi ile birlikte hayatın her alanına nüfuz etmiş olan makinaların sağladığı imkanlar, kolaylıklar ve verimlilik artışından etkilenerek başlayan makinaya öykünmek belirsizliğin bir norm haline geldiği bir çağda sürdürülemez ise makina metaforu ne ile ikame edilebilir?

Bu kavramsal çalışmada örgüt ve yönetim bilim alanındaki ontolojik ve epistemolojik evrim ve bunun getirdiği 'interregnum' durumunun izahı amaçlanmaktadır. Bunun için önce konunun tarihsel boyutunun irdelenmesi ve yirminci yüzyılın başlarından itibaren bilimin ve sanatın her alanına hakim olan modernist düşünce akımının örgüt ve yönetim çalışmaları üzerindeki etkisinin makina metaforu aracılığıyla ortaya konmasında yarar vardır. Ardından akışkanlık kavramı irdelenerek doğrusal olmayan (nonlinear) kompleks sistemler yaklaşımının örgüt ve yönetim bilim alanına uyarlanmasının hülasası yapılarak günümüzdeki belirsiz ontolojik ve epistemolojik yenilenmenin gereği teşhis edilecektir.

2 'Her Şey Tahmin Ettiğimiz Gibi': Modernizm, Rasyonalite ve Mantık

Rasyonel kelimesinin çağrıştırdıkları düşünüldüğünde anlam yapısının kendisinden pek de umulmayan bir muğlaklık içerdiği görülmektedir. Rasyonalite, Yunanca'dan gelen kök kelime olan logos'un (ki bu kelime de bir fiil olan toplamak, seçmek, ayıklamak manasına gelen legein'den türemektedir) bünyesinde barındırdığı çift manalı olma durumunu yansıtmaktadır (Toulmin, 2001). Kelimenin özü hem, oluştukları koşullara bağlı olarak hareket ve davranışların gerekçelerini (mantığını) açıklamaya, hem de ölçme ve hesaplamaya dayalı göreliliğe (ratio) atıfta bulunur (Townley, 2008). İlki bağlama (context) dayalı olduğu için akla yatkın ya da mantıklı (reasonable) iken diğeri ölçme ve hesaplama temeline oturmuş yargıya bağımlı olduğundan rasyoneldir. Dolayısıyla Toulmin (2001)'e göre rasyonalite kelimesi hem 'kesin olma'yı, hem de 'mantıklı olma'yı içerdiği gibi belirsizlikle yaşamayı da kapsamaktadır, ki tarihsel olarak rasyonalitenin bu iki bileşeni arasında bir gerginlik olduğu bilinmektedir (Toulmin, 2001). Ancak şu da bir gerçek ki, bu iki bileşen aynı zamanda iç içe geçmiştir. Mantıklı olmak makul olmayı içerir ve sosyal iletişimin temelidir. Gözlemlenen bir davranış yahut söylemin rasyonel olduğunu iddia etmek aslında bu hareket ve söylemin buna dahil olmuş tüm insanlar tarafından eleştirilebilir veya savunulabilir olması anlamına gelir, ki böylece mantıklı olma zeminine oturtulabilir (Giddens, 1994). İşletmelerdeki çalışanların örgütsel uygulamaları mantıklı bulmadıklarında katılımcı ve verimli olmalarını beklemek olası değildir. Çalışanlara sunulan mantıklı (makul) sebepler ise alınan yönetsel kararlardır, ki bunlar da ekseriyetle ölçme ve hesaplamaya dayalı teknik modelleme süreçlerinin çıktılarıdır. Böylece mantıklı olmak, diğer bir deyişle, akla yatkınlık rasyonel olmanın yansıması olarak da yorumlanabilir.

Tarihsel olarak rasyonaliteyi uhrevi olandan dünyevi olana geçiş sürecinin somutlaşmış hali olarak ifade etmek mümkündür. Lune (2010), 16.yy'da başlayan ve 19. yüzyılın sonunda baskın hale gelen modernizm düşünce sisteminin temel dinamiklerini bu minvalde izah etmektedir. Modernizme göre dünyanın değişim süreci insan müdahalesi ile şekillendirilebilir ve yönlendirilebilir. Dolayısıyla, pozitif bilimdeki gelişmelerin verdiği imkanlar doğadaki olayların izah edilebilir olmasını sağlamıştır.Wagner (2012), insan aklının kapasitesinin dünyayı izah edebilir olmasının modernizm akımının önde gelen düşünürlerinin ön kabulü olduğunu ifade etmektedir. Pozitivist yaklaşım, metafiziğin yerinin felsefe olduğuna, felsefenin de bilim dışında kaldığına göre bilim tanımına giren bir araştırma alanının felsefeyle bağlarını koparması gerektiğini kabul etmektedir (Sargut, 2012). İzah edilebilirlik varsayımına göre 'bütün' (tümel nicelik), onu oluşturan parçaların işlevleri ve aralarındaki bağlantılar incelenerek anlaşılabilir. Neden-sonuç ilişkilerine vakıf olunması sayesinde bütünün davranışları tahmin edilebilir ve iyileştirilebilir. Böylece, aksayan parça kolaylıkla tespit edilerek yenisi ile değiştirilebilir. Bütünün parçaların toplamından ibaret oluşu ile ilgili farklı bir örneği psikoloji bilim disiplininde de görebilmekteyiz. Psikoloji bilim disiplini için önemli sayılan bir isim olan ve yapısalcılık okulunun da kurucusu kabul edilen Wilhelm Wundt, psikolojinin asli işinin insan bilincini tahlil etmek olduğunu ve insan bilincinin ise tıpkı anatomide olduğu gibi parçalara ayrılarak temel birimlerinin incelenebileceğini ileri sürmüştür (Sheldrake, 2003).

Yönetim düşüncesinin ve örgütsel çalışmaların kabul gören bir bilimsel disiplin olarak kendilerine yer bulması da bilimin ve rasyonalizmin düşünsel çıktılar üzerinde mutlak belirleyici olduğu modernist döneme denk gelmektedir (Tsoukas ve Cummings, 1997). Yönetim düşüncesinin somut olarak bilimsel görünürlük kazandığı 18. yüzyıl ve devamındaki tarihsel süreçte

resmiyet kazanması için hakim düşünce akımı olan modernizme uyum sağlamaktan başka seçeneği olmadığını düşünmek hatalı olmayacaktır (Cohen, 1994). Bu dönemde yönetim ve örgütsel konuların irdelenişinde makina metaforunun ön plana çıktığı görülmektedir. Morgan (2006) örgütsel imgeleri farklı türdeki deyim aktarımları ile ortaya koyduğu 'Images of Organization' adlı eserinde örgütlerin makina ile eş algılanmasının kökünü Smith (1776)'in 'Wealth of Nations'da çerçevesini çizdiği 'iş bölümü'ne kadar dayandığını ve makinaların yaygınlaşması ile onlara benzeme arzusunun güçlendiğini belirtmiş, Prusya imparatoru Frederick döneminde (1740-1786) ordunun standart parçalardan oluşan etkin bir mekanizmaya dönüştürülme sürecinin başarıya ulaşmasının sağladığı ilhamın da etkili olabileceğini vurgulamıştır.

Babbage (1832/1971), on bin adetten fazla satan ve muhtemelen ilk en çok satan yönetim kitabı olan 'On the Economy of Machinery and Manufactures' Clutterbuck ve Crainer (1990) adlı eserinde iş bölümünün önemini, el işçiliğinin makinalarca ikame edilmesinin gereğini ve planlama vurgusunu ön plana çıkarmaktadır (Sheldrake, 2003); (Morgan, 2006). Babbage'ın çağdaşı, bir doğa felsefesi ve kimya profesörü olan Ure (1835) ise yazılarında bilim sayesinde örgütlerin insanın keyfiyetinden kurtularak otomatik bir mekanizmanın himayesine girebileceklerini ifade etmektedir. Ure (1835)'e göre üretim, bünyesinde birçok düzensizlikler barındıran insanın el becerisinden muaf hale gelerek bir çocuğun bile kolaylıkla gözetimi altında sürebilecek öz düzenleme yeteneğine sahip bir makinaya dönüştürülmüş örgütler (işletmeler) tarafından yapılmalıdır. İsteksiz ve umarsız olan insan faktörünün iş görmede bu tür zaaflarından arınabileceği ve kendisini öngörülebilir bir düzenin parçası olarak görebileceği şekilde eğitime tabi tutulması hayati önem taşımaktadır. Ure ve Babbage'ın çalışmaları Taylor (1911)'in 'Bilimsel Yönetim' yaklaşımını geliştirmesine zemin hazırlamıştır. Taylor, işbölümü ve uzmanlaşmanın bir işin öğrenilmesi için gerekli zamanı azaltacağını ve işçinin becerilerini en üst seviyeye çıkaracağını öne sürmüş, bu iki kavramı adeta Bilimsel Yönetim anlayışının kalbine oturtmuştur (Leblebici, 2008). Böylece, rasyonel olma ve mantıklı olmayı modernist varsayımlar altında düşünürsek, örgütlerin bir makina olarak kabul edilmesi mantıklıdır, zira insanın çok değişkenli ve öngörülebilir olmaktan uzak bir varlık oluşu bilimsel bir vaka olduğundan rasyoneldir.

Bu noktada, modernist düşüncenin çalışan algısını McGregor (2006)'in ilk baskısı 1960 yılında gerçekleşen 'The Human Side of Enterprise' adlı eserinde ortaya koyduğu ve yönetimde motivasyon kuramları arasında hatırı sayılır bir yere sahip olan X ve Y Kuramları'nı anarak irdelemek yerinde olacaktır. McGregor (2006)'e göre her yönetsel karar ve hareketin ardında insan doğasına yönelik tutum ve varsayımların büyük önemi vardır. Buradan hareketle X Kuramı (Theory X) üç ana varsayımdan meydana gelmektedir. Birincisi, ortalama insanın işten ve çalışmaktan kaçınma eğilimidir. Bu nedenle, çalışması için zorlanmalı, sevk edilmeli ve kendini işe yeterince veremediği tespit edildiğinde ise bunun bedelini ödemelidir. İnsan sevk edilmek ister, sorumluluktan kaçar, hırslı değildir ve güvenlik ihtiyacı diğer her ihtiyacının önündedir. Y Kuramı (Theory Y) ise X Kuramı'ndan tamamen farklı olarak çalışmanın bir insani ihtiyaç olduğunu kabul eder. İnsanın kendini işine vermesi için zorlanması ve bedel ödetilmesi yerine hedeflerini benimsemesi yeterlidir. Böylece, öz denetim ve öz yönlendirme yapabilecektir. Ortalama insan uygun koşullar sağlandığında öğrenmek ister ve sorumluluktan kaçınmak bir yana, üstlenme eğilimindedir. Yönetsel uygulamalara nüfuz etmesi 1980'li yılları bulan bu yaklaşımdaki 'X Kuramı' varsayımlarının Charles Babbage, Andrew Ure ve devamında Frederick W.Taylor'ın yaklaşımlarında hakim olduğu görülebilmektedir. Üçünün de yaklaşımlarında çalışanların sevk edilmelerinin, sürekli denetim altında tutulmalarının ve verimi yetersiz bulunanın süratle tespit edilerek ikame edilebilmelerinin gereği vurgulanmaktadır. İnsanlar örgütsel

makinadaki bir parça olarak tanımlanmaktadır.

Modernist düşünce, tıpkı bir makinada olabildiği gibi, sosyal sistemlerin müdahaleye açık olmasından hareketle insanı bir değişim etmeni (agent) olarak tanımlanmaktadır. Bu, kendi kaderini çizebilme demektir. İzah edilebilen her şey tahmin edilebilir. Tahmin edebildiğimiz sürece de denge halini muhafaza edebiliriz. Dengenin muhafazası ve bozulduğunda tanımlanmış denge parametrelerine hızla geri dönülebilmesi modernist düşünce akımının önem verdiği bir husustur. Sistem, bu düşünce akımının belirleyici bir kavramıdır. Bütünü oluşturan bileşenler (kompozisyon), bu bileşenlerin birbirleri ile nasıl bağlandığı (yapı) ve bileşenlerin bütünü dengede tutabilecek biçimde etkileşime nasıl girdikleri (örgüt) hayati önemdedir (Merali ve Allen, 2011). Teknoloji ve rasyonalite ideolojisi modern Batılı işletme örgütlenmelerinde süreçlerin standart hale getirilmesini, hareketlerin meşruiyetinin izah edilebilir olmasını, nasıl karar verileceğinin belirgin ve öğretilebilir olmasını sağlar (March, 2008).
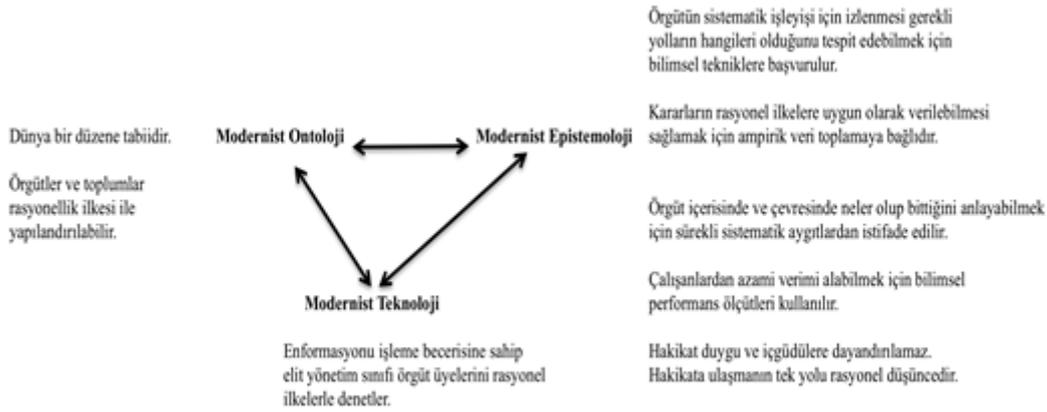
Şekil 1: Modernist Düşüncenin Üç Boyutu (McAuley, Duberley ve Johnson, 2007)

Örgüt ve yönetim alanında yapılagelmiş çalışmaların anlamlı hale gelebilmesi için şu üç sorunun yanıtlanması gerekmektedir. Birincisi, örgüt nedir? İkincisi, örgütleri yönetebilmek için ne tür bilgiye ihtiyaç vardır? Üçüncüsü ise, örgütsel olay ve süreçlerle ile ilgili nasıl hareket etmek gerekir? (Tsoukas ve Cummings, 1997). Birinci soru ontoloji ile, ikincisi epistemoloji ile, üçüncüsü ise praksiyoloji ile ilintilidir. Modernist düşüncenin bu üç boyutu arasındaki ilişki Şekil (1)'de ortaya konmaktadır.

Dünya, hakkında sahip olduğumuz bilgi düzeyi yükseldikçe insan hakimiyetine daha fazla giren bir sistem olarak görüldüğünde (Parker, 1992) belirliliğe ne kadar kıymet verildiği anlaşılmaktadır. Nitekim, deterministik sistemlerin en önemli özelliği neden-sonuç ilişkilerinin biliniyor olmasından hareketle sistemin yöneleceği durumun tahmin edilebilir olması, yani belirliliktir (Baransel, 1993). Mekanistik örgütlerin başlıca özellikleri arasında ileri derecede iş bölümü ve uzmanlaşmanın olması, her görev ve işlevle ilgili yetki, yükümlülük ve yöntemlerin net olarak tanımlanmış olması, görev ve rolleri yerine getiren kişilerin ana odak noktasının işlerini belirlenmiş yöntemleri izleyerek ve hakkıyla yerine getirmek olması, hiyerarşik düzene tabi olunması, hiyerarşide üst katmanlarında doğru karar verme olanağının arttığı yönündeki kanaatin güçlü olması gibi unsurlar sayılabilir (Baransel, 1993).

Hiyerarşinin örgütsel tasarım olarak rolünün vurgulanmasında yarar vardır. Tahmin edilebilirlik, hız, muğlaklıktan sakınma, örgüt içi bilginin ne olduğu ve ona nasıl ulaşılacağının bi-

linmesi, türdeşlik, keyfiyetten kaçınma, çatışma ve sürtünmenin oluşmasına imkan verilmemesi gibi modernist örgüt ve yönetim düşüncesinin vazgeçilmez bileşenleri ancak katı bir hiyerarşik yapılanmanın tesisi ile mümkün kılınabilir (Höpfl, 2015). Leavitt (2005) hiyerarşik örgütlenme tipinin, hakkındaki olumsuz tutuma karşın, varlığını günümüze kadar sürdürmüş olmasının bu yapılanma türünün kendine özgü avantajlarından kaynaklandığını ileri sürmektedir. Leavitt (2005)'e göre hiyerarşi, insanların aidiyet duygusunu ve statü artırmaya imkan verdiği için psikolojik ihtiyaçların tatmin etmekte, insanların dünyadaki konumlarını tanımlayabilmelerini sağlamakta, her ne kadar da özde bir yanılsama olsa da, güvenlik ihtiyacını gidermektedir. Modernist örgüt ve yönetim kuramları açısından ise hiyerarşi, düzen, denetim ve geleceğin tasarımı için gerekli rasyonel stratejik planlama için elzem bir yapılanma şeklidir.

Elit yönetim sınıfının varlığı da modernist örgüt ve yönetim kuramlarının bileşenlerinden biridir. Sanayi devriminin yönetici talebini artırması, mikro düzeyde yöneticiler grubunun, makro düzeyde ise yöneticiler sınıfının doğmasına yol açmıştır (Baransel, 1993). İşletmelerin artan iş hacmine bağlı olarak büyümesi ile ayrışan sahiplik ve yöneticilik (vekalet) modernist düşünce akımının etkisinde şekillenen klasik yönetim kuramlarında kuvvetli bir sınıf olarak vurgulanmaktadır. Bunun nedeni, yöneticilerin sahip oldukları yüksek eğitimin verdiği donanımla veriyi bilimsel olarak tahlil etme ve iş süreçlerinde etkinliği artırma kabiliyetine sahip olmalarıdır. Teknik kabiliyet vurgusunun bu kadar yoğun olması yönetici sınıfının mühendislik eğitiminden gelenlerden oluşması sonucunu doğurmuştur. Amerika Birleşik Devletleri'nde 1880 yılında kurulan *American Society of Mechanical Engineers* (Amerikan Makina Mühendisleri Derneği) bilimsel yönetimin doğuşunda ve yaygınlaşmasında önemli roller üstlenmiştir (Baransel, 1993).

Değişimin kaçınılmaz olduğu gerçeğini kabul eden modernist yönetim düşüncesi enformasyon miktarının ve akış hızının arttığı böylesi dönemlerde de denge halinin korunabilmesi için mühendislik bazlı yöntemler geliştirmeye gayret etmiştir. Örgüt değişim sürecinden geçerken dış çevreden örgüte doğru akan ve bünyede akan enformasyonun denetim altında tutulması gereğinden hareketle sibernetik sistem kullanışlı bir yapı olarak ön plana çıkarılmıştır (McAuley, Duberley, ve Johnson, 2007). Sibernetik, kontrol ve eşgüdüme odaklanarak örgüt tasarımı paradigmasının oluşmasına zemin hazırlamıştır (Merali ve Allen, 2011). 20. yüzyılın ilk dönemlerinde beliren sibernetik hareketinin en önemli katkısı, performansın ayarlanabilmesi için sistem bileşenleri arasında geribildirim döngüleri kavramını ortaya çıkarmasıdır (Merali ve Allen, 2011). Stacey (2001) sibernetik sistem kuramını ana hatları ile betimlemiştir. Sibernetik sistem insan faaliyetinin kontrolünü amaçlayan bir mühendislik fikridir. Yönetsel kararların alınmasında enformasyon akışının önemi artsa da temel vurgu örgütün bir makina oluşudur. Enformasyon paylaşımından insanlar arası iletişim kast edilmemektedir. Örgüt içi geribildirim döngüleri doğru tasarlandıklarında öz denetim ve öz ayarlama mümkün olur. Geribildirim döngüleri dairesel formda çalışırlar. Çalışanlar, yanlış giden bir şeylerle ilgili yöneticileri ile enformasyon paylaştıklarında, işlerin daha etkili nasıl görülebileceği yönünde yöneticilerin de kendilerine enformasyon sağlayacağı beklentisini taşırlar. Enformasyon akışı sıkı denetim altında olduğundan örgüt içerisinde olan biten her şey için kesin bir neden-sonuç ilişkisi olduğu varsayılır. Çevre ile örgüt arasında belirgin bir sınır vardır ve çevre-örgüt teması öngörülen yönetsel seviyelerden sağlanır. Sibernetik sistem, alt sistemlerde belli bir dozda çatışmaya müsamaha ile bakmakla birlikte denge halini koruma eğilimindedir. Sibernetik sistem yaklaşımı her ne kadar piyasaların ve küresel ortamın artan karmaşıklık seviyesine cevap verebilmek için yaşayan sistemler kavramına doğru bir ilerleme kaydetmiş olsa da temeldeki amaç, karmaşıklaşan süreçleri kontrol altında tutmak ve sistem bütünlüğünü sağlayacak ara yüzler geliştirmek olmuştur.

3 Katı Halden Sıvı Hale Geçiş ve Interregnum: Doğrusalın Terki

İlginçtir ki, sosyal bilimleri hegemonyası altına alan modernist düşünce akımının etkin bir anlamlandırma ve mantıklı kılma aracı olan makina metaforu yine bir makinanın, bilgisayarın, 20.yüzyıl boyunca kaydettiği süratli gelişimin ardından işlevsizleşme noktasına gelmiş görünüyor. 1950'li yıllarda, önce büyük firmaların üretim süreçlerine dahil olan bilgisayarlar 1960'lı yıllarda iletişim teknolojisi ile bütünleşik hale gelerek farklı bir boyut kazanmışlar ve günümüzde insanlar, toplumlar, ülkeler ve pazarlar arası yönetişimin dokusunu dönüştüren bir sürecin itici gücü olmuşlardır. Bilgisayarın çekirdeğinde yer aldığı bu devinim Internet'in hayatın her alanına nüfuz etmesi ile küresel bir metamorfoza dönüşmüştür. Internet devrimi olarak da adlandırılan bu metamorfozun karakteristik özelliği, daha önce görülmemiş miktarda veri ve enformasyonun, küresel düzlemde ağ tipi yapılanma ile birbirine bağlı aktörler arasında gerçek zamanlı olarak akışıdır (Li, 2007). Peki nasıl oldu da epistemolojisi gereği veri toplama ve tahlil etme yoluyla hayatı yorumlamaya dayalı bir düşünce sistemi, verinin ve enformasyonun bu kadar elverişli olduğu bir çağda tıkanma noktasına geldi? Bilgisayarın iş süreçlerinde kullanımının artması daha fazla işi daha hızlı görmemizi (Kelly, 1997) ve yüksek hacimde veri üretimini mümkün kılmakla birlikte ortaya çıkan durum bunun ötesinde bir mana taşımaktadır. Günümüzde gelinen noktada, karşılıklı bağlı ve bağımlı olma durumu ağdaki aktörlerin (insanlar, firmalar, pazarlar, toplumlar, vs.) her an iletişim halinde olmaları demektir. İletişim kanallarından kesintisiz ve artan hacimde akan veri ve enformasyonun ağdaki her aktör tarafından farklı yorumlanması ve her bir yorumun bir diğeri ile etkileşime girerek yeni manalar üretmesi, zamana meydan okuyan kalıcı tasarımların artık mümkün olamayacağını göstermektedir.

Zygmunt Bauman, 2000 yılında ve tüm dünyada yankı uyandıran 'Liquid Times' adlı eserinde katıların atomik yapıları gereği birbirlerine bağlanma şeklinin onlara istikrar ve zamanın etkilerine direnme niteliği kazandırdığını ifade etmektedir. Halbuki sıvılar akışkandır ve herhangi şekle sürekli tabi değildirler, dolayısıyla, zaman ve mekana sabitlenmezler. Katıların sahip olduğu kesin uzaysal boyutlar bir anlamda çarpışmaların etkisini sınırlandırır, ki burada Bauman (2000/2012)'in kast ettiği zamanın etkisinin nötralize edilebilme yetisidir. Buna karşın sıvıların şeklini aldıkları durum anlıktır ve akışkan olmanın bir sonucu olarak her daim değişim eğilimindedirler. O yüzden, sıvılar için asıl olan uzaysal boyutta kapladıkları hacimden ziyade zamanın seyridir. Akışkanlık fikri kendi içinde türdeşlik ve bağdaşıklığın tam karşıtı nitelikteki alt kavramları içerir (Styhre, 2007). Akışkanlık epistemolojisinin özünde 'var olma' durumu değil, 'sürekli olma' hali vardır (James, 1996). 'Sürekli olma hali' geçiş dönemleri, koalisyonlar ve 'olmakta olan şeyler'i kapsar (Michaels, 2000).

Günümüzde çoğunluğu yapılandırılmamış, sonu gelmez bir şekilde birikmeye devam eden ve üstel olarak büyüyen büyük veri (big data) gerçeği ile yüz yüzeyiz (Altunışık, 2015). Karar verirkenki bilişsel kısıtları nedeniyle enformasyonu işleme kapasitesinin sınırlı olması nedeniyle insanın ancak bir noktaya kadar rasyonel kalabildiğini (Simon, 1982) göz önüne aldığımızda, insan tasarımı mekanik örgütsel yapıların muazzam miktardaki veriyi ve enformasyonu işlemeye muktedir olması beklenemez. Neden-sonuç ilişkilerinin belirginliğini yitirdiği bir küresel çağda bütünü parçalara ayırarak işleyişini anlayıp öngörüde bulunabilmek olanak dahilinde değildir. Öngörü ve tahminde bulunmanın imkansız olduğu bir çağda Tsoukas (2005) açık-dünya epistemolojisini ileri sürer. Dünya, 'olma hali' sürecinde her an farklı bir şeye doğru dönüşmekte ve gelecek bilinebilir olmaktan uzaktadır. Örgütleri, tabandan tavana nedensellik ile şekillenen

yapılar olarak algılamak, akışkanlar çağındaki örgüt ve yönetim olgularının idrak edilmesine hizmet edebilir.

Makina metaforunun açmazının temelinde bilgi birikiminin (örgütsel hafızanın) özgün durumlarla baş edebilmedeki kifayetsizliği yatmaktadır. Çağımızın önemli düşünürlerinden Nassim Nicholas Taleb, tarihsel süreçlerin aklımızdan bile geçmeyen 'olasılıksızlıklar' tarafından şekillendirildiğini anlattığı 'The Black Swan' adlı eserinde, tahmin etmeye odaklandığı için sürekli modeller geliştiren ve bu modelleri iyileştirmeye gayret eden insanlığın geçmişinin hep tahmin edilememiş olaylar tarafından şekillendirildiğini ifade etmektedir. Taleb (2007), geçmişte tüm gözlem ve ampirik kanıtların kuğuların beyaz renkli bir canlı türü olduğunu ortaya koyduğunu, ancak Avustralya'nın keşfinin ardından siyah kuğunun tespit edilmesi ile tüm bu kanıtların çöktüğünü ifade etmektedir. Eserinin de ismi olan siyah kuğu burada deneyim ve gözleme dayalı bilgi birikiminin kırılganlığını işaret eden bir deyim aktarımı olarak kullanılmaktadır. Öngörü sınırlarının tamamen ötesinde ve etkisi itibariyle geri dönüşü mümkün olmayan sonuçlara yol açan olayların şekillendirdiği bir çağda doğrusalın (linear) terki kaçınılmaz olsa da asıl soru şudur: Doğrusal düşünce tarzı ne ile ikame edilecektir?

Bauman (2000/2012) bu soruyu işaret ederek bir 'interregnum'dan geçtiğimizi ifade etmekte ve çağımızı katı halden sıvı hale geçiş metaforu ile betimlemektedir. 'Interregnum', bugüne kadarki bilgi birikiminin ve geçmişten intikal etmiş iş görme yöntemlerinin, insanlığın mevcut şartlarına cevap vermediği, lakin yeni koşulların ortaya çıkardığı durumlar ile nasıl baş edilebileceğinin de henüz belirlenip hayata geçirilemediği bir dönemi anlatmaktadır. Bir anlamda katı halden akışkan hale geçişin sancılarının yaşandığı bir dönemdir. Doğrusalın (linear), doğrusal olmayan (nonlinear) ile ikamesi günümüzdeki sosyal bilimler ve elbette örgütsel yönetim alanındaki çalışmalarda gittikçe artan bir eğilim olarak gözlemlenebilmektedir. Meiss (1995), doğrusal olmama (nonlinear) durumunu matematiksel fonksiyonların içerdiği değişkenler arası ilişkilerin, beklenenden farklı sonuçlar üretmesi olarak anlatır. Cebirdeki doğrusallık $f(x+y) = f(x)+f(y)$ ve $f(ax) = af(x)$ özelliklerine sahip iken doğrusal olmayan kapsamında 'f', 'x' ve 'y' girdilerinin oransal olarak önerdiğinin dışında bir değere sahip olabileceğini vurgular. Bir diğer deyişle çıktılar, sistemdeki girdilerden beklenen katkı ve etkiler ile orantılı değillerdir (Cutright, 1997).

Goldstein, Hazy, ve Lichtenstein (2010)'in ekoloji biliminden yaklaşımlar geliştirdikleri çalışmalarında kullandıkları 'ekoloji' metaforu Bauman (2000/2012)'in teşhis ettiği 'interregnum'da örgüt ve yönetim çalışmalarında pusula işlevi üstlenebileceğini söylemek hatalı olmayacaktır. Ekolojiler kompleks sistemlerdir ve bu sistemler için geçerli olan bütünün toplamdan farklı olması, kendi kendisini örgütleme, türbülans, endüksiyon, evrim, tabandan tavana nedensellik, adaptif şebekeler (ağlar), tersine çevrilemezlik ve denge halinden uzak olma gibi kavramların işlerlik kazandığı sistemlerdir (Eren, 2015). Ekolojileri doğrusal tahlil ile inceleyebilme olanağı bulunmamaktadır. Goldstein, Hazy, ve Lichtenstein (2010) ekolojierin yedi temel özelliğinden hareketle bu metaforun örgütsel yönetim ve liderlik çalışmalarına rehberlik edebileceğini öne sürmüşlerdir.

Bu özelliklerden ilki ekolojilerin farklılıklardan oluşan sistemler olmasıdır. Bir ekolojinin komplekslik derecesi, barındırdığı çeşitlilik miktarı, bu çeşitliliği oluşturan farklı türlerin birbirleri ile ilişkileri ve girdikleri etkileşimin kuvvetine bağlıdır. Tam bu noktada 'etkileşim' kelimesinin (interaction) önemini vurgulamak yerinde olacaktır. Kompleks sistemler dengenin statiğinden uzak dinamik sistemlerdir ve sabit kurallara göre işlemeyip daimi olarak evrilirler (Maguire, Allen, ve McKelvey, 2011). Evrimin merkezinde ise etkileşim vardır. Etkileşim doğrusal olmayan (nonlinear) sistemlerde hayati öneme sahip bir kavramdır. Etkileşim, bütün

içerisinde bağlantılı tüm etmenlerin zamanla birbirlerinin içeriğini nitel olarak değiştirmesi demektir. Evrim tamamlandığında ortaya çıkan yeni durumu (ki buna yeni bütün de diyebiliriz) oluşturan etmenlerin tamamı öz benliklerini geri dönülmez olarak yitirmişlerdir.

Goldstein, Hazy, ve Lichtenstein (2010)'in bahsettiği ikinci özellik ise ekolojilerde çoktürelliğin (heterogeneity) uyumun kaynağı oluşudur. Farklılıklar mikro düzeyde düzensizlik ve dalgalanma yaratarak yeni biçimlerin oluşması için zemin hazırlar. Örgütsel bağlamda farklılığı 'yorum farkları' olarak düşünmek yerinde olacaktır. Nitekim yorum farkları deneyim ile birleşerek örgütsel dokuya özgün örtük bilgi (tacit knowlege) tabanını genişletirler. Farklı bilgi ve yorumlara sahip bireylerin etkileşime girmesi, her birinin tek başına başarabileceğinin ötesinde başarı göstermesini sağlayarak örgütün özgünlük geliştirebilme yeteneğini artıracaktır(Cohen ve Levinthall, 1990).

Üçüncü özellik, ekolojilerin etkileşim halindeki ekosistemlerin ilişki ağının toplamı oluşudur. Her alt sistem, hayati öneme sahip kaynakların (bilgi) farklı bileşen kompozisyonlarında ve miktarlarda aktığı bu ağdaki bağlantıların kesiştiği bir noktadır. Öyle ki, ağ genelindeki bu akışkanlık bir süre sonra tüm alt sistemleri öz tanım olarak da diğerlerine bağımlı hale getirir. Yukarıda bahsi geçen 'karşılıklı bağlı ve bağımlı' olunan küresel ortam tanımlamasını, kompleks sistemlerdeki bu niteliğin bir yansıması olarak görmek mümkündür.

Dördüncü özellik ekosistemlerin 'etkileşim rezonansı' gerektirmesidir. Ekolojiyi oluşturan ağ genelinde akan ve paylaşılan kaynaklar içerik olarak ne kadar zengin ise etkileşim rezonansı da o denli güçlü olur ve özgün sorunlara hızla uyum sağlama kabiliyeti artar. Etkileşim rezonansı, ekolojideki alt sistemler arasındaki ilişkilerin korunması ve beslenmesi ile güçlenebilecektir.

Beşinci özellik ise eş-evrim kavramıdır. Alt sistemlerin birbiri ile rekabet ederek bazılarının hayatta kalması ya da bir alt sistemin diğerini tüketmesi yerine simbiyotik ilişkiler kurarak birlikte eş-evrim geçirmeleri durumunu tasvir etmektedir.

Altıncı özellik, dengeden uzak olma halidir. Ekolojilerde basmakalıp bir tabir olan 'doğanın dengesi' söz konusu değildir. Dengeden uzak olma hali tüm alt sistemlerin beklenmedik koşullarla karşılaştıklarında onlara diğer alt sistemlerle ilişki içerisinde uyum sağlayabileceği kabiliyetler geliştirebilmeleri için gereklidir. Öngörülebilirliğin olduğu bir ortamda yeni kabiliyetler geliştirilemeyeceği için beklenmeyen gelişmeler yıkıcı olabilmektedir.

Goldstein, Hazy, ve Lichtenstein (2010) ekoloji metaforuna dayanarak bahsettiği son özellik ise ekosistemlerin birçok farklı seviyede var olmasıdır. Örneğin, bir orman, küresel ekolojideki bir alt sistem olmasına karşın başlı başına da bir ekosistemdir. Aynı şekilde ormandaki sinekler, mantarlar, kuşlar ve saymakla adeta bitmeyecek birçok tür, ekolojik bütünün bir parçası olmakla birlikte, kendi içlerinde birer ekosistemdir. Bu durumun, haliyle, 'makina ve parçaları' yaklaşımı ile hiçbir benzer yanı bulunmamaktadır. Ekolojik bütünü oluşturan alt sistemlerin iç içe geçmiş ilişkileri ve bu ilişkilerin mümkün kıldığı etkileşim nedeniyle sürekli eş-evrim geçirmeleri söz konusudur.

Bauman (2000/2012)'in süreksizliğe atıfta bulunduğu 'interregnum' dönemi Goldstein, Hazy, ve Lichtenstein (2010) ekoloji metaforu ve bunun üzerine inşa edildiği kompleksite yaklaşımı ile son bulabilir mi? Özellikle son birkaç on yılda örgüt ve yönetim alanındaki çalışmalar incelendiğinde belirsizlik ve dengesizlik ortamında hayatta kalabilmek ve rekabet edebilmek için sürekli yeni kabiliyetler kazanabilen örgütsel yapıların gerekliliğine vurgu yapıldığı dikkat çekmektedir. Modernist düşünce sistemi, örgüt kavramını rasyonel ilkeler esas alınarak yapılandırılmış, öngörülebilir, düzene dayalı, sürekli denetim altında, ölçülebilir performans ölçütlerini planlanan stratejik güzergahta ilerleyerek elde edebilen yapılar olarak tanımlamıştı. Ontolojik varsayımlar

bunlar olunca epistemolojik ve praksiyolojik içerik de buna uygun olarak şekillenmişti. Günümüzde çağın gerçeklerinden hareketle şekillenen düşünsel süreçler örgütsel ontolojinin değişimini gerekli kılmaktadır.

Örgütleri bir sosyal etkileşim ağı olarak yeniden tanımladığımızda yukarıda bahsi geçen kompleksite ilkelerini kapsayan ekolojiler için geçerli olan unsurların örgütlere de uyarlanabileceğini varsayabiliriz. İşletme bir ağ olarak düşünüldüğünde aslında her departman bir ekosistem ve her bir çalışan ise bu ağdaki bir bağlantı noktası olarak konumlandırılabilir. Ağda (işletmede) akan hayati kaynak ise bilgidir (knowledge). Enformasyon daha önce karşılaşılmamış ve bu nedenle de örnek alınabilecek bir uygulama bulunmayan özgün durumlara çare için kullanıldığında bilgiye dönüşür. Bilgi özgün durumlara (sorunlara) karşı kullanılabilen, örgüt tarihi boyunca yaşanmış sayısız deneyim ve perspektiflerin toplamının içinde var olan ve örgüt içi tüm sosyal bağlarda gömülü olan bir kaynaktır (Nagel, 2014). Beklenmedik gelişmelerle ve buhranlarla karşılaştığında özgün çözümler üretebilen bir örgüt olabilmek için sürekli bilgi yaratabilen bir sosyal iletişim bağlamının (context) tesis edilmesi gerekmektedir. Ortam sağlayıcılık ile örgüt içi mikro topluluklar arasındaki iletişimi muhafaza eden ve besleyen doğru bağlamın (right context) yaratılması kastedilmektedir, ki Krogh, Ichijo, ve Nonaka (2000) bu ortamı '*ba*' olarak adlandırmaktadırlar. '*Ba*' bilginin yaratılması için elzem olan paylaşılmış uzaya atfen kullanılan bir kavram olup 'etkileşim ağı' olarak tasvir edilmektedir. Etkileşim için gerekli iletişimin mutlaka fiziksel sınırları belirlenmiş bir ortamda yüz yüze gerçekleşmesi gerekmemektedir. '*Ba*' fiziksel, elektronik ve zihinsel tüm uzaysal boyutların birleştirildiği bir alandır. Krogh, Ichijo, ve Nonaka (2000)'e göre bilgi, dinamik, ilişkisel ve insana eylemlerine dayalı olduğundan mutlak hakikatten ziyade olay, koşul ve dahil olan insanlara bağlı olarak dokusal özgünlük içerir. '*Ba*' özü itibariyle bir bilgi uzayıdır ve örgütsel sosyal etkileşimin tüm ürünler bu uzayda gömülüdür. Stacey (2001) örgüt içi bilgi konusuna evrimsel bir bakış açısı ile yaklaşır ve bilgiyi 'anlam' (meaning) olarak tanımlar. Anlam, ancak insanlar arası iletişim ağında harmanlanabilir. İletişim kesintisiz olduğunda bunun yol açtığı sosyal etkileşim sürekli yeni anlamlar üreterek bunları harekete yansıtacaktır.

4 Sonuç

1990'lı yıllarda veri ve enformasyonun örgütlere (işletmelere) hızla akmaya başlamasıyla birlikte bunun yaratacağı avantajlarla ilgili büyük beklentiler yaratıldı. Yüksek hacimdeki bu veri ve enformasyonun işletmelerin değişen piyasa koşullarına uyum sağlayabilmesine imkan vermesi bir yana, onlara piyasaları şekillendirme gücü vereceği yönünde bir algı hakim oldu. Internet'le birlikte ortaya çıkan karşılıklı bağımlılığın, küresel sistemi nereye taşıyacağı idrak edilemedi. Internet, web siteleri üzerinden alışveriş yapılmasına imkan veren bir ara yüz gibi düşünüldü. 1990'lı ve 2000'li yıllarda yaşanan bir çok iktisadi, etik ve yönetsel sarsıntılar, tahmin, hesaplama, modelleme gibi rasyonel yöntemlerin siyah kuğular dünyasında bizi çaresiz bıraktığı gerçeğiyle yüzleşmemize neden oldu.

Dünyanın ücra bir yerindeki üreticinin aldığı kararın, coğrafi olarak ilintisiz bir bölgedeki pazarı umulmadık ölçüde etkileyebileceği görüldü. Türbülans ve volatilite gibi kelimelerin iş süreçleri için olağan olması, şoklara dirençli olmayı anlamsızlaştırmaktadır. Sarsıntılardan hasar almadan çıkmak modernist dönemin geçmişteki tahayyülünden ibaret bir hedef olarak görülmektedir. Taleb (2012), düzensizlikten kazançlı çıkma kavramını işlediği 'Antifragile' adlı eserinde, sarsıntılar karşısında esneyebilen (şoku soğurabilen), kendini hızla iyileştirebilen ve

uyum sağlayabilen örgütsel yapılardan bahsetmek için bile artık geç olduğunu vurgulamaktadır. Yeni çağın örgütsel yapılarının yüzleştikleri her nitel olarak benzersiz örüntüden tekamül ederek çıkabilmesi gerekmektedir.

Bir örnekle anlatmak gerekirse, seyir halindeki bir aracın karşısına bir duvar çıktığında bunun birkaç sonucu olabilir. Bu benzetimde aracı örgüt ve duvarı ise aniden beliren bir sarsıntı ya da özgün ve büyük bir sorun olarak düşünebiliriz. Birinci seçenek, araç duvara çarpar ve onarılamaz hasar alır. İkinci seçenek, araç duvara çarpar ancak sağlamlığı nedeniyle onarılabilir bir hasar ile atlatabilir. Üçüncü seçenekte, araç öyle sağlamdır ki duvarı delip geçebilir. Dördüncü seçenekte ise araç öyle esnek bir malzemeden üretilmiş olabilir ki çarptığında müthiş esneyerek darbeyi soğurur ve eski şekline geri döner. Ya da, araç duvarın içinden geçip gider. Böylece hasar almadığı gibi içinden geçtiğinin de tüm bilgisini kendisine katarak ilerler.

Yukarıda bahsedilen ve çağımızın düşünsel süreçlerine nüfuz eden kavramlara olan rağbet artmakla birlikte riski hesaplama, riski yönetme ve riskten kaçınma gibi rasyonel olma arzusundan kaynaklanan ve artık öğrenilmiş çaresizliğe dönüşmüş saplantılar 'interregnum'un uzamasına sebep olmaktadır. Duvarın içinden geçebilen yapılara doğru evrilmek akışkanlar çağında bir tercih değildir.

Ancak evrim sürecinde herhangi bir türün kendisine biraz daha zaman talep etme şansı olmadığı gibi günümüzün işletmelerinin hazırlık süresi talep etme imkanları bulunmamaktadır. İşletme yönetim zihniyetinin, modernizmin hayaletinden kurtularak işletmeleri bir sosyal etkileşim ağına dönüştürmeleri ve bu yolla dokusal özgünlüğü olan bilgi üreterek rekabetçi avantaj yaratmaları zorunludur. Örgütlerin, küresel işletmecilik ekolojisinin tabi olduğu evrimin etkisinde oldukları kadar, onu şekillendirebilecek kadar da aktif olmaları gerekmektedir. Akan bir nehirden alınan numune, nehrin sadece numunenin alındığı noktadaki ve andaki durumu hakkında bilgi sağlar. Numunenin alındığı an artık hiçbir şey aynı değildir. Alınan numunenin incelenmesi ile nehre dair yapılan tahmin boşa çıkmaya mahkumdur. Akışkanlar çağının doğrusal olmayan dünyasında örgüt ve yönetim çalışmalarındaki ontolojik ve epistemolojik dönüşümün gereği de nehrin aynı nehir olmadığını idrak etmekte yatmaktadır.

Kaynaklar

ALTUNIŞIK, R. (2015): "Büyük Veri: Fırsatlar Kaynağı mı Yoksa Yeni Sorunlar Yumağı mı?," *Yıldız Social Sciences Review*, 1(1), 45–76.

BABBAGE, C. (1832/1971): *On the Economy of Machinery and Manufactures*. Augustus M.Kelley, New York.

BARANSEL, A. (1993): *Çağdaş Yönetim Düşüncesinin Evrimi: Klasik ve Neo-Klasik Yönetim ve Örgüt Teorileri*. İÜ İşletme Fakültesi Yayınları, İstanbul.

BAUMAN, Z. (2000/2012): *Liquid Modernity*. Polity Press, Cambridge.

CLUTTERBUCK, D., AND S. CRAINER (1990): *Makers of Management: Men and Women Who Changed the Business World*. MacMillan, London.

COHEN, W. M., AND D. A. LEVINTHALL (1990): "Absorptive Capacity: A new perspective on learning and innovation," *Administrative Science Quarterly*, 35, 128–152.

COLLIER, B., AND J. MACLACHLAN (1998): *Charles Babbage and the Engines of Perfection*. Oxford University Press, Oxford.

CUTRIGHT, M. (1997): "Planning in Higher Education and Chaos Theory: A Model, A Method," in *Proceeding of Education Policy Research Conference*. Oxford University, Oxford.

EREN, E. (2015): "(Makro) İktisatta Gelişmeler: Yeni Bir (Makro) İktisada Doğru Mu?," *Yıldız Social Sciences Review*, 1(1), 1–36.

GIDDENS, A. (1994): "Reason Without Revolution?," in *Habermas and Modernity*, ed. by B. R. MIT Press, Boston.

GOLDSTEIN, J., J. K. HAZY, AND B. B. LICHTENSTEIN (2010): *Complexity and the Nexus of Leadership: Leveraging Nonlinear Science to Create Ecologies of Innovation*. Palgrave Macmillan, New York.

HELD, D., AND A. MCGREW (2003): "Globalization," in *The Global Transformation Reader: An Introduction to the Globalization Debate*. Polity Press, Cambridge.

HÖPFL, H. M. (2015): "Post-bureaucracy and Weber's Modern Bureaucrat," *Journal of Organizational Change Management*, 19(1), 8–21.

JAMES, W. (1996): *A Pluralistic Universe*. University of Nebraska Press, London.

KAMOCHE, K. N., M. P. CUNHA, AND J. V. CUNHA (2002): "Introduction and Overview," in *Organizational Improvisation*, ed. by K. K. N, C. M. P, and C. J. V. Routledge, New York.

KELLY, K. (1997): "New rules for the new economy: twelve dependable principles for thriving in the turbulent world," *Wired*, pp. 140–197.

KROGH, G. V., K. ICHIJO, AND I. NONAKA (2000): *Enabling Knowledge Creation: How to Unlock the Mystery of Tacit Knowledge and Release Power of Innovation.* Oxford University Press, New York.

LEAVITT, H. J. (2005): *Top Down: Why Hierarchies Are Here to Stay and How to Manage Them More Effectively.* Harvard Business School Press, Boston.

LEBLEBICI, D. N. (2008): "Yönetim Bilimi Açısından Klasik Dönemi Hatırlamaya İlişkin Bir Çalışma," *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 21, 99–118.

LI, F. (2007): *What is E-Business? How the Internet Transforms Organizations.* Blackwell, Oxford.

LUNE, H. (2010): *Understanding Organizations.* Polity Press, Cambridge.

MAGUIRE, S., P. ALLEN, AND B. MCKELVEY (2011): "Complexity and Management," in *The SAGE Handbook of Complexity and Management*, ed. by M. S, A. P, and M. B. The SAGE Publications, London.

MARCH, J. G. (2008): *Exploring Organizations.* Stanford Business Books, California.

MCAULEY, J., J. DUBERLEY, AND P. JOHNSON (2007): *Organisation Theory: Challenges and Perspectives.* FT Prentice Hall, Edinburgh.

MCGREGOR, D. (2006): *The Human Side of the Organization: The Annotated Edition.* McGraw Hill, New York.

MEISS, J. D. (1995): "Frequently Asked Questions About Nonlinear Science," Discussion paper.

MERALI, Y., AND P. ALLEN (2011): "Complexity and Systems Thinking," The SAGE Publications, London.

MICHAELS, M. (2000): *Reconnecting Culture, Technology and Nature: From Society to Heterogeneity.* Routledge, New York.

MORGAN, G. (2006): *Images of Organization.* The SAGE Publications, London.

NAGEL, J. (2014): *Knowledge: A Very Short Introduction.* Oxford University Press, Oxford.

PARKER, M. (1992): "Postmodern organization or postmodern organization theory," *Organization Studies*, 13(1), 1–17.

SARGUT, A. S. (2012): "Sosyal Bilim Olarak Örgüt ve Yönetim Araştırma Alanlari: Bilimsel Meşruiyet Sorunlari Nasil Aşilir?," *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 12, 1–16.

SHELDRAKE, J. (2003): *Management Theory.* Cengage Learning, Hampshire.

SIMON, H. (1982): *Models of Bounded Rationality.* MIT Press, Boston.

SMITH, A. (1776): *Wealth of Nations.* Stratton and Cadell, London.

STACEY, R. (2001): *Strategic Management and Organizational Dynamics: The Challenge of Complexity*. FT Prentice Hall, Edinburgh.

STYHRE, A. (2007): *The Innovative Bureaucracy: Bureaucracy in an Age of Fluidity*. Routledge, New York.

TALEB, N. N. (2007): *The Black Swan: The Impact of the Highly Improbable*. Penguin Books, London.

——— (2012): *Antifragile: Things that Gain from Disorder*. Penguin Books, London.

TAYLOR, F. W. (1911): *Principles of Scientific Management*. Harper and Row, New York.

TOULMIN, S. (2001): *Return to Reason*. Harvard University Press, Boston.

TOWNLEY, B. (2008): *Reason?s Neglect: Rationality and Organizing*. Oxford University Press, Oxford.

TSOUKAS, H. (2005): *Complex Knowledge: Studies in Organizational Epistemology*. Oxford University Press, New York.

TSOUKAS, H., AND S. CUMMINGS (1997): "Marginalisation and Recovery: The Emergence of Aristotelian Themes in Organization Studies," *Organization Studies*, 18(4), 655–683.

URE, A. (1835): *The Philosophy of Manufactures*. Charles Knight.

WAGNER, P. (2012): *Modernity: Understanding the Present*. Polity Press, Cambridge.

Abstract

The Impasse of the Machine Metaphor in Organization and Management: Ontological and Epistemological Rejuvenation during Interregnum

Ahmet Hakan Yüksel

The modernist stream of thought, which is built on Newtonian Paradigm, embraces a mechanistic ontology that is linked with a mechanistic epistemology and an instrumental praxeology leading to the emergence of the assumption that organizations should be treated as machines. The influential reflection of this view had been palpable. During the theory development process starting from 19th century, dominant assumptions such as equilibrium-seeking as an ultimate rational behavior, predictability of the ends by the deterministic analysis of the means and the whole being a sum of its parts shaped the very essence of the managerial thought. However, given the current level of global interdependence and interconnectedness major events could be triggered by the flap of a butterfly's wing. In an age of fluidity, where the amount of data being produced and shared has reached an unprecedented magnitude, the interaction among the agents pave the way to the emergence of qualitatively distinct phenomenon. This conceptual paper intends to diagnose the need to replace the prolonged assumptions that reigned throughout the history of organizational studies by the ones extracted from complexity thinking, which might serve as the kernel of the new organizational and managerial studies in the future.

Keywords: Organizational Management, Complexity Thinking, Nonlinear Systems, Modernism, Fluidity, Innovation.

Guide For Authors

Manuscripts should be submitted by one of the authors of the manuscript through the online Electronic Journal System (EDS) of Yıldız Technical University (http://eds.yildiz.edu.tr). Regardless of the source of the word-processing tool, only electronic PDF (.pdf) or Word (.doc, .docx, .rtf) files can be submitted through the EDS. If you send your article in LaTeX format, please send an email to the Editor-in Chief (donduran@yildiz.edu.tr). There is no page limit and required format for initial submission. A template will be sent to the accepted papers authors.