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Telefon/Phone: +90 312 431 34 84 - +90 555 888 24 26

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CONTENTS

CHAPTER 1

A COMPUTATIONAL INVESTIGATION OF THE CASH-IN-ADVANCE MODEL: A GLOBAL APPROXIMATION TECHNIQUE VIA CHEBYSHEV POLYNOMIALS

Orhan TORUL 7

CHAPTER 2

DIGITAL AUDIO BROADCASTING (DAB) AS A TOOL OF FUTURE RADIO

Mihalis (Michael) KUYUCU21

CHAPTER 3

CONCEPT OF WORK AND LEGAL CONSEQUENCES OF WORK OWNERSHIP IN THE TURKISH PRINTING SECTOR

Mehmet Deniz YENER, Sinan SÖNMEZ.....37

CHAPTER 4

AN EVALUATION ON MINIMALIST NARRATIVE ON THE EXAMPLE OF “ANA YURDU” MOVIE

Murat AYTAS, Serhat KOCA.....45

CHAPTER 5

FROM THE REPORTER ON THE STREET TO THE REPORTER ON THE DESK: EFFECTS OF DIGITIZATION ON JOURNALISTS ' WORKING CONDITIONS

Şadiye DENİZ59

CHAPTER 6

PALLIATIVE CARE TOURISM (PCT) AS ONE NEW FOCUS FOR MEDICAL TOURISM

Seyfullah GÜL69

CHAPTER 7

THE PARODY OF BYZANTIUM IN THE TURKISH CINEMA: THE PERFIDIOUS BYZANTIUM AND BYZANTINE INTRIGUES

Özge GÜVEN AKDOĞAN.....87

CHAPTER 8

LOGISTICS MANAGEMENT IN TOURISM

Hakan AKYURT, Mustafa ERGÜN 103

CHAPTER 9

EXAMINING MEDIATOR ROLE OF CHILDHOOD TRAUMAS OF PSYCHOLOGICAL COUNSELLORS BETWEEN THEIR SELF-EFFICACY AND JOB SATISFACTION

Ece CÖMERTPAY, Binnaz KIRAN 115

CHAPTER 10

SUSTAINABILITY OF ECONOMIC GROWTH AND ITS INCLUSIVENESS ON LABOR FORCE PARTICIPATION RATIOS IN TURKISH ECONOMY: CAUSALITY, IMPULSE-RESPONSE AND VARIANCE DECOMPOSITION ANALYSIS

Ömer Uğur BULUT, Murat AYKIRI 133

CHAPTER 11

TURKEY-GERMANY TRADE AND J-CURVE: A CRITICAL APPROACH

Reşat Can AKKAY 149

CHAPTER 12

A REVIEW OF DIFFERENT FACETS IN ORGANIZATIONAL CREATIVITY STUDIES

İlge KURT 173

CHAPTER 13

CLEARANCE PROCESS of WINDOW DRESSING ACTIVITIES for BALANCE SHEET

Orkun BAYRAM 187

CHAPTER 14

THE IMPACT OF EXTERNAL DEBT AND ECONOMIC GROWTH ON BRICST COUNTRIES INFLATION RATES

Hüseyin ÇETİN 201

CHAPTER 15

WHO IS THIS WOMAN IN THE BYZANTINE EMPIRE?: MARİA SKLERAINA

Dilek Maktal CANKO 215

CHAPTER 16

**THE EFFECT OF CORPORATE BRAND AUTHENTICITY ON BRAND LOYALTY:
AN EMPIRICAL RESEARCH**

Murat ÇAKIRKAYA, Kazım KARABOĞA 225

CHAPTER 17

ARTIFICIAL INTELLIGENCE APPLICATIONS IN ACCOUNTING AND AUDITING

Hülya BOYDAŞ HAZAR..... 249

CHAPTER 18

**A COMPUTATIONAL INVESTIGATION OF THE NEOCLASSICAL GROWTH MODEL VIA
VALUE FUNCTION ITERATION**

Orhan TORUL..... 265

**A COMPUTATIONAL INVESTIGATION OF THE
CASH-IN-ADVANCE MODEL:
A GLOBAL APPROXIMATION TECHNIQUE VIA
CHEBYSHEV POLYNOMIALS**

Orhan TORUL¹



¹ Assistant Professor, Department of Economics, Bogazici University, Bebek, Istanbul, Turkey.

Introduction

The advent and uprise of modern neoclassical economics have given substantial importance to the incorporation of rigorous theoretical microeconomic principles and optimizing behavior for analyzing macroeconomic fluctuations. Since the “neoclassical revolution”, studies on macroeconomic fluctuations have been making attempts to discover, explain and match key features of business cycle fluctuations by employing mathematical models of optimization, contrary to “naïve” Keynesian principles; and radically changing the norm for the conduct to study of modern macroeconomics.² The standard real business cycle (hereafter RBC) theory has been observed to exhibit decent performance at accurately matching most of the observed joint time-series variations, which enables the standard RBC set-up to become the workhorse model for the study of key macroeconomic dynamics.^{3,4}

The basic RBC model has been extended to investigate many economic issues. In one of these studies, Cooley and Hansen (1995) analyze and discuss nominal and real macroeconomic dynamics under a cash-in-advance model environment where households are mandated to keep money for purchasing the “cash good”. The incorporation of further features into the standard RBC framework has led to the use of complex models where analytical solutions are no longer plausible. However, thanks to the substantial progress in computing technologies in recent decades, powerful hardwares serve to solve complicated problems despite lacking appropriate “instructions” how to handle and solve numerous systems of equations. While Schmitt-Grohe, S. and Uribe (2004) propose a canonical local-approximation algorithm which is quite cost-efficient and accurate for the estimation around steady-state, it lacks precision once the economy drifts away from the balanced growth path.⁵ Global approximation methods do a much better job at approximating the non-linear equation systems when there are sharp movements dragging the economy away from the steady-state, and the Chebyshev approximation technique is one of the most extensively used algorithms for global approximation analyses.⁶

In this study, I investigate the behavior of fundamental macroeconomic variables in a cash-in-advance model by Cooley and Hansen (1995) via global approximation methodology. In particular, I employ an extended business cycle model to simulate and analyze the dynamics of a representative household economy not only in the neighborhood of its steady-state, but also in relatively distant neighborhoods via the Chebyshev global approximation technique. I report that my quantitative simulation results of volatility and correlations match those by Cooley and Hansen (1995) closely. Further, I illustrate that the corresponding value function well-behaves in this model economy. The outline of the rest of the study is organized as follows: in section 2, I describe the model environment and key equations, in section 3 I report my results and comments, and section 4 concludes.

² For excellent surveys on these studies, see Long and Plosser (1983), Plosser (1989), Rebelo (2005) among others.

³ Despite the extensive and widespread use of this methodology, the RBC model also has major limitations, the most important of which are that the RBC model is taking the total factor production shocks as exogenous rather than endogenous, which implies that while basic RBC model achieves to “explain” joint irregularities, it is far from accurate to “foresee” them; and the model does a poor job at matching prices accurately.

⁴ For some of the studies on the statistical accuracy in matching power of RBC models, see King and Rebelo (1999) and Cooley and Hansen (1995) among others.

⁵ For an application of the Schmitt-Grohe, S. and Uribe (2004) approximation, see Torul (2017).

⁶ For an elaborate discussion on the Chebyshev approximation, see Judd (1998).

Model and Environment

Household

In this model economy, there are two types of consumption goods named after their payment method: the cash good (c_1) and the credit good (c_2). The bond market opens first, and the representative household is obliged to keep sufficient money to purchase the cash good.

The problem of the representative household is to maximize the discounted life-time utility, subject to the budget and cash-in-advance constraints given prices and policies. Formally, the representative household solves:

$$\max_{\{c_{1t}, c_{2t}, h_t, k_{t+1}, b_{t+1}, m_{t+1}\}_{t=0}^{\infty}} E_0 \sum_{t=0}^{\infty} \beta^t u(c_{1t}, c_{2t}, h_t)$$

subject to

$$P_t c_{1t} \leq m_t + (1 + R_{t-1})b_t + T_t - b_{t+1}$$

$$c_{1t} + c_{2t} + k_{t+1} + \frac{m_{t+1}}{P_t} + \frac{b_{t+1}}{P_t} \leq w_t n_t + r_t k_t + (1 - \delta)k_t + \frac{m_t}{P_t} + (1 + R_{t-1})b_t + T_t$$

where β denotes time-invariant discount factor, c_{1t} denotes consumption of cash good, c_{2t} denotes consumption of credit good, h_t denotes labor (normalized to 1), k_t denotes period t capital, z_t denotes total factor productivity shock, P_t denotes price level, T_t denotes lump-sum transfer, R_{t-1} denotes real return on bonds, w_t denotes real wage, r_t denotes real return on capital, and m_t and b_t denote period t money and bond holdings, respectively⁷. Regarding the functional form of the utility function, I assume a conventional well-behaved form with “indivisible labor” so that utility function is linear in h_t :

$$u(c_{1t}, c_{2t}, h_t) = \alpha \log(c_{1t}) + (1 - \alpha) \log(c_{2t}) - \gamma h_t$$

Let M_t denote the money balances of government as of time t , the details of which will be discussed shortly. I define $\hat{m}_t \equiv \frac{m_t}{M_t}$, $\hat{p}_t \equiv \frac{P_t}{M_{t+1}}$ and $\hat{b}_t \equiv \frac{b_t}{M_t}$. Further, let $M_{t+1} = e^{\mu_t} M_t$ be the rule that the government follows for money growth. Then, using the new variable definitions, together with non-wastefulness assumption due to locally non-satiated preferences, the cash-in-advance and budget constraints can be written as follows:

$$c_{1t} = \frac{\hat{m}_t + (e^{\mu_t} - 1)}{\hat{p}_t e^{\mu_t}} + \left[\frac{(1 + R_{t-1}) \hat{b}_t - e^{\mu_t} \hat{b}_{t+1}}{\hat{p}_t e^{\mu_t}} \right]$$

$$c_{2t} = (1 - \delta)k_t - k_{t+1} + w_t h_t + r_t k_t - \frac{\hat{m}_{t+1}}{\hat{p}_t}$$

⁷ Throughout the model, I assume government does not involve distortionary taxes or government purchases. Further, for the sake of simplicity, government bonds B_t are assumed to be zero at all times for all t .

The resultant Bellman equation follows:

$$\begin{aligned}
 V(z_t, \mu_t, k_t, \hat{m}_t, \hat{b}_t) = & \max_{c_{1t}, c_{2t}, h_t, k_{t+1}, \hat{b}_{t+1}, \hat{m}_{t+1}} \{ \alpha \log(c_{1t}) + (1 - \alpha) \log(c_{2t}) - \gamma h_t \\
 & + \beta E_t V(z_{t+1}, \mu_{t+1}, k_{t+1}, \hat{m}_{t+1}, \hat{b}_{t+1}) \\
 & + \psi_t \{ \frac{\hat{m}_t + (e^{\mu_t} - 1)}{\hat{P}_t e^{\mu_t}} + [\frac{(1 + R_{t-1}) \hat{b}_t - e^{\mu_t} \hat{b}_{t+1}}{\hat{P}_t e^{\mu_t}}] - c_{1t} \} \\
 & + \lambda_t \{ (1 - \delta) k_t - k_{t+1} + w_t h_t + r_t k_t - \frac{\hat{m}_{t+1}}{\hat{P}_t} - c_{2t} \}
 \end{aligned}$$

It is straightforward to derive the following first-order conditions:

$$\begin{aligned}
 c_{1t}] \quad & \frac{\alpha}{c_{1t}} = \psi_t \\
 c_{2t}] \quad & \frac{1 - \alpha}{c_{2t}} = \lambda_t \\
 h_t] \quad & \gamma = \lambda_t w_t \\
 k_{t+1}] \quad & \beta E_t V_k(t + 1) = \lambda_t \\
 \hat{m}_{t+1}] \quad & \beta E_t V_m(t + 1) = \frac{\lambda_t}{\hat{P}_t} \\
 \hat{b}_{t+1}] \quad & \beta E_t V_b(t + 1) = \frac{\psi_t}{\hat{P}_t}
 \end{aligned}$$

and the following envelope conditions:

$$\begin{aligned}
 k_t] \quad & V_k(t) = \lambda_t (r_t + 1 - \delta) \\
 \hat{m}_t] \quad & V_m(t) = \frac{\psi_t}{\hat{P}_t e^{\mu_t}} \\
 \hat{b}_t] \quad & V_b(t) = \frac{\psi_t}{\hat{P}_t e^{\mu_t}} (1 + R_{t-1})
 \end{aligned}$$

Substituting for the Lagrange multipliers, normalizing \hat{m}_t to 1 and restricting zero supply for \hat{b}_t , the following set of equations describe the optimal behavior of the representative household:

$$\begin{aligned}
 & \frac{\gamma c_{2t}}{1 - \alpha} = w_t \\
 & \frac{1}{c_{2t}} = \beta E_t \left(\frac{1}{c_{2t+1}} [r_{t+1} + 1 - \delta] \right) \\
 & \frac{1 - \alpha}{c_{2t} \hat{P}_t} = \beta E_t \left(\frac{\alpha}{c_{1t+1} e^{\mu_{t+1}} \hat{P}_{t+1}} \right)
 \end{aligned}$$

$$\begin{aligned}\frac{\alpha}{c_{1t} \hat{P}_t} &= \beta(1 + R_t)E_t\left(\frac{\alpha}{c_{1t+1} e^{\mu_{t+1}} \hat{P}_{t+1}}\right) \\ c_{2t} + k_{t+1} + \frac{\hat{m}_{t+1}}{\hat{P}_t} &= w_t h_t + (r_t^k + 1 - \delta)k_t \\ c_{1t} &= \frac{\hat{m}_t + e^{\mu_t} - 1}{e^{\mu_t} \hat{P}_t} \\ \hat{m}_t &= 1 \\ \hat{b}_t &= 0\end{aligned}$$

along with transversality conditions for given initial values, prices and policies.

Firm

The neoclassical firm is assumed to rely on a constant-returns-to-scale production technology of the following Cobb-Douglas form:

$$f(k_t, n_t) = k_t^\theta n_t^{1-\theta}$$

so that total output is simply:

$$y_t = e^{z_t} f(k_t, n_t)$$

Total factor productivity shock z_t is assumed to be governed an exogenous error component ε_t^z and a persistency parameter ρ_z . Formally, total factor productivity shock follows:

$$z_{t+1} = \rho_z z_t + \varepsilon_{t+1}^z$$

where ε_t^z is distributed normally with zero mean, and a homoskedastic variance σ_z^2 , i.e. $\varepsilon_t^z \sim N(0, \sigma_z^2)$. Then, the profit maximization problem of the firm can be written as:

$$\max_{h_t, k_t} y_t - w_t h_t - r_t k_t$$

Using the first order conditions of the firm, together with zero-profit condition, the prices are then defined to be:

$$\begin{aligned}w_t &= (1 - \theta)e^{z_t} k_t^\theta h_t^{-\theta} \\ r_t &= \theta e^{z_t} k_t^{\theta-1} h_t^{1-\theta}\end{aligned}$$

Government

The government issues money M_t , and bonds B_t , and gives lump-sum transfers T_t to the household. The government budget constraint is of the form:

$$T_t = M_{t+1} - M_t + B_{t+1} - (1 + R_{t-1})B_t$$

where zero-supply of bonds and balanced-budget require the transfers T_t to obey:

$$T_t = M_{t+1} - M_t$$

As briefly mentioned, per capita money supply M_t follows

$$M_{t+1} = e^{\mu_t} M_t$$

where money growth rate parameter μ_t follows an autoregressive process:

$$\mu_{t+1} = (1 - \eta)\bar{\mu} + \eta\mu_t + \xi_{t+1}$$

Further, I assume the innovations are normally distributed with $\xi \sim N(0, \sigma_\xi)$.

Competitive Equilibrium

Competitive equilibrium is a list of sequences for allocations $\{c_{1t}, c_{2t}, h_t, k_t, \hat{m}_t, \hat{b}_t\}$, prices $\{\hat{P}_t, w_t, r_t^k, R_t\}$, and exogenous processes $\{z_t, \mu_t\}$ such that

- Given policies and prices, allocations solve the household problem.
- Given prices and exogenous processes, firms maximize profits.
- Government budget constraint holds.
- Markets clear.

The equations characterizing the equilibrium for

$\{c_{1t}, c_{2t}, h_t, k_t, \hat{m}_t, \hat{b}_t\}, \{\hat{P}_t, w_t, r_t^k, R_t\}, \{z_t, \mu_t\}$ are:

$$\frac{\gamma c_{2t}}{1 - \alpha} = w_t$$

$$\frac{1}{c_{2t}} = \beta E_t \frac{1}{c_{2t+1}} [r_{t+1} + 1 - \delta]$$

$$\frac{1 - \alpha}{c_{2t} \hat{P}_t} = \beta E_t \frac{\alpha}{c_{1t+1} e^{\mu_{t+1}} \hat{P}_{t+1}}$$

$$\frac{\alpha}{c_{1t} \hat{P}_t} = \beta (1 + R_t) E_t \frac{\alpha}{c_{1t+1} e^{\mu_{t+1}} \hat{P}_{t+1}}$$

$$c_{2t} + k_{t+1} + \frac{\hat{m}_{t+1}}{\hat{P}_t} = w_t h_t + (r_t + 1 - \delta) k_t$$

$$c_{1t} = \frac{\hat{m}_t + e^{\mu_t} - 1}{e^{\mu_t} \hat{P}_t}$$

$$\hat{m} = 1$$

$$\hat{b} = 0$$

$$w_t = (1 - \theta) e^{z_t} k_t^\theta h_t^{1-\theta}$$

$$r_t = \theta e^{z_t} k_t^{\theta-1} h_t^{1-\theta}$$

$$z_{t+1} = \rho_z z_t + \varepsilon_{t+1}^z$$

$$\mu_{t+1} = (1 - \eta)\bar{\mu} + \eta\mu_t + \xi_{t+1}$$

Steady-State

At the deterministic steady-state, all variables converge to their long-run mean:^{8,9}

$$\begin{aligned}\frac{\gamma \bar{c}_2}{1 - \alpha} &= \bar{w} \\ 1/\beta - 1 + \delta &= \bar{r} \\ \frac{1 - \alpha}{\bar{c}_2} &= \beta \frac{\alpha}{\bar{c}_1 e^{\bar{\mu}}} \\ e^{\bar{\mu}}/\beta - 1 &= \bar{R} \\ \bar{c}_2 + \bar{c}_1 &= \bar{w} \bar{h} + (\bar{r} - \delta) \bar{k} \\ \bar{c}_1 &= \frac{1}{\bar{p}} \\ \hat{m}_t &= 1 \\ \hat{b}_t &= 0 \\ \bar{w} &= (1 - \theta) \bar{k}^{\theta} \bar{h}^{-\theta} \\ \bar{r} &= \theta \bar{k}^{\theta-1} \bar{h}^{1-\theta}\end{aligned}$$

Global Approximation

In order to rely on the global approximation technique, I make use of the following set of equations:

$$c_2 = f(x, \theta) \approx \sum_{i=1}^{n \times m \times l} \theta_i \psi_i(x)$$

where x refers to the stacked vector of state variables $[k; \mu; z]$, and n , m , and l refer to the number of collocation points used. For generating collocation points, I make use of Chebyshev orthogonal polynomials, which follow:

$$\psi_i(\hat{x}) = p_{i-1} = \cos[(i-1) \arccos(\hat{x})] \quad i = 1, \dots, d;$$

where $d = n, m$ or l . These polynomials lie in the $[-1, 1]$ space, and appropriate transformation for the state variables are required. I do these transformations as follows:

$$\hat{x} = 2(x - x_L)/(x_H - x_L) - 1;$$

⁸ Given the distribution of ε_t^z , and ξ_t \bar{z} is set to zero, implying $e^{\bar{z}} = 1$, and money growth rate is constant at $\bar{\mu}$.

⁹ I derive and make use of the steady-state values in order to check if my decision rules take us to the steady-state value with a monotonic convergence.

where L and H subscripts refer to the lower and upper support of the state variables, respectively. Note that, the collocation points are generated for each state variable individually, and in order to span the entire space, I generate collocation point triples, and my ψ vector includes all possible collocation point triples. Next, I rely on *MATLAB* software to solve for minimizing the residuals for all of the collocation points via the use of *FSOLVE* function. While doing so, I plug the first order conditions into each other, and solve a single equation for only the Euler equation of the credit good, and use the remaining equations to act as identities to give us the remaining variables. After deriving the decision rules θ_i , I next derive the value function associated with these decision rules. While doing so, I derive a coefficient vector, so as to give the value function the right direction to move at a particular collocation point triple. When I derive the value function, I again rely on *MATLAB*'s *FSOLVE* function.

Results

In my set of computations, I use the parameter values displayed in Table 1.

Table 1: Parameter Values

θ	δ	β	γ	α	μ	ρ	σ_ε	σ_ξ
0.40	0.019	0.989	2.530	0.840	0.015	0.950	0.007	0.009

These parameter values are the same as in Cooley and Hansen(1995) for the sake of comparability. My simulations yield the following deterministic steady-state values in Table 2:

Table 2: Steady-State Results

\bar{c}	\bar{c}_1	\bar{c}_2	\bar{h}	\bar{I}	\bar{k}	ϖ	\bar{m}
1.301	1.088	0.213	0.310	0.439	23.108	5.608	1.000
$\bar{\pi}$	\bar{R}	\bar{r}	\bar{v}	\bar{w}	\bar{y}	\bar{P}	
0.015	0.026	0.030	1.599	3.365	1.740	0.919	

where \bar{c} denotes aggregate consumption, \bar{I} denotes investment, \bar{w} denotes labor productivity, $\bar{\pi}$ denotes inflation, and \bar{v} denotes velocity.^{10,11}

I solve for the global approximation of c_2 via Chebyshev polynomials with $n = 3$, $m = 3$ and $l = 3$, so that I end up having 27 collocation points^{12,13}. The resulting vector

¹⁰ In Table 2, \bar{P} and \bar{m} are referred as the long-run means of the transformed price and money balances, but not the levels of the respective series.

¹¹ Velocity, \bar{v} , is calculated as $\bar{P}\bar{y}$, where \bar{P} denotes the transformed price.

of parameters, θ , and the v vectors are shown in the next page. The θ vector refers to the coefficients for the decision rule for c_2 and v refers to the coefficients for the value function. In terms of ordering, I rely on the following rule: First, I keep k and z fixed, and vary μ , next when the number of collocation points in μ is reached, I vary the z value, and do the same exercise. Finally when I reach the number of collocation points of μ times z , I alter k .

$$\theta = \begin{bmatrix} 0.2114828 \\ 0.0000932 \\ -0.0000002 \\ 0.0029918 \\ -0.0000002 \\ 0.0000000 \\ 0.0000829 \\ -0.0000001 \\ 0.0000000 \\ 0.0248790 \\ 0.0000063 \\ 0.0000000 \\ 0.0000329 \\ -0.0000003 \\ 0.0000000 \\ -0.0000057 \\ 0.0000000 \\ 0.0000000 \\ -0.0004042 \\ -0.0000005 \\ 0.0000000 \\ -0.0000290 \\ 0.0000000 \\ 0.0000000 \\ -0.0000010 \\ 0.0000000 \\ 0.0000000 \end{bmatrix} \quad v = \begin{bmatrix} -0.9737648 \\ 0.0001566 \\ -0.0000004 \\ 0.0063565 \\ -0.0000009 \\ 0.0000000 \\ 0.0001494 \\ -0.0000001 \\ 0.0000000 \\ 0.0396010 \\ -0.0000001 \\ 0.0000000 \\ -0.0005293 \\ -0.0000013 \\ 0.0000000 \\ -0.0000387 \\ -0.0000001 \\ 0.0000000 \\ -0.0012270 \\ -0.0000012 \\ 0.0000000 \\ -0.0000659 \\ 0.0000000 \\ 0.0000000 \\ -0.0000024 \\ 0.0000000 \\ 0.0000000 \end{bmatrix}$$

In order to check if these results by the Chebyshev global approximation methodology provide a stationary equilibrium, I simulate all endogenous variables without any stochastic shocks from an initially-drifted equilibrium. The results show that all series converge to their steady states, as expected. I illustrate and verify in Figure 1-4 that the estimated coefficients push the economy back to the steady-state when capital is at 80% of the steady-state capital, and there are no shocks.^{14,15}

¹² I repeat this exercise with $n = 7$, $m = 5$ and $l = 5$, and attain quantitatively similar results. For brevity, I display only the $3 \times 3 \times 3$ case.

¹³ In order to compute expectations, I employ the Gauss-Hermite technique.

¹⁴ I verify the behavior of control variables with different values of state variables, which are available upon request.

¹⁵ I also study the behavior of the value function with different values of state variables due to the coefficient v . The results are observed to be in accordance with economic theory, and show well-behaved responses of control variables and the value function: both consumption and capital are increasing in the capital stock, the productivity shock and the money growth shock. Labor is increasing in the productivity shock, but decreasing in the current capital stock. These results are also available upon request.

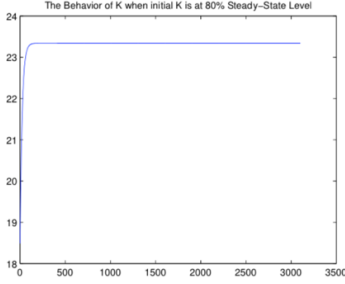


Figure 1: Convergence of Capital

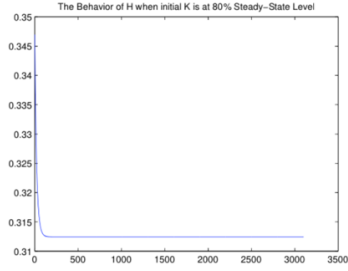


Figure 2: Convergence of Labor

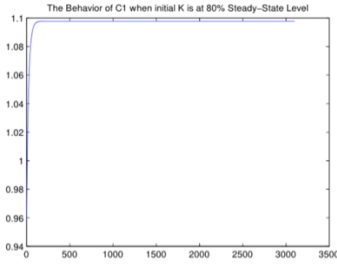


Figure 3: Convergence of Cash Good

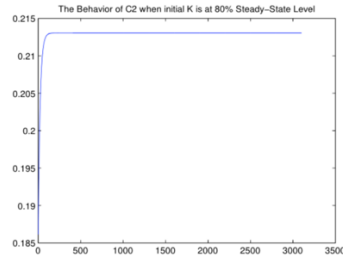


Figure 4: Convergence of Credit Good

Next, I simulate the dynamics of the model allocations and prices and calculate statistics related to time-series volatility, co-movements and persistence using the global approximation method in use. Table 3 shows the results for the correlations and volatilities.¹⁶ My results are quantitatively similar to those by Cooley and Hansen (1995): consumption is less volatile than output, while investment has a higher volatility, as it acts as a shock absorber, and total hours have a similar volatility to output. Contemporary correlations between the variables and output show a procyclical behavior between real variables (consumption, investment, total hours, productivity) and output, while there is a negative co-movement with inflation and money growth. Even though real data would show a positive correlation between inflation and output, the calculated negative correlation is also reported as a result in Cooley and Hansen (1995). Finally, regarding the correlations of output with leads and lags of other variables, I document similar patterns as by Cooley and Hansen (1995).

¹⁶ While deriving relative volatilities, I employ coefficient of variations, as it is standard in the literature.

Table 3: Relative Standard Deviation and Correlation with y

	S.D.	t-3	t-2	t-1	t	t+1	t+2	t+3
Output	1.000	0.870	0.910	0.960	1.000	0.960	0.910	0.880
Consumption	0.630	0.820	0.800	0.780	0.760	0.720	0.690	0.660
Investment	2.800	0.670	0.740	0.820	0.900	0.860	0.820	0.790
Hours	1.000	0.800	0.770	0.740	0.710	0.680	0.650	0.620
Productivity	0.660	0.530	0.610	0.690	0.790	0.750	0.720	0.690
Interest rate	0.090	-0.003	-0.002	-0.004	-0.005	-0.001	-0.001	-0.002
Money growth	0.180	-0.003	-0.002	-0.004	-0.005	-0.001	-0.001	-0.002
Velocity	0.640	0.530	0.610	0.690	0.780	0.740	0.710	0.680

Conclusions

In this study, I investigate the behavior of fundamental macroeconomic variables in a cash-in-advance model by Cooley and Hansen (1995) via global approximation methodology. In particular, I employ an extended business cycle model to simulate and analyze the dynamics of a representative household economy not only in the neighborhood of its steady-state, but also in relatively distant neighborhoods via the Chebyshev global approximation technique. I report that my quantitative simulation results of volatility and correlations match those by Cooley and Hansen (1995) closely. Further, I illustrate that the corresponding value function well-behaves in this model economy.

I note that although the global approximation via Chebyshev polynomials allows for scrutiny beyond the close neighborhood of the steady-state, the procedure is sizeably more time-consuming when compared to local approximation methods. With higher number of collocation points, the curse of dimensions kicks in with relatively higher number of state variables. This observation suggests that for a model economy where there are several state variables, if there is limited non-linearity and the focus is rather around steady-state, local approximation methods could be considerably more effective.

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DIGITAL AUDIO BROADCASTING (DAB) AS A TOOL OF FUTURE RADIO

Mihalis (Michael) KUYUCU¹



¹ Assoc. Prof., İstanbul Aydın University - Communication Faculty.

1. What is DAB? History

Digital Audio Broadcasting (DAB) is a platform useful in the broadcasting of a digital audio radio service (DARS). It is a widely known concept, which appears to be absent in North American countries. These broadcasting systems were quite dependent on 10 to 12GHz broadcasting bands, which appeared inefficient due to their inability to reach a large audience. As a result, therefore, Hoeg and Lauterbach (2003) understand that an exposure to terrestrial digital sound broadcasting was supposed to supplement DAB's delivery, as the former would ensure that digital messages were passed to a larger audience (Hoeg & Lauterbach, 2003). The authors reiterate:

"In the early 1980s the first digital sound broadcasting systems providing CD like audio quality were developed for satellite delivery. These systems made use of the broadcasting bands in the 10 to 12 GHz region, employed very little sound data compression and were not aimed at mobile reception. Thus, it was not possible to serve a great majority of listeners, such as those travelling in cars. Also, another feature of the well-established FM radio could not be provided by satellite delivery, namely "local services". Consequently terrestrial digital sound broadcasting was considered as an essential delivery method for reaching all listeners. At first investigations were initiated by radio research institutes looking into the feasibility of applying digital modulation schemes in the FM bands. However, the straightforward use of pulse code modulation (PCM) in the upper portions of the FM band generated intolerable interference in most existing FM receivers and was spectrally very inefficient. Mobile reception was never tried and would not have succeeded. A much more sophisticated approach was definitely necessary" (Hoeg & Lauterbach, 2003).

Apparently, the terrestrial digital sound broadcasting was approved by the Federal Ministry for Research and Technology (BMBF) since it had both workable methods of sound compression and efficiencies linked with radio spectrum (Hoeg & Lauterbach, 2003). Right from the 1980s, and 1986 in particular, there was a formation of the DAB consortium, and it involved countries such as France, Netherlands, Germany and the U.K (Hoeg & Lauterbach, 2003). December 1986 was also quite eventful as the High Level Representatives indicated that DAB was referred to as the Eureka 147 project, which received National research grants particularly in Germany, France and the Netherlands. The authors explained:

"The process of choosing the most appropriate transmission method took place within the Eureka 147 consortium alone. In simulations performed according to rules worked out by the members the four approaches were put to the test. This showed that the broadband solutions performed better than the narrow-band proposal. Among the broadband versions the spread-spectrum approach had a slight advantage over the OFDM approach, while the frequency-hopping solution was considered too demanding with respect to network organisation. However, the OFDM system was the only one that was already available in hardware with field-test experience – in the form of the coded Orthogonal Frequency Division Multiplex (COFDM) system, while the spread-spectrum proposal by then was not developed as hardware at all and was estimated to be very complex. So, the choice fell on COFDM, which has since proven to be an excellent performer" (Hoeg & Lauterbach, 2003).

Hoeg and Lauterbach (2003) understand that official and paper work delayed the commencement of this project. Later in 1990, there was an exposure to the first and foremost trial broadcasts that would indicate the feasibility of DAB. 1995 appeared to be

the year of conception as the Norwegian Broadcasting Corporation (NRK) as well as BBC and Swedish Radio (SR) both launched their first DAB radio broadcasts. Pioneers such as Norwegian broadcasting corporation, BBC and Swedish radio launched their first digital audio broadcasting in 1995. Norway was the first state worldwide to phase out traditional forms of radio broadcasting by adopting a full scale digital format. The platform has proved to be useful in the transmission of digital radio audio service that has widely been adopted in many countries worldwide. However, these radio bands were inept because they could not reach a large audience as intended. It resulted to exposure to terrestrial digital sound broadcasting as a supplement for digital audio broadcasting (Fischer, 2010). Terrestrial digital sound broadcasting ensured that digital messages were transmitted to a larger audience as intended. This led to its approval reason being that it comprises of relatable approaches of sound compression and efficacies linked with radio band.

2. Main characteristics of DAB

There are numerous digital services carried by the DAB transmission signal. DAB has a bandwidth of 1.536 MHz, which offers a provision of bit rate capacity that is about 1.5 Mbit/s in an entire entity. The entity encompasses audio programs, data linked with the audio programs and other data services. Decoding these services in a parallel form is quite a necessity for these receivers. Regardless, these are the main characteristics and features of DAB:

- **Flexible audio bit-rate**

The flexible audio bit-rate grows from 8 kbit/s to 384 kbit/s. It ensures that configurations of the multiplex are placed in a manner to decipher stereo audio programmes whose provision is for about 5 to 6 of them. Alternatively, there may be an existence of 20 mono programmes with restricted quality.

- **Data services**

There is an involvement of a packet structure, which is useful in dividing and separating each of the data services. Even without a packet structure, each of these data services appear as a separately defined stream.

- **Programme Associated Data (PAD)**

PAD is a constituent of the audio bit-stream and is mainly affiliated with data that is transmitted with the audio programme (such as lyrics). The amount of PAD (min. 667 bit/s) may be adjusted; however, the coded audio signal capacity remains at stake of the same. Often, this coded audio signal is placed within the preferred audio bit-rate.

- **Conditional Access (CA)**

CA is applicable to individual or packet-mode services. The DAB entity has role to facilitate CA information by providing “the actual signal scrambling mechanisms.” At this point, there is the need to look into Specific subscriber management, which is not a constituent of the DAB.

- **Service Information (SI)**

Apart from operating and controlling receivers, the SI works toward information provision for the users. It also ensures that a link is created between certain services in the multiplex, DAB entities and ensembles as well as to FM/AM broadcast platforms.

3. Specifications of DAB

A wide range of services are transmitted through the digital audio broadcasting signal. DAB possesses a bandwidth of 1.536 MHz and this avails a bit rate capacity that amounts to approximately 1.5 Mbit/s in an entire entity. The specified entity is made up of data linked with the audio program, the transmitted audio programs and other data services (Fischer, 2010). Decoding all these contents of the provided entity in a parallel form is necessary for these receivers. Bands and modes are features where DAB employs a wide-bandwidth transmission technology, with provision of distinctive bands that have been assigned for it in Band III (174 – 240 MHz), and L band (1,452 – 1.492 GHz). Flexible audio bit-rate as a feature grows from 8 Kbit/s to 384 Kbit/s and guarantees that configurations of the multiplex are placed in a mode to decipher stereo audio programs whose provision is for about 5 to 6 of them. Within the protocol stack feature, technologies employed on the digital audio broadcasting occupy three layers that include the presentation layer inhabited by the audio codec, the data link layer that has a role of frame synchronization and statistical time division multiplexing (Narasimhamurthy, Banavar, & Tepedelenlioğlu, 2010). Moreover, the physical layer contains OFDM modulation, the error-correction coding and takes part in over-the-air transmission and reception of data.

Several aspects of protocol stack feature include the audio codec, where Digital audio broadcasting exploits the MPEG-1 audio layer II (MP2). MPEG-1 audio layer III (MP3) is quite universal for utilization. A main verdict that contributes to how the digital audio broadcasting system design will be determined and set up is the choice of audio codec to use. This is because competence of the audio codec defines the number of radio stations that can be transmitted through a fixed multiplex capacity within a provided degree of audio quality (Narasimhamurthy, Banavar, & Tepedelenlioğlu, 2010). Another aspect included the error-correction coding as it governs how strong the reception will be for a given signal strength. All digital audio broadcast multiplexes can carry a colossal amount 864 capacity units, which is the maximum bit rate an ensemble can convey, even though it solely depends on the level of error protection used (O'Leary, 2006). As for services and ensembles, which are features of the digital audio broadcasting, diverse services, in assortment, are embedded into an ensemble.

4. Differences from Traditional Radio

Traditional radio broadcasting utilizes two band types; amplitude modulation (AM) and frequency modulation (FM). It is made up of two parts that include a receiver and a transmitter. The transmitter is utilized to broadcast radio waves, known as continuous sine waves using the two types of modulation, AM and FM. There exist three defining differences of these two modulations (Hausman, Benoit, O'Donnell, & Messere, 2016). First, it is the frequency range, where FM utilizes 800MHz and 49MHz for AM, second is the transmitter power, and lastly the total number of frequencies accessible. The receiver is used to seize the sine waves and make playback probable. AM transmission being the first technique that was developed for making audio radio broadcast, is still used for medium-wave and long-wave radio transmission. AM transmission is achieved through modulating the amplitude of the signal, transmitted based on the data being sent, with the frequency remaining constant. However, AM transmission is greatly predisposed to interference when compared to digital and FM signals as they possess a lower audio conformity (Gazi, Jędrzejewski, & Starkey, 2011). Due to these factors, the AM broadcasters mostly concentrate on talk radio, news and sports airings. Broadcasting of music is then left to FM and digital stations. Despite having a poor sound quality, AM broadcasting is far much cheaper and transmission can be achieved over

long distances. Additionally, its lower bandwidth allows it to have more radio stations accessible in any frequency range.

Invention of FM broadcasting was achieved by the American engineer Edwin Armstrong in 1933, with the aim of providing high conformity sound over broadcast radio. This improved greatly the quality of sound as compared to AM transmission, and was adopted by most radio stations for music broadcasts (Fischer, 2010). Worldwide, FM broadcast band functions within the very high frequency (VHF) category of the radio spectrum, utilizing 87.5 to 108 MHz bandwidths. The FM frequency is normally an exact multiple of 100 KHz, with different countries utilizing either odd or even multiples. As a maneuver to reduce frequency transmission interruptions between channels operating in the same or neighboring transmitter locations, frequency separation of not less than 500 KHz is done. Closer tunings are normally reserved for more distantly spread out transmitters geographically with an aim of ensuring minimal interference by bordering frequencies. Frequency modulation (FM) delivers information by altering the frequency of a carrier wave. FM signals utilize more bandwidth as compared to AM signals, thus it is universally used with higher VHF or UHF frequencies, which are also exploited by land mobile radio systems, and FM broadcast band and the television (Hoeg, & Lauterbach, 2003). Frequency deviation is controlled and quantified by licensing bodies in each country.

Pre-emphasis and de-emphasis play a critical role in ensuring random noise that occurs in transmission is offset. This is achieved by to a limited extent, by boosting high frequencies before they are transmitted, and reducing them in the receiver. However, utilization of pre-emphasis poses a problem reason being that many forms of contemporary music have higher frequency energy as compared to earlier music produced during the initial start of FM broadcasting (Hoeg, & Lauterbach, 2003). By pre-emphasizing high frequency sounds, deviation of the FM carrier will be excessive and this can be prevented by use of modulation control devices. As a third generation of broadcast after AM, FM traditional broadcast, it offers features that analog transmission did not have. This includes anti-noise, anti-interference, the best option for wave propagation fading, and it is more appropriate for high-speed mobile reception. These features are unavailable in the analog form of broadcast thus indicating the technological advancements that aim at providing the best service to the listeners. Another difference is that digital audio broadcasting has a wide range of capabilities and is not limited to only audio transmission. It can obtain multimedia information and real-time updates on related information (O'Leary, 2006). Data messaging services can also be accessed with digital audio transmission.

Digital audio broadcasting utilizes synchronized multiplexing, compression and a combination of multiple audio streaming, which are concentrated in the same broadcast frequency, whose sole purpose is multiple channel broadcast. This allows each channel to be transmitted selectively with a different bit rate, whereby the lower the bit rate, the more the channels that can be transmitted on a single frequency with a disadvantage of low sound quality (Fischer, 2010). Another difference is that digital audio broadcast consumes more power than traditional broadcasting. This is brought about by the presence of the digital audio broadcasting decoder chip needed for transmission, which needs hundreds of mill watt and sometimes even one whole watt. The overall performance of the digital audio broadcasting transmitter deferred from that of the analog in that it sends signals related to a program which have been fragmented into and coded in number. Each fragment is sent severally to ensure that it goes through and delivered to the consumers as intended (Hoeg, & Lauterbach, 2003). Even when an interruption or delay occurs, the receiver is able to catalogue fragments and piece them together to ensure the signal transmitted of a program is uninterrupted. Digital audio broadcasting has numerous advantages over the traditional radio broadcasting which

suggest the need to fully implement and utilize it. This will not only increase consumers, but also allows uninterrupted broadcasting of information not forgetting the fidelity of transmission is maintained. Thus is achieved by the ability of digital radio signals to travel on a large broadband of radio frequencies, which is about 1500 times wider than those used in analog radio.

5. Advantages of DAB

Compared with Traditional Radio, DAB has resorted to offering plausible advantages to its audiences. The viewing of TV, for example, has become quite scarce due to an existence of technological advancements such as smart phones and tablets (Plum, 2014). Generally, digital audio broadcasts offer improved features for consumers, where related devices can perform band scans over the whole frequency range. It enables all stations be available in a single list for the consumers to freely select their preferred choice. Another additional advantage is that digital audio broadcasting is able to carry dynamic label segment from the radio stations which offer real-time information such as the title of a song, traffic updates, news, and type of music of not more than 128 characters. It also has a local time of day, enabling a device to automatically adjust its internal clock when travelling between time zones (O'Leary, 2006). Mono talk radio, news and weather channels and any other program in the radio that is non-music do utilize less bandwidth thus allowing digital audio broadcasting to convey these programs at lower bitrates, allowing more bandwidth to be used for other programs that require a substantial amount of bandwidth. Nonetheless, other advantages of DAB:

- **Quality of Service**

Via DAB, users are exposed to interactive standards, which are particularly useful in the enhancement of broadcasting, making it possible for viewers to connect with the interactive features. With this feature, the audiences easily acquire data access and related services that facilitate the digital capabilities of DAB multiplex. The availability of a return path using either a mobile or fixed broadband connection, Plum (2014) understands; there is room for provision of richer interactive services.

Additionally, due to the fact that DAB utilizes modern digital communication, it is inevitable for the platform to provide quality service. Some of the independent quality services include usability, improved and superior sound systems and undistorted reception conditions. To be precise, sound quality has thoroughly improved as users have been introduced to new features such as Music control and Dynamic Range Control (DRC). With the control, it becomes quite convenient for users and audiences to set the audio quality according to their needs. Usability has eased the lives of DAB users as they are capable of selecting any of the available stations from a menu with different choices. In terms of reception, DAB utilizes a non-directional whip antenna to limit any interference and multipath issues while in a vehicle (Hoeg & Lauterbach, 2003). Reception is well-maintained using DAB, as it covers a large geographical area, which assists the driver by ensuring clarity of the same station without any fades or interferences.

The quality of service rendered is of satisfactory quality as compared to traditional forms. Consumers are exposed to collaborative ideals, which are essential for the growth and augmentation of broadcasting, allowing audiences to associate with the interactive features. In addition, digital audio broadcasting uses modern digital communication which offers quality sound systems and undistorted signal conditions when transmitted. Independent quality services rendered include friendly usability, authentic and improved sound systems, not forgetting the undistorted reception offered (Fischer, 2010). The availability of flexible multiplex configurations allows the consumers to

relish the content provided. It is because alteration of the organization, configuration, and arrangement can be achieved to suite the user's desires. Bit rate flexibility also gives station providing the program the ability to choose the preferred bit rate which solely depends on the quality that is being transmitted.

- **Flexible multiplex configurations**

With this flexibility, it becomes quite easy for DAB users to enjoy the content provided for their enjoyment. With multiplex configuration, the arrangement and organization of services in the DAB multiplex may either be changed or altered to adhere to the users' needs. These changes, however, should be carried out in a manner that does not interfere or interrupt any of the ongoing services. Furthermore, the idea of bit rate flexibility indicates that the provider of a particular programme has the capability of choosing the preferred bit rate, depending on the quality. According to Hoeg and Lauterbach (2003):

"The programme provider can choose an appropriate bit rate for a certain audio programme according to its quality, for instance less than 100 kbit/s for a pure speech programme, 128 kbit/s for monophonic or 256 kbit/s for stereophonic music; also half sampling frequency can be used for lower quality services. So the available bit rate can be split optimally between different services of a DAB ensemble" (Hoeg and Lauterbach, 2003).

- **A universal system layout**

Under the DAB system, there is a standardized layout system which facilitates the process of transmission and receipt of messages. In this case, there is an exploration of (international) standardization for managing the new DAB system. The idea of having a unique system design and broad choice of receivers is delineated by Hoeg and Lauterbach (2003):

"Unique system design: DAB services will be available mainly on terrestrial, but are also suited for cable and satellite networks, and the same receiver could be used to provide radio programmes and/or data services for national, regional, local and international coverage."

"Wide choice of receivers: It is possible to access DAB services on a wide range of receiving equipment including fixed (stationary), mobile and portable radio receivers, optionally completed with displays or screens, and even personal computers."

- **Co-channel Interference**

Digital audio broadcasts are less susceptible to co-channel interference, thus allowing reduction of the reuse distance. This has allowed more stations to be transmitted and has also improved efficiency. Another advantage is the quality of reception offered by the digital audio broadcast, through integration of features that limits signal noise and multipath fading which is a common problem within the analogue systems (O'Leary, 2006). Digital audio broadcast has also reduced interference by unlicensed stations due to its specialized nature, restricted spectrum and high end digital audio broadcasting gear. Digital audio broadcasts offer a shared cost whereby its transmission is done by a different company from the broadcaster, who vends the capacity to several radio stations. It provides a cheaper alternative than the use of several transmitters since digital audio broadcasts utilize higher frequencies than FM which requires several transmitters to achieve their intended geographical coverage.

6. Applications in the World and Future Plans

In contemporary times, governments have sought to control institutions that have a major influence on the masses (Ulrichsen, 2016). It is not surprising that the mass media and DAB in particular, have found itself involved in major world politics and issues of governance. Besides being a tool for the transmission of information regarding politics, the media and its freedom has often been used as a measure of democracy in the various jurisdictions (McQuail, 1994). The concept of free speech has enabled observers gauge the political systems of countries. In this context, the media has often been used to examine the ways in which governments continue to curtail the freedom of free speech (Rugh, 2004). This has prompted researchers to come up with four political theories involving the media. In their book, "Four Theories of the Press," Fred S. Siebert, Theodore Peterson and Wilbur Schramm have classified political theories of the press as; the authoritarian theory, the soviet theory, the social responsibility theory and the libertarian theory (Siebert et al., 2002). A further theory called the modern developmental theory has been added and it has sought to explore the way in which the earlier four theories are related. The social responsibility theory is perhaps the most contentious among the four, especially in a world that is continually relying on the press for political liberation. The mainstream media has become central to the struggle for human rights and political liberation. While seeking to achieve this purpose, political scholars has constantly argued that such freedom to express political opinion ought to be exercised responsibly (Haque & Biju, "Inside Newsroom"). On its part, the theory of social responsibility grants the media with the powers to pursue such interest, but with a few limitations for social reasons. Simply speaking, the media is given the liberty to air their content but under the watch of the government, which provides oversight. In this regard, the government expects that, despite the fact that the media has been given adequate freedom, it ought to act in the society's best interest (Siebert et al., 2002).

In their opinion, most authors have held that the social responsibility theory came about due to the challenges and problems occasioned by the libertarian theory of the mass media (Ahmed, 2011). The twentieth century saw many changes in the social and political systems, especially with regards to the freedom of the press (Bagersh, 2011). The granting of freedom of the press meant that journalists were free to publish whatever they desired. This had been the notion behind the libertarian theory of the press. The media became a 'marketplace of ideas' where anyone was allowed to publish despite their social and political alignment (Al-Jenaibi, 2016). This resulted in rather partisan content being published by the media since the news presented depended on the political alignment of the author and publishing press. The reality was often distorted with different authors providing conflicting versions of the truth based on their political interests (Habermas, 2006). The growth of intellectualism and the industrial revolution later on meant that people were more enlightened. People would not find faults in this principle of the libertarian theory of the media (Edwards, 2012).

The fact that the media had become irresponsible in handling information was appalling to say the least (Ahmed, 2014). 'Yellow journalism' was at its peak during these times. This occasioned a commission to be constituted in the 1940s to look into this contentious issue. The Hutchins commission was the brainchild of Henry Luce, a famous journalist and the founder of Time magazine. After close to half a decade of deliberations, the commission constituted five principles that guide media houses into being socially responsible (Rugh, 2004). The commission recognized the important role of the press after which it came up with a blueprint of the press social responsibilities. The document was labeled a 'free and responsible mass media.' The press was tasked with accomplishing five goals towards this realization with one of the major goals being that the press should remain as truthful and non-partisan as possible (Bagersh, 2011).

In the strict sense, the main principle behind the theory of a socially responsible press is that the media houses are allowed to enjoy the libertarian theory provided they observe responsibility in this undertaking. The principle champions for a middle ground between freedom and responsibility. The fact that the media handles quite sensitive information in most instances, it is important that such news be presented accurately and in a non partisan manner (Siebert et al., 2002). The social responsibility theory recommends that, in the event that the media houses fail to be responsible, the government should move in as a way of promoting compliance. Despite the liberty awarded to the press to even criticize the government, the media should observe that the news published does not work to derail the stability of the society in question (Habermas, 2006). The media ought to promote democracy though giving accurate information to the masses. At the same time, it should act in a way likely to promote society interests.

The society has many expectations for the press (Pintak, 2007). Many people think that the media should act as a watchdog and a tool for enlightenment besides just providing information. Most people rely on the press for educative information. It is therefore important the mainstream be self sufficient and act with great caution due to the number of people it is responsible for. For this reason, the Hutchins commission required that the media houses observe a number of principles in their day to day operations (Habermas, 2006). Fore mostly, the press should act as a source of information to the public, being one of the very basic roles of the media. The information provided should fall into context while seeking to enlighten the population. Apart from this, the press should act as a platform where people are free to comment and launch criticism concerning any issue (Ahmed, 2011). The media should also be a representative for the society by painting the exact picture of it. Moreover, the press should seek to highlight and maintain society goals while observing democracy and social stability. The above principles summarize the notion of the social responsibility theory (Haque & Biju, "Inside Newsroom").

The United Arab Emirates has made drastic strides in economic growth in recent times. It then follows that the country has become a recognized force in world trade and tourism. Part of the momentum in tourism has been occasioned by the role of the media in promotion of the country as a desirable destination. This alone highlights the important role of the media in the United Arab Emirates. The UAE, as it is popularly referred to, has an equally powerful press just like her prosperous counterparts. The media in this country has constantly played an important role in informing not only her citizens but also the world as a whole (Edwards, 2012). The press in the UAE no doubt faces the same issues and challenges as that in other countries with similar social and political trends. The quest for libertarian struggle across the world did not spare the UAE. The press was equally affected as the mainstream media sought the freedom to publish. However, in a society that observes religion and the Islamic culture, it meant that there ought to be ways for ensuring the media is responsible in maintaining the same social ideals boasted by the country. The social responsibility theory came handy in this situation (Ahmed, 2014). Part of the factors that promote tourism in the UAE is the Arab culture and religion which have often appealed to the rest of the world. It is therefore expected that the mainstream media promote factors that champion this culture. The social responsibility theory points out the responsibility of the press in championing for the countries culture apart from acting as an informative platform (Siebert et al., 2002).

Despite allowing the press a lot of liberty in reporting, the United Arab Emirates has tasked the media with a lot of responsibility in terms of the country's promotion. For instance, following the dwindling oil economy in the country, the sultan of the UAE set out in a mission to advertise the UAE to the world through the media. Today, the press

has become one the biggest investments of the UAE with regards to tourism (Altschull & Altschull, 1995). . The media continues to promote the country as the desired tourism destination raking in billions of dollars from the industry. Perhaps, the press in the UAE remains the best representation of the social responsibility theory of the press. From positively criticizing the government of various aspects to promotion of tourism and information, the press in the UAE has retained its relevance in seeking to satisfy the political theory of the social responsibility of the press (Ulrichsen, 2016). Many scholars have considered the press in the United Arab Emirates as being the model for a media system that observes the principles of this theory to ideal standards.

Communication and the mass media in this context have long been considered as being an integral part of civilization. In most places today, civilization has often been measured based on how freely information reaches the common man (Pintak, 2007). Most of the major world advances have been promoted by the media which has played an important role in inspiring innovation and development. It follows then that the mass media has had a great deal of influences in the societies. Today, politics continues to be influenced by the media, with the press acting as both the informer and mouthpiece for the common citizens (Mowlana & Marron, 1994). Mass media has become the undisputed platform of information touching on any field in our world today. The mass media has become the most important tool for communication between the government, citizens and all stakeholders. However, the role of the press does not just end there. Most societies today, especially those that have closely guarded traditions and cultures, continue to use the mass media as a mirror for their culture and traditional practices. In simple terms, the media is influenced by the culture and practices of the society. In turn, the media influences the masses leading to major shifts in opinions and perspectives regarding many contentious issues of the contemporary world (Haque & Biju, "Inside Newsroom"). In the United Arab Emirates, the media has for a long time been depicted as being both a mirror and window to the society. In essence, the media acts as a representation of peoples' culture while seeking to influence a change in attitudes and opinion with the rapidly changing world trends.

Being the economic hub of the Arab world, the UAE has amassed a lot of political power and influence in the Middle East. While keeping this in perspective, the growing role of the media has meant that the common citizens are continually involved in politics and governance of their country. Today, citizens of the UAE are better informed and empowered thanks to the effort of the mass media (Ajami, 2001). The contemporary media has come to be credited as being a 'modern deity' that has the powers to make or break governments (Ulrichsen, 2016). The mass media has rocked governments of today based on the strong influence it possesses. Despite the fact that the media has not fueled a revolution like in other Arab nations, the power of the press cannot be ignored. The media has invested in keeping citizens informed (Ajami, 2001). Of note is the modest position that the media in the UAE has taken over the years. Many people would like to think of the mainstream media in the UAE as a representation of professionalism-a crucial aspect for the press. Despite being generously informing to the masses, the mass media in the UAE has often sought to be responsible in the way sensitive information is handled (Rugh, 2004). The UAE has used the media for advancing the culture of her people (Ayalon, 1995). This is exactly what is meant when referring to the mass media as a 'mirror' for the society. As such, the media has acted in expressing both the culture and the opinions of the people.

The fact that the UAE has held the mass media as an intimate partner in governance speaks volumes of the likely influence that the media has on politics (Ayalon, 1995). Recently, the UAE has made strides towards enforcing the mass media as part of the main arms of the government. It has constantly been referred to as the 'fourth arm of the government' due to the intimate nature of the relationship between the government and

the state media (Scheufele, 1999). The government has exploited this role of the media in seeking to achieve various objectives. The media has been used to cement national stability by promoting democracy and the culture of the people (Ulrichsen, 2016). The future of the mass media in the dimension of politics is a little unpredictable. This is due to the dynamic nature of this entity (Dizard, 1997). In the past, no one knew that the mass media would be a tool for political change. Today the mass media has continuously been used by liberals in advancing the theme of political liberalization (Ahmed, 2011). The allowance for the freedom of speech has meant that the media is free to examine information and criticize even the government in matters politics and development (Al-Jenaibi, 2014). The strides already taken indicate just how important the mass media is in world politics. However, the mass media is constantly facing numerous threats from alternative sources of information.

Alternative sources of information are continually gaining ground. It means, therefore, that the mass media continues to face threats of near extinction due to the stiff competition offered by rival platforms. Social media platforms such as Facebook and Twitter have emerged as a force in world politics (Dizard, 1997). The social media is becoming a way through which people interact on various fronts; delving into different topics and perspectives. The flexibility and lack of limitations of this platform of communication has attracted a large number of users. The extent to which the social media has influence Arab politics cannot be ignored (Al-Jenaibi, 2014). The Arab uprising owes most of the revolution to the social media (Mowlana & Marron, 1994). Much of the revolution was plotted on the internet due to the ease of use and lack of many restrictions in its use (Pintak, 2007). This just highlights the bleak future of the mass media on the political front. The fact that the mainstream media has attracted numerous restrictions has made many people lose trust in it in terms of promoting political criticism (Al-Jenaibi, 2014). The social responsibility theory has been abused by some governments into meaning that the mass media be controlled. People are continually turning to other alternatives of seeking information. This is to say that the future of the mass media is not promising based on these emerging issues (Dizard, 1997).

Individuals live in an environment that thrives on information (Dizard, 1997). In the current world, civilization is measured based on the ease of exchange of information. In this context, societies that are most informed are regarded as the most civilized. The mass media today is central to this concept of civilization. As a matter of fact, the print and electronic media has done more than just inform. This platform has enabled the empowerment of populations on various aspects of life including politics, culture and science. The media continues to act as a tool for shaping individual opinions and notions and the governments of today continue to invest in using the mass media to persuade for changes in policies. The media has often been used in giving governments a soft image especially when such governments are seeking public support of a contentious issue. The mass media is increasingly becoming a weapon against conspiracy and prejudice which seeks to promote progress and realization of dreams (Altschull & Altschull, 1995). Conspiracies have often been the order of most emerging world powers. The mass media has come handy in quashing such unfounded conspiracies which have threatened numerous world powers. The sense of nationalism drawn from the work of the media cannot be ignored. This is because this platform has sought to allow for divergent views while seeking fulfillment of the principle of democracy. The fact that people are allowed to present dissenting voices in the mainstream media has made people gain trust of their governments (Wolfsfeld, 1997).

Acculturation studies have advanced the notion that, under the pressure to conform, individuals will always attempt to adopt the dominant culture of the society in which they live in. Contemporary United Arab Emirates has become home to diverse cultures

and world races (Rugh, 2007). Nonetheless, one wonders the extent to which such a diverse group of people has accommodated each other in the search of individual prosperity. The United Arab Emirates is a dominantly Islamic nation with deep rooted values based on the Islamic religion (El-Baltaji, 2007). Yet, unlike other hostile Muslim nations, different cultures and religions have always been accommodated. The media is thought to be at the helm of this struggle for the realization of cultural tolerance. The mass media has provided a very important platform for intercultural interaction in the United Arab Emirates. It is this kind of communication that has kept the various cultures in this country interacting and tolerating each other (Mowlana & Marron, 1994). The mass media in the UAE has been very informative in terms of the promotion of culture (El-Baltaji, 2007). A lot of the media houses, especially those run by the state, have gone an extra mile in promoting various aspects of the Arabian culture (Ayalon, 1995). Culture has been used as a tool of communication among the numerous entities that have chosen to settle in the country. The mainstream media has often chosen to show the various aspects of the Arab culture to the world. Moreover, UAE has constantly used their culture in attempting to promote tourism. With this, the Arabic language, culture and religion have gained wide acceptance in the world. The consistent promotion of this culture even in world media giants has been a plus for this country which has continued to receive immigrants who readily accept the culture. The various other cultures and religions continue to thrive in the UAE with gradual acceptance and assimilation into the dominant culture (Rugh, 2004).

The information and media revolution in the world has recently swept the Arab nations (Rugh, 2007). The media industry in the United Arab Emirates has experienced dramatic growth in the past few decades as a result of this phenomenon. New radio stations, TV channels and social media platforms have been created in attempting to break the traditional restricted media platforms (Al-Jenaibi, 2016). However, the Arabic satellite televisions have been noted to be gaining a lot of popularity compared to all the other emerging media platforms (Edwards, 2012). The nature of Arabic language satellite TV stations has made them be accepted by people from all walks of life. The low cost of this media platform has enabled even the poor to access it. The rapid rise of the media in the Arab world can be accurately traced to the cold war (Wolfsfeld, 1997). During these times, most media houses were home to propaganda and conspiracies. Most of the media outlets at the time were broadcasting partisan information. This was less benefiting to the Arab world which opted for alternative media platforms in order to access information (Ahmed, 2011). The start of dedicated Arab channels was a game changer. Since then, the growth of the media industry in the Middle East and especially the United Arab Emirates has been on an upward trend (Al-Jenaibi, 2011). The mainstream media continues to grow and exert a lot of influence to the people living in this part of the world. The role of the media in the Middle East can perhaps be measured by the influence it has had in the political field. A lot of revolution has been staged in a number of Arab countries (Wolfsfeld, 1997). It is the media that enabled the free flow of information among the Arab countries thereby inspiring uprisings in countries which were less concerned about governance (Rugh, 2007). The mass media has recently become a major force in the various aspects of life in the world today. Politically, socially, culturally and economically; the role of the media in changing the society cannot be exhausted. The mass media has worked in promoting culture and inspiring political responsibility among other things. It is for this reason that the media continues to grow rapidly in almost all nations of the world. However, the social media has constantly posed a threat to this very important platform for sharing information and knowledge. Intercultural communication in the UAE has influenced different modes and channels of message delivery; in an attempt to limit the blatant ethnical barriers. It is important to understand that the countries which are devoid of various nationalities are incapable of engaging in intercultural communication.

UAE is one of the nations that integrate members of different ethnicities, in an attempt to spread and encourage diversity. The UAE and its affiliation with intercultural matters understand that societal progress cannot be seen in the wake of discriminatory policies. When some ethnic groups consider themselves superior, there is a rift in society and only individuals of a common origin manage to interact with one another. Exposure to intercultural communication, just like the UAE, allows different nations to develop economically by engaging in business initiatives. It becomes easier for them to desist from focusing solely on local products and indulgence in local trade. With all the pros of intercultural communication and growth of UAE media, there is necessity to understand various cons affiliated with the same. There are high chances of language barriers and misunderstandings when people from different ethnicities interact with one another. Such practices also lead to an indirect discrimination majority members because great focus is placed on the societal minorities. The Mass Media, as posited by the UAE Media, is indeed a vessel and channel for transmitting different ideologies to the general public. It is also involved significantly in the development of society's diversified sectors. It is through digging further into the subject that individuals understand the benefits and predicaments associated with Mass Media (UAE Media). They are not recommended to engage in the analysis from a superficial or vague point of view.

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CONCEPT OF WORK AND LEGAL CONSEQUENCES OF WORK OWNERSHIP IN THE TURKISH PRINTING SECTOR

Mehmet Deniz YENER ¹, Sinan SÖNMEZ ²



¹ Assoc. Prof. Dr., Marmara University, School of Banking and Insurance, Department of Capital Markets, İstanbul, Turkey.

² Assoc. Prof. Dr., *Corresponding author*, Marmara University, School of Applied Sciences, Department of Printing Technologies, İstanbul, Turkey.

INTRODUCTION

The concept of the work is defined in the Turkish Law on the Law No. 5846 on Intellectual and Artistic Works. The work is stated in Article 1/B of the Law as “The work is any kind of idea and art products which have the characteristics of the owner and which are accepted as science and literature, music, fine arts or cinema works.”

In international conventions and the laws of the country, the main features related to the concept of work are the originality and the creative idea that carries the characteristics of the owner. The aim of intellectual law is to preserve the material and spiritual rights of the owner of the idea on the idea products that can be considered as works.

In order to be able to enter into the field of protection of the law as a work of art in Turkish law, it must first be an original work. In addition to this, it should be a creative idea bearing the characteristics of its owner, it should be included in one of the works groups considered in the Law of Intellectual Property, it has to have a certain form and it should be presented to the society. In Turkish Law, the ownership of the work has been won by the creation of the work. In other words, in order to win the right, there is no obligation to register to any authority. (Erel, 1998).

1. WORK CONCEPT AND TYPES

In order for a personal idea to be accepted and preserved as a work in Turkish law, we first mentioned that it should be included in one of the works groups envisaged in the Law. This subject is stated in Article 1-b of the Turkish Intellectual Property Act. The work is defined as science and literature, music, fine arts or cinema works which possess the characteristics of the owner. (Belgesay, 1956).

- a. **Science and literature work**, novels expressed in any way by language and writing, stories, poems, scripts and computer programs and written choreographic expressions expressed under any form, non-verbal scene works, all kinds of technical and scientific photo works. (Ayiter, 1981).
- b. **Artworks**, In the Law of Turkish Intellectual and Artistic Works, works of art is defined as, oil and watercolor paintings with aesthetic value, all kinds of paintings, patterns, pastels, engravings, beautiful writings and illuminations, architectural works, sculptures, reliefs and carvings, engraving, carving, inlaying or works such as calligraphy, serigraphy, handicrafts and small works of art, textiles, fashion designs, miniatures and ornament art products, photographic works and slides, graphic works, cartoons, all kinds of characters
- c. **Music Works**, all kinds of verbal and non-verbal compositions, amateur recordings that have not been made into production, has been accepted as a musical work (Öztrak, 1977).
- d. **Cinema Works**, According to the Law on Intellectual and Artistic Works, the cinema is a film of all kinds, scientific, instructive or technical in nature, or films or movies that detect daily events. These artifacts are a series of moving or silent, interrelated motion images that can be displayed by electronic or mechanical or similar means, regardless of the material to which they are detected. (Ateş, 2003).

2. OWNERSHIP AND THE AUTHOR'S RIGHTS IN THE PRINTING SECTOR

According to the Law on Intellectual and Artistic Works, the author is the person who created the work. The rights of the author can be examined as fundamentally as material and moral rights.

2.1. Spiritual Rights of Author

The presentation of the work to the society by way of printing and determining the time of its presentation comes at the beginning of the moral rights of the author. The publication of a work without the permission of the author, and its submission to the society through publication, or that it is presented in a different manner than that permitted, is a violation of moral rights.

The author has the authority to specify the name of the work, or to supply or publish it anonymously. (Ateş, 2003). One of the most important moral rights of the author is that the work cannot be abbreviated, added or modified without any explicit permission of the author. (Öztrak, 1977). In addition, if the work is unique, the author may request the works to be returned by fulfilling the conditions of protection in order to be used in works and exhibitions covering his periods.

Spiritual rights do not pass through inheritance because they are absolute and individual dependent powers arising from the ownership of the work. They cannot be transferred through the contract. However, the authority to exercise moral rights may be delegated. In case of violation of moral rights, the author has the authority to intervene.

The next owner of a work can save on the work according to the terms of the contract with the author of the work, but cannot alter and destroy the work and cannot harm the rights of the owner and cannot change the work. Otherwise, it is a violation of moral rights.

2.2. Material Rights of Author

The right to benefit from a work by processing it belongs only to the owner. It is possible to process a work with the permission of the owner of the work, and this work, which was created, is considered a new work by itself. Making an unauthorized translation of a work will violate the right of the owner to process. It is possible to make a translation with the permission of the owner of the work, and the interpreter is considered to be the owner of this new work and can benefit from the rights recognized in the law.

The right to reproduce the original or copies of a work, in whole or in part, by way of printing or in any form or method, shall also belong directly to the author. No one or a producer company can reproduce the original or copies of a work in any form or method without taking this right. (Tekinalp, 2004; Suluk, 2004). Besides the right to reproduce, the right to disseminate the work, that is, the right to rent, lend, sell or otherwise distribute the original or copies of a work, belongs to the owner. (Karahana, 2004).

2.3. Representation Right

The right of representation belongs to the owner of the work. The right to represent is the right to benefit through representation, such as reading, playing, playing and showing, directly from a work, and in public spaces with instruments for the transfer of signals, sounds or pictures. (Tekinalp, 2004). The author also has the right to transmit the work by means of signals, sounds and images. The author has the right to transmit the original or copies of a work to the public through radio, television, broadcasting organizations, or by means of broadcasting the signals, sounds and images, and the publication of the published works by republished by other broadcasting organizations. (Yıldız, 2003).

3. FORMATION OF WORK UNDER PRINTING AND PUBLISHING

3.1. The Condition of Being an Original Idea

The main condition for accepting an activity as a work is originality (Tekinalp, 2004). Originality; Specificity refers to the owner's unique expression, uniqueness in method and form. Intellectual law deals not with the originality of ideas itself, but with the expression of the ideas, the way it is reflected. The expression of the originality of the work is collected at the point of whether the author has copied the work belonging to another person and gives the work its own characteristics (Ricketson and Ginsburg, 2006).

The work is also a product of thinking. Thinking activity, which is specific to people, is a solution designed to solve the personal and social problems or to solve the material and spiritual needs. The power of creating a new and different approach by finding previously unknown ones or developing the known ones is called creative thinking. As tools and techniques such as paper, printing, photography, film, television and internet have been developed, it has begun to focus on the design and conservation of creative thinking products and rights of owners (Yener et al., 2018).

In the course of development of the idea law, it is emphasized that if the thoughts are determined on a material tool, this idea is a work that should be included in the legal protection scope. The work, which takes advantage of the protection of intellectual property law, is a thought product that has been formed and materialized. The law protects not the ideas itself, but the form of thoughts, the outward-looking narrative, the structure of thought that constitutes the content and the personality of the work (Sarmaşık, 1995).

The original thought is not protected from being new and original, but it is protected by law because of its original presentation.

3.2. Art and Aesthetic Value Issue

An idea product does not have to have both artistic and aesthetic value to be a work. For the protection of a creative idea product, it is necessary and sufficient to acquire a certain form and to present it to the society (Erel, 1998). The question of whether a product of thought carries art value does not fall within the realm of intellectual law. In this respect, an international consensus has been reached. It has been accepted that the types of works considered in the laws are sufficient to be a creative act of thought without focusing on the aims of literature or art.

It is not the task of the courts to give a judgment about the aesthetic values which have a relative meaning and can vary according to the person and periods and which are related to the sense of beauty and perception. The courts are concerned not with the aesthetic value of the artifacts that are the product of the idea, but whether the work is presented to the society in an original way.

3.3. The Condition of the Work to Gain Certain Form

In Turkish Law, intellectual rights do not preserve the thought expressed in a work. The law regulates the influence and traces of the private mind of the author, the mode of expression, the style, the language and the way in which the thought is acquired. The field of protection of intellectual property enters the material form of thought that carries the style, language and style of the intellectual structure of the author. In order to protect thoughts, the first and basic element is that thought has gained a certain form (Ayiter, 1981). When thoughts acquire a material existence, when formed, they acquire

the quality of the artifact and the protected thing is that form. In order for a thought to be formed, it must be subtracted from the abstract structure. A feasible, reproducible concretion of a thought, so its formatting, can be done by writing, drawing, talking, voice and video recording.

4. PROCESSED AND DERIVED WORKS IN THE PRINTING SECTOR

It is possible to create a new product of thought by arranging a work in another kind and shape, except in the way it is presented to society. The work created in this way is called the processed work. There are two elements of the work. The first one is that the work has already been presented to the society, and the other is the formation of another type of work (Öztan, 2008). For example, an effort is made to create a film script from the novel. The new work derived has gained an independent character since it is the product of the adapter and the worker. In Article 2 of the Bern Convention, the basic principles that have been the source of national laws have been determined. Translations, adaptations, processing, adaptations, music arrangements and other changes in literature and art works are preserved as original works without damaging the rights on the original work.

Article 12 of the Convention also stipulates that the rights of the literary and artistic authors to retain the rights of their works on their original works during the continuation of their conservation, to process, to organize and to allow for other changes, and to the provisions of the national laws (Aridemir, 2003). The basic condition for the adaptation, processing and publication of a work is the permission of the original author (Arslanlı, 1954; Uslu, 2003).

The compilation work is described in Article 1 / B-d of the Turkish Intellectual Property Act. The compilation is a work consisting of selection and arrangement of content, such as encyclopedias and anthologies, by preserving the rights on the original work and resulting from a thought creativity.

Compilation works can be created by selecting from the works that have been published before, and they can be created by requesting the authors to produce original works in certain subjects to be used in the compilation works. The most important feature of the compilation works is that the compiler cannot make any changes in the compiled works (Öztan, 1999). In other words, the collector has no right to add, correct or comment on the works he has compiled. Compilation works are regulated in Article 6 of the Law on Intellectual and Artistic Works in Turkish Law. Article 7, paragraph 6 of the Law, is defined as a compilation work. According to this definition, according to a specific purpose and within a special plan selection and collection works were described as a compilation of works. According to paragraph 6 of the same article, the collecting of all or the same works of the owner of a work is considered as a processed work.

5. CONCLUSIONS

The Turkish legal system, the international conventions and the intellectual property laws of other countries have adopted a basic principle that a work should benefit from legal protection without being bound by special form and transaction. Legal rights related to the work are obtained with the formation of the work and therefore the owner of the work does not need to take any other action like registration.

In addition to the existence of a work, the Turkish publishing and publishing sector also attaches importance to its legal protection. The copyright provided to the author is a kind of property right of the intellectual products which are considered legally work. These works can be products that emerge with human intelligence such as literature and

works of art, computer programs, inventions, designs. Copyright may be defined as the granting of rights to the use and dissemination of any information or thought product to specific persons. The copyright holder has the right to allow the copying or use of an original work.

In Turkish Law, ideas and works of art are protected by Law No. 5846 on Intellectual and Artistic Works. The purpose of this law is to determine the intellectual and financial rights of the artists and their performers on their works and to regulate the conditions for benefiting from these works.

In addition, the law to determine the sanctions in case of exploitation of the forms determined for the work. There is no obligation to register in order to benefit from the related laws. The author uses the existing facilities and protections provided that they prove their rights.

The authors have difficulty in proving their rights in the courts due to unregistered works. This situation is experienced especially in Turkish printing sector. Another problem experienced in the Turkish printing sector is that malicious people register the works of others in their own names. In the event that a person owns and registers the work that does not belong to his / her own, the real rights holders are subject to material and moral damages. In Turkey, the slow operation of the courts is also causing increasing damage.

In Turkish law, it would be useful to provide convenience for proof of ownership. We believe that making mandatory registration and registration procedures simple will be beneficial in protecting the rights of the owner. This will be a deterrent to malicious people who intend to infringe rights on the work.

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AN EVALUATION ON MINIMALIST NARRATIVE ON THE EXAMPLE OF “ANA YURDU” MOVIE

Murat AYTAS ¹, Serhat KOCA ²



¹ Asisstant Professor, Selcuk University, Faculty of Communication.

² Asisstant Professor, Anadolu University, Faculty of Communication Sciences.

Introduction

The human of the twentieth century, the era of indicators, is in the midst of images created by the artistic forms and medias such as television and cinema especially the artificial images composed in the environment of computer, photographs, and pictures. The minimalist sense of art which dates back to 1920's and is related to the modernist tradition still keeps on providing an inspiration for the production of numerous simple and modest works although it was surrounded by the contemporary visual culture.

The minimalism which was defined by Richard Wolheim as "an art with the minimum content" became popular in the art of sculpture and painting in America during 1960's. According to Zolberg (2011:70), art which represent something except itself abandoned its object. Minimalism which densely maintained its efficiency until 1970's still creates a resource for numerous disciplines within the field of fine arts. As one of those fields, cinema has adapted numerous works where tracks of minimalist perspective can be followed since it employs both an individual and a collective production processes and is eclectic in terms of its core into a movie on the contrary to numerous disciplines which it consists. The directors such as Carl Theodor Dreyer, Robert Bresson, Yasijiru Ozu, Michelangelo Antonioni, Jim Jarmush, Bela Tarr, Aki Kaurismaki, and Abbas Kiarostami who can be regarded as the representatives of minimalist movement in the history of cinema presented numerous works through blending simplicity and plainness revealed by the movement with their own styles.

When we look back to the history of early Turkish Cinema from the minimalist perspective, the first group of directors coming to mind consists of Lütfi Ömer Akad, Metin Erksan, Yılmaz Güney, and Halit Refiğ as well as Duygu Sağıroğlu and Ömer Kavuroğlu and the elements pursuant to this perspective can be seen in their works. Those aforementioned directors who direct the camera into streets and introduces it into real life tried to adapt the reality into the screen in the plainest form.

Throughout the process of time starting from 1990's and up to now, the directors such as Bilge Ceylan, Reha Erdem, Zeki Demirkubuz, Derviş Zaim, Seren Yüce, Yeşim Ustaoglu, Handan İpekçi, and Senem Tüzün presented films which employ minimalist elements. In this study, the film "Ana Yurdu (Homeland)" which was written and directed by Sanem Tüzün in 2015 will be analyzed in terms of minimalist narration and its relation with Turkish cinema. The objective of this study is to analyze how the elements which constitute the main characteristics of minimalist cinema is employed and how story is established against main movement in cinema and to evaluate the reading about allegorical, figurative language and images which all have the control over the film narration.

1. The Appeal of Plain: Minimalism

Majority of the movements which lead to art history emerged through constructing an attitude and style sometimes under the effect of previous movements and sometimes against those previous movements. The processes of production and interpretation of works of art are shaped in accordance with the economic, social and intellectual characteristics of the existing age.

As a transition age when revolutionary developments and social changes are seen in numerous fields in the world, the twentieth century deeply influenced the intellectual foundations of the artistic production. New technologies which are reflected into the practices of everyday life and rapid developments accordingly seen in social changes captured people into a dense and speed based culture of life. Related to the new social formation, the artists who seek for artistic expression and form started to drift apart

from stability and status quo (Kaya, 2011:8). The shift of paradigm from traditional society towards modernity changed the production and interpretation processes of works of art in this sense.

Minimalism established the intellectual basis of the movements from the perspectives of political, economic and social conditions of the period and historical context. After the art is departed from science in the nineteenth century, the concept of "abstraction" was discussed and minimalism revealed the core which leads to the avant-gardist attitude that can be regarded as the premises of the concept and this occasion constituted a basis for the seek /search of the avant-gardist attitude for the essence of the thing in cinema as seen in all types of art and attitudinize on behalf of the plain and experimental one(Özdoğan, 2004:33).

The term Avant-Garde which means "the Frontrunner Soldier" in French *aestheticized* its own ontology on the notion of progress and change against stability as a leading or progressive perspective of art. In this way, avant-garde functions as a general concept which is employed for the movements consisting of an attitude against popular and traditional ones during the process of art history. Accordingly, we can define the minimalist artistic perspective as an avant-gardist attitude when we consider the minimalist art as aestheticizing the essence and reality in its plain form.

As a concept, minimalism resolved itself from other artistic and philosophical movements in many fields from arts (architecture, music, painting, sculpture, ceramics, photography, and cinema etc.) to philosophy; from literature to computer programming (Koluçık and Coşkun, 2016:1914). Minimalism doesn't have conceptual definition in dictionaries and any manifestos presented by its representatives.

According to the early period representatives of minimalism, the main point was to portray the objects in the minimized way without making them more complicated. It was important to establish a relationship between the objects and the place where it is located without any titivations. According to the minimalist artists, the actual employment of spaces is more exciting than other spatial illusions on the surface (Turani, 2010:744; Antmen,2008:182). As for Zolberg,the art which emerges along with minimalism is formally departure of the art perspective which represent something except itself from its object (2011:70).

It can be accepted that the term of "Minimalism" or "Minimal Art" was first employed in the literature of art history by Richard Wollheim, the philosopher, so that they can explain the meaning of the term we attribute to it. Wollheim produced the term "Minimal Art" in 1961 to find equivalence for "the art which was minimized in terms of content".In her article of the "ABC Art" which she published in the journal of "Art in America" in 1965, Barbara Rose, the art critic, mentioned about a new movement of art and she employed the word "minimum". It is regarded as the first classification that is regarded that it animates the concept of "Minimalism" for the first time(Özdoğan, 2004: 46). Minimalism also means decreasing the elements of expression specifically. Minimalism achieves lexical richness through employing the rule of systematic diversification of motifs instead of increasing the power of the motifs through increasing the similar types of effects. It consists of eliminating random diversity as well as decreasing the redundancy (Kovacs, 2010:149).

The minimalist approaches which re-emerge in America during mid-1960's are rigid resistance against the excessive individualism and arbitrariness of concrete expressionism on one hand and descriptiveness of pop art which still employs the illusion(Yılmaz, 2013:244). The minimal art which had dense effectiveness until 1974, borrowed some concepts which give priority to the visual and stylistic qualifications of art from *Purism, Production, De Stijl,Geometric Abstraction and Op Art* (Özdoğan,

2004:47). The artists who positioned minimalism into their own artistic perspective in terms of aesthetics and philosophy present an aesthetical approach which is based on simplicity and plainness in the contextual and stylistic elements of the works.

The minimalist sense of art showed its effect on numerous fields of art after a little while. Minimalism in cinema tries to achieve simplicity and economy in content and form; however, it starts the story through the elements of classical narration and degrades it through minimizing, depressing, correcting or cutting the important elements of classical storyline (McKee, 2011:41-42). According to the Soviet fiction theorist, Eisenstein, the basic product of the vehicle is the one of the cornerstones of a one-shot building which was constructed starting from a simple idea. From this point, a much more complicated perception is achieved. This is "attraction". This perception is less mechanical than the shooting. It creates a definite activity in the minds of audiences (Dudley, 2010: 51). At this point, coherent association of all the elements of mise-en-scene is important in the establishment of aesthetical and effective scenes (Kazaz and Komaç, 2018:99). The tension between the mechanical film production which is simple and predictable and its establishment as well as the developmental experience of filming clearly reveals this theory of Eisenstein. The first of them is related to the form of the film while the latter is related to the objectives. He sometimes regards the unitized film as a machine while he assumes it a living organism. Eisenstein sometimes accepts film as a rhetoric and strong instrument of convincing while he sometimes regards it as a mystical instrument of perceiving the universe through increasing it to higher levels and calls it an autonomous art.

The minimalism which experienced its peak period during 1970's still maintains its influence on various fields of art and especially in cinema although it has softened its previous firm stand.

2. Minimalist Narration in Cinema

Generally, it can be stated that the minimalist cinema developed from two different origins. The first of them is particular to the avant-garde cinema which was pioneered by Andy Warhol who adapted minimalism as a movement specific to the plastic arts into cinema. The films of Warhol such as *Sleep* (1963) which takes more than five hours and consists of six static shootings of a man who sleeps and *Empire* (1964) which consists of a single static shooting and takes eight hours aren't representational, they can be regarded as avant-garde or empirical and they are the pioneers of this perception. Except the efforts to synthesize the techniques which are specific to the minimalist art into cinema, the first examples of minimalist cinema which we can call prehistory are the films shot by Lumière brothers and their cameramen. The first films shot by Lumière brothers and their cameramen presented the scenes of daily life plainly and they conducted a reproduction of the physical reality in a motion. Those films which are also regarded as the first examples of realistic tendency in cinema were nothing but the recordings of the outlook of daily life which were linearly shot from one fixed point. Naturally, the effects of the unexplored limitedness and fiction created by technique not a conscious narration strategy on the emergence of this occasion is gigantic. As Pearson stated, this perception began in 1894 and continued until the year 1902/3 (2008:34). The stronger tendency towards the formation of the unity of narration in cinema has become functional and the norms specific to narration cinema were established. In the formation of the norms specific to the classical narration cinema, Griffith effectively employed numerous existing techniques in order to create a dramatic effect and the instruments which are specific to cinema made the narration clear enough to be understood by the audience and an increasing tendency for dependent narration was observed. As McGrath stated, the contemporary minimalist cinema stands between the

avant-garde pioneers and classical narration (based on story, a rising dramatic curve and sensuality) (2014:59). In the emergence of the minimalist cinema as a narration strategy and becoming a cinema-specific dominant style, the simplicity of form and structure which can be seen in minimalist art and decreased syntax which is specific to literary minimalism, simplification of storyline, the interruption and decrease of the dramatic effect have been effective. In addition, contemporary minimalist cinema focused on daily reality and aims to reflect this plainness without any interventions is related to the primitive form of cinema, its efforts to achieve this reality in extreme simplicity without any interventions is closely related to the primitive form of cinema; radically simplified narration and stylistic structure as well as the approach of cinematic reality especially proposed by André Bazin. Bazin separated the form of reality in providing cinema-specific expression from "the reality of the topic or the reality of expression" and associated with the reality of space; regarded the depth shooting and plan-sequence as the basic form of this reality (2007:112); they are all key characters of Bazin displaying the close relationships between contemporary minimalist cinema and the reality approach. Bazin drew attention to the depth shooting and plan-sequence in order to reveal the unity of actual life on the contrary to the existence of installation which breaks up the space, ambiguity and multi-layered structure. According to Andrew, Bazin asked this question while establishing his theory: Can we conclude that a style is much closer to the event in the daily life than all the other styles? what is perceptual reality and which cinematic style (or creative instruments) can reproduce perceptual reality without considering the expressive objectives (or created forms) which it can serve. For Bazin, the perceptual reality is a spatial reality. The specifically realistic film style, as Bazin defined, is a style which can defend the autonomy of the objects within the homogeneity of place. The Soviet cult which centers installation in the construction of meaning and American *ecole* which centers the story abolish spatial reality through installation (2010:254). Protecting the autonomy of objects through staying loyal to the spatial reality presented by Bazin also reveals the ambiguity of reality in a sense. The mental construction which installation created through its distinct existence abolishes the reality which image reveals through its own existence.

The harmony between contemporary minimalist cinema and the stylistic approach which is specific to Bazinian reality is apparent; again the existence of an attitude which was developed against the dominant narrative and stylistic instruments of main minimalist cinema is undeniable. In addition to those effects, however, it should be stated that the simplicity which became the main objective of the minimalist cinema is an aesthetical and ethical preference that is specific to *auteura*. As Sözen stated, the minimalist cinema doesn't employ the characteristics of a type or a movement (2013:81) however, minimalism which was defined in 1950's with the films of Dreyer, Bresson, Ozu and Antonioni turned into the strongest and the most effective tendency of cinema after 1959 (Kovacs, 2010:149). Decreasing the elements of stylistic expression; gradual independence of stylistic expressions from the narrative expressions and its prominence; the idle time created through radically matching of the actual temporal intervals of the activities of the characters lacking of dramatic tensions with long shots; and separating narration from dramatization and clearing of emotional effects, approaching to the sensed realities of daily life are the common tendencies of minimalist cinema perspective of minimalist cinema perception. Although it doesn't employ the characteristics of a movement or a type, according to Kovacs, the contemporary minimalist cinema has three basic and dominant tendencies. They are metonymic *minimalism* seen in the films of Bresson, *analytic minimalism* represented by the films of Antonioni and *touching minimalism* which is concretized with Ingmar Bergman (2010:149).

When we analyze the existence of minimalist cinema in Turkish cinema from the perspective of history, it can be stated that there were some individual examples of directors with minimalist approach until 1990's and those examples didn't gain continuity. The leading director who specifically adopted minimalist narration style until 1990's is Lütfi Akad. One of the major reasons for regarding Akad as the representative of the minimalist approach is his employment of actual places for shooting films and his preference for stylistically simple narration language. Akad tries to protect the unity of time and space in his films and gives priority to the movements of the players instead of camera movements. Again, Yılmaz Güney who started filming with Akad presented a plain style with objective reality in his film *Umut (Hope)* (1970) and became one of the strongest examples of the minimalist tendency in Turkish cinema. The new age of directors which emerged in 1990's and called the age of independent directors turned minimalist tendency into a dominant narration style and the conformity with the experiences of daily life, objectivity and naturalness which are specific to minimalist cinema in terms of both narrative and stylistic structure rose into prominence in the films of Derviş Zaim, Zeki Demirkubuz, Yeşim Ustaoglu and especially Nuri Bilge Ceylan. After mid-2000's, new independent film makers were added into Turkish cinema and the number of the examples of the films with minimalist tendency in narration and stylistic structure underwent a radical increase.

3. The Review of the Film "ANA YURDU (MOTHERLAND)" in Terms of Minimalistic Narration and Elements.

Before we analyze the film *Ana Yurdu* as an example of minimalist narration, employing the theoretical perspectives of the directors related to the employment of minimalist structures and characteristics in cinema will contribute to the analysis in terms of methodology. Kovács who comprehensively analyzed the cinematic styles of modernism states that the *metonymic minimalism* seen in the films of Bresson has three major aspects. They are the frequent use of off-screen area, high level elliptical narrative style and high level tranquil acting style (2010:150). The employment of off-screen area which is the first dynamic of the Bresson's minimalistic structure defines the occurrence of biggest information about narration in the zone out of the unseen framework not within the borders of it. The primary reason for the employment of the off-screen area by the director is not to interrupt the relationship between the actual world and space and increase the dramatic tension and the curiosity among the audience, while the second one is to decrease the information overload. Through using the off-screen area, Bresson narrates some parts of the information of the narration through either elements of time or time and sound. In the transmission conducted via the elements of time and sound, the minimalist use of the off-screen area. Some events which are narrated through using off-screen area aren't seen on the screen but only their sound is heard (Kovács 2010: 150-151).

Bresson employs intermittent and fragmental images while developing the stylistic structure. Bodies of the people or objects are presented after they are extraordinarily cut. For that reason, it is often difficult to recognize the thing which is seen at the very first sight. The rest of the image gains a meaning after the remaining parts of it are included into the composition within a few seconds. In this manner, the excessive parts of narration are removed. Bresson's intermittent images are accompanied by the second characteristics of his style, elliptical narration technique (Kovács 2010: 152). The elliptical narration points out the visual plainness and employment of dialogue as scarce as possible similar to the period of silent motion pictures. The third characteristic of the director in terms of minimalistic stylization is the tranquil acting technique at high levels. Bresson thinks that professional actors fail in catching simplicity of actual life since they come from the traditions related to the theatre and performance. For that

reason, he prefers to work with amateur actors in his films instead of actors coming from the performance traditions.

When we analyze minimalism in terms of both other disciplines in art and the art of cinema, it is possible to mention about a perspective both evaded excessiveness in terms of style and content and more plain and conducted for self-satisfaction. In terms of specific attitude and employment of minimalism in cinema, we can list the basic characteristics of minimalism as the employment of amateur actors and actual places, plain acting, using natural light sources, the use of fixed cameras and long plans, preference of voiced shooting instead of doubling, avoiding the effects of artificial sound and image, and dealing with the realistic issues of life. When the film "Ana Yurdu" (2015) by Senem Tüzen is analyzed in terms of the employment of minimalist narration and elements, it is possible to say that it is one of the most successful examples of contemporary Turkish cinema.

The "Ana Yurdu" (2015) which asks brave questions about motherhood, family and rural conservatism via a woman from middle class who returns to an empty village house of her family in Anatolia after she got divorced from her husband and left İstanbul is Senem Tüzen's first full-length film. The film which was written and directed by Senem Tüzen was produced by Olena Yershova and Adam Isenberg. The starring people were Esra Bezen Bilgin (Nesrin), Nihal Koldaş (Halise), Semih Aydın (Halil), and Fatma Kısa (Emine). The film which received awards from numerous national and international festivals was awarded for the best screenplay and Siyad award in Altın Koza Film Festival and awards in 6 different branches including the best film.

Nesrin, the main character of the films, leaves İstanbul after her marriage that she has finished and returns to a house which she inherited from her deceased grandmother in order to finish her novel in an unfinished novel at a quiet and peaceful environment. While Nesrin is trying to complete her novel in a paternalistic village environment that she isn't accustomed to, her conservative mother, Halise, suddenly appears and doesn't want to leave her daughter alone. However, this event both prolongs the writing process and creates an increase in the tension between the mother and the girl. Nesrin is imposed to values of judgement the social class where her mother belongs to, a conservative living environment, and the roles and behaviors defined within the framework of rural she was forced to live and her transition to the paternalistic homeland back of beyond in Anatolia from her modern life in İstanbul and all of those events drift Nesrin to an emotional gap and cliff.

Halise obsessively criticizes Nesrin's decisions and she oppresses her daughter about practicing her religious rituals; thus, this shows that traditional Turkish structure is discussed not only through the authoritative figure of father but also the figure of mother. The aforementioned relationships between mother and daughter becomes a symbolic part of the struggle that lasts for generations about the tension between urban and rural, compatibility and rebellion, traditions and modernity.

The film regards numerous important national matters as the starting point. Those matters include traditional growing forms of the parents, especially women, correlates it with new and modern life forms in Turkey.

When we analyze the narration of the film, we can state that it has a narration which is based on the relationship between the mother and the daughter; it is plain, realist and seems like a part of life and is specific to minimal cinema. In the film, there is no audial or visual information about her divorcing process which forces Nesrin, the female protagonist of the story, to leave İstanbul. Again, there is also no information about the alienation of Nesrin from her mother and her developing an intimacy with the character of Halil at the end of the film. This occasion increases the curiosity of the audiences and

intensifies the tension. Related to those scenes, the existence of the first dynamic of the Bresson's minimalistic structure, the off-screen area, can be mentioned.

When the narration of the film analyzed in terms of style, it can be observed that visual composition was also employed in the film immoderately in parallel with the mood of the characters. In the film, there is an intermittent and fragmental visual organization which is specific to Bresson and different from usual status and framing of the characters. The director fictionalizes the story of two different women who struggle to exist in traditional Turkish society within minimal stage organizations and a simple cinematographic organization and with a perception that every object is employed as a meaningful symbol. Each object displayed within the narration of the film has symbolic meaning. Halise's plates and inlaid spatial ornaments which indicate traditionalism, Nesrin's laptop computer and mobile phone which symbolize individualism and modernism are some of those objects. After Nesrin hanged up her underwear she washed, Halise immediately covers them with another cloth. The dimension of the traditional and moral oppress which Halise applied on Nesrin is shown with numerous minimal details. Through the employed symbols and metaphorical elements, the actual and figurative worlds interlock.

In the film, the acting of Nesrin and Halise is free from the excessive use of gestures and facial expressions, exaggeration and affectedness. Even in the important dramatic performances in the dramatic progress of the film, the simplicity in the acting of the main characters draws attention. Moreover, the characters of the film except Nesrin and Halise aren't professional actors but the amateur ones who live in the actual places where the film is shot, who speak the local accents, seem and wear as they look like and they conform with minimalist perception. Each actor or actress in the film stands for only one character and the same players don't take other roles. When the general acting in the film is considered, simplicity and plainness can be observed. This occasion emphasizes the characteristic which Bresson defines as high level and quiet acting in terms of minimalist stylization. Moreover, the scarcity of the dialogues in the film and the plain visuality which is dominant in the narration all correspond to one of the basic characteristics of minimalist cinema which Bresson defined as elliptic narration.

When we analyze the film in terms of technology, the shootings were dominantly employed through fixed camera angles. Although long plans are seen in the shootings, the movements of camera are as few as possible. All the objects appearing the film are discreet, plain and functional. Since shootings are conducted in actual places, the use of decoration is at minimum levels.

Throughout the film, the lighting employed outdoors is provided through the source of natural light. During the shootings conducted indoors, the employment of minimal light from a single source which is directed at objects and figures is preferred instead of a harsh lighting. The employment of the aforementioned light indoors can be said to be similar to the *chiaroscuro* lighting technique which can be seen in the art of painting. This lighting form is called Caravaggio in baroque style and some parts of the objects in the place is excluded from the frame through light. Thus, plainness is achieved within the frame. It is known that Deleuze categorizes the images in cinema as "affectivity, activity and perception" according to their frames. Affectivity consists of the scales of head, shoulder and breasts which is only focused on the emotion of character or close-ups; action-images consist of general plans which host the place where the action takes place and objects while perception consists of long shootings for the perception of a single place. For example, the objects and place are substantially hidden in the images of affectivity where there is no horizon for screen, they are simplified and the images of affection solely are established through simplifying (Ulutaş, 2017: 64-65). During the day-time shooting, the activity of simplifying conducted through composition in order to

concretize figures and objects was employed in the form which Deleuze defined as perceptual image.

When we analyze the employment of sound in terms of technique, there is no employment of external music which isn't diegetic. Throughout the film, any of the sound effect which emphasizes the dramatic narration isn't employed. When lighting and light designing in the film is considered, it is possible to say that it has basic characteristics of minimalist cinema.



Photo 1. Motherland

We can witness that the composition of the scenes is frequently simplified through depth of field. In the scene where Nesrin and her mother sleep in the same bed, only Nesrin's face is shown clearly. At this point, it is especially aimed to concretize the mood and psychological state of the character. In order to reveal the mood of the character and focus the audience on this point, the frames were simplified through the depth of field. Camera is an instrument which intervenes reality in terms of technology. This intervention first appears when the frame is determined. The framing can be determined in general as close shots, general and long shot.

The reality fictions of the minimalists were isolated from objects and places upon the use of affectivity images within the dimension of framing and visuals, stage arrangements in action images, light and depth of field and simplifying obtained through the aforementioned elements provide yawning gaps in the place which is displayed from distance in perception image.

At the end of the film, Nesrin who was continuously judged by her conservative mother, Halise, on the grounds that she doesn't obey the moral principles runs away from home and meets Halil on the road to the village. Nesrin is alone with Halil in the woods and she starts a game by hitting him softly. After this hitting game, Nesrin and Halil who is mentally handicapped approach to each other without speaking and Halil rapes Nesrin.



Photo 2. Motherland

This scene which takes place in the woods can be interpreted as her objection to the Apollonic values which are represented by her mother at figurative and allegorical dimension in the chthonian environment and the melting and uniting of Nesrin and Halil who weren't trained by apollonic vales on the same mental platform in terms of dionysustism.

Conclusion

Minimalism which chooses simplicity and plainness as an aesthetical attitude through getting rid of exaggeration, ornaments and excessiveness showed itself for the first time in the fields of painting and sculpture as a modernist movement. Starting from 1920's, minimalism started to rise and turned into a significant and common movement in the America especially during 1960's. Minimalism which constituted a resource for numerous disciplines in art preferred by numerous directors in the cinema such as Robert Bresson, Yasijiru Ozu and Carl Theodor Dreyer for narration and stylization. The very first examples of minimalist perception of cinema in Turkey starts with Ömer Lütfi Akad and continues with Yılmaz Güney, Metin Erksan, and Duygu Sağıroğlu. During the generation after 1990, it stands out in the aesthetical and ethical preference of the directors such as Nuri Bilge Ceylan, Reha Erdem, Zeki Demirkubuz, Derviş Zaim, Serdar Akar, Handan İpekçi, Semih Kaplanoğlu, and Senem Tüzen.

Minimalism which was defined by Zolberg as "the resignation of the object by art which represents everything but itself" points out a pure perception which is purged from excessiveness and is "reverted to its type". The sharpest characteristics of minimalist cinema which Kovacs presented starting from the cinema of Bresson is the common use of off-screen area, the elliptical narration style and high level of quiet acting. Many of the aforementioned characteristics can be seen in the film *Ana Yurdu* (The Motherland) by Senem Tüzen.

Tüzen who directs her camera towards the traditional child care-education methods among the parents in Turkey adapted a plain story from the life into a movie where amateur players are employed in a solely naturally enlightened in actual places in terms of cinematography through a story of a mother and a daughter in Anatolia. In her film where she used each object (television, plate, bread, mobile phone) meaningfully, she embeds all the elements of minimalistic stylization into her story successfully. The fixed

camera movements, the use of natural light, the understated degree of acting, actual players in actual places and plain narration established with natural sounds are preferred.

The director of cinematography, Vedat Özdemir, in the film *Ana Yurdu* masterfully reflects the zonesthesia of Nesrin as a woman in a conservative environment through numerous minimalist images and the tension between those two women through symbolically imaging them from the bars of an external window like a *claustrophobic* prison. Nesrin who shelters to the village after her painful process of divorcing escapes from the narrow streets of the environment she runs away, poky indoors, cold climate, and conservative guardianship of her mother Halise drifts her towards Halil and reaches to the borders of becoming mad.

The story of Nesrin who maintains her struggle to gain her independence in terms of dionysiac against the efforts of Halise to discipline her in terms of symbolicalness, apollonism, and dionysm is reflected into a movie within the framework of the plainness of the minimalist cinema. In all those aspects, the film *Ana Yurdu* is one of the specific and successful examples of minimal cinema in Turkey.

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**FROM THE REPORTER ON THE STREET TO THE
REPORTER ON THE DESK:
EFFECTS OF DIGITIZATION ON JOURNALISTS '
WORKING CONDITIONS**

Şadiye DENİZ¹



¹ Associate Professor, Ege University, Faculty of Communication, Department of Journalism.

Introduction

Digital journalism is a news reporting application that can be accessed in all formats of news such as audio, video and image, that the receiver becomes a part of the news itself and that the archive can be stored digitally which significantly reduces the cost of news. The diffusion of new media tools and accessibility have led to the growth of digital journalism. Today, some of the prominent journals in the world are now only in the digital area. Those who sustain their beings as a printed newspaper make a massive investment in their digital versions. Therefore, in the digital area, competition among journals is considerably high. The fact that differentiating from competitors has become significant has also altered the practices of traditional journalism. Today, speed and click stand in the face of being a good journalist as having power and more area than that. In a way that coincides with McLuhan's technological determinism thesis, journalism is now under the supervision of the technological tool, and for journalists, adapting to this technological development has become a justification for their entitativity.

This study aims to identify the problems and new inclinations that occur in the working conditions of journalists in line with the transformation of digital journalism in the journalism profession. In this respect, it is aimed to gather the findings at first hand associated with the transformation in terms of working conditions by interviewing the internet editors working on the websites of national newspapers. In this study, interviewing was used as a data gathering method.

Digital Journalism Studies in Literature

When the literature on digital journalism examined, it was observed that the studies were divided into two periods. Early studies on the subject focus on the positive effects of the internet such as speed, time and cost savings, while recent studies focus on ethical issues created by digital journalism such as the click bait and fake news. Digital journalism refers to a type of journalism that includes all forms of journalism such as interactive video, writing, audio and image with the reader, is easy to access to the archive, saves time/cost, and all components of the news are digitally processed. This type of journalism, called by different names, Mark Deuze, divides it into four categories. These are "mainstream news sites, index/category sites, review/comment sites, and sharing/discussion sites, all of which are named online journalism." (Deuze, 2003: 205). Unlike the written press, the hyperreninism feature, which allows the news to be presented in all contexts and to interact with readers, has led to the emergence of a completely different journalistic practice from digital journalism.

Recent studies on digital journalism focus on subjects such as the reader's impact on news production, the ethical issues created by digital journalism, and changes in journalists' working conditions. Studies on the impact of the reader in the production of news (Vu, 2014; Edson, 2014; Lee vd., 2014; Edson & Ryan, 2015; Anderson, 2011; Dick, 2011; Welbers vd., 2016; Deniz & Korap Özel, 2019; Özyal, 2016; Dönmez, 2010; Işık & Koz, 2014) are aimed at measuring how much the news is clicked and how much the reader is doing, based on the observations in the news chambers or the results of interviews with the editors who are the producers of the news in digital format. For example, Vu's (2014) studies with 318 journalists in the United States and Edson's studies with 206 internet editors in the United States (2015) point that the reader is a significant contributor to digital journalism. Welbers, Atteveldt and Kleinnijenhuis (2016) who examined the printed and online versions of De Telegraph, Algemeen Dagblad, Volkswagen, Trouw, and NRC Handelsblad newspapers in Netherlands through content analysis and interviewed with journalists; revealed the difference between the digital newspaper and the printed newspaper, and concluded that clicking in digital journalism is effective in the news selection process. Dick (Dick, 2011, s. 462-477),

focuses on Search Engine Optimization (SEO) as a new field of business emerging in journalism by reader mediation. Another topic that focuses on the studies of reading measurements in the literature is the potential ethical problems that can cause the increasing impact of the reader. Studies of Anderson (2011), Edson and Ryan (2015) and Welbers, Atteveldt and Kleinnijenhuis (2016) gives utterance to concerns about the increase in the readers' impact in the news production process. Deniz ve Korap Özel's book named "Yeni Eşik Bekçisi Olarak Okur" (2019), based on interviews with the internet editors of the most prominent newspapers in Turkey, reveals how digitization affects the news production process. In another Turkish study, Özyal (2016) examined 1067 articles used in *Hürriyet* and *Milliyet*'s websites by analyzing with content analysis and interpreted their tic-focused news presentations by categories and revealed the formats under which these presentations were fictionalized. Dönmez (2010) and Işık & Koz (2014) focus on the ethical problems created by digitization. He (Dönmez, 2010) defined the click-bait headlines as "snare headlines" and such news as "trash news." (Işık & Koz, 2014) As can be understood from the literature summary, there is no direct study of how digital journalism changes the working conditions of the journalist. This study is planned to fill this gap in the literature.

The Method, Sampling, and Importance of Research

This study aims to identify the problems and new inclinations that occur in the working conditions of journalists in line with the transformation of digital journalism in the journalism profession. Subjects such as the creation of digital business practices and the lack of legislative regulations have added new ones to the problems existing in the working conditions of journalists in the digital world. In this respect, it is aimed to gather the firsthand findings related to the transformation in working conditions by interviewing the internet editors working on the websites of national journals. In the theoretical part of the study, the topics covered by publications in Turkish and foreign literature on digital journalism were discussed. In the research, the following questions searched for an answer:

- How did digitalization change the practices of doing business in journalism?
- What new problems did digitalization bring about in the working conditions of journalists?
- What are the disparities between working conditions in internet journalism and working conditions in the printed newspaper?
- What are the views of internet journalists on working conditions?

In this study, interviewing technique was used as a data gathering method. In this study, "Interview form technique", which is one of Patton's (1987) interview approaches, was applied. "The interview form is an improved method to ensure that all dimensions and problems related to the research problem are comprised." (Yıldırım ve Şimşek, 2013: 149-150) In this study, the most visited web sites in Turkey were interviewed with the internet editors of national newspapers in order to assert the effects of digitization on journalism. The data obtained as a result of the interviews were classified and converted into numerical data by using content analysis method. Thus, the views and inclinations of the journalists on the subject were determined. Within the scope of the research, the method of purposive sampling was applied for the determination of journalists to be interviewed. The internet editors of digital journals were interviewed in four months in 2018. Newspapers selected as samples are; *hurriyet.com.tr*, *milliyet.com.tr*, *sabah.com.tr*, and *ahaber.com.tr*. A total of 6 journalists were interviewed. The institutions, duties and working hours of the interviewed journalists are displayed in Table 1.

Table 1: Journalists interviewed in the research, their duties, institutions and operation times in the profession (Names have not been deciphered)

Journalists	Position	Instution	Professional experience as a journalist	Professional Experience in Digital Newspaper.
Journalist 1	Internet Editor	hurriyet.com.tr	15 years	5 years
Journalist 2	Internet Editor	hurriyet.com.tr	10 years	8 years
Journalist 3	Internet Editor	milliyet.com.tr	33 years	12 years
Journalist 4	Internet Editor	milliyet.com.tr	10 years	10 years
Journalist 5	Internet Editor	milliyet.com.tr	20 years	4 years
Journalist 6	Internet Editor	ahaber.com.tr	5 years	2 years

Effects of Digitization on The Working Conditions of The Journalist:

Since digital journalism is focused on technology and speed, it has also changed journalism practices. The participants' responses to how digitization changes the working conditions of the journalist can be collected under two headings: changes in the qualifications and changes in the working conditions of the journalist.

The Impact of Digitization on The Required Qualifications of The Journalist

Under the heading of increasing the qualifications required by the journalist, having more technology usage knowledge and having the practice of reporting at the desk are the most prominent factors. From journalists, participant 1 expressed this change as follows: In digital journalism;

"organizational structure is changing. There is a unit called SEO that's not existed before... Also, for example, Hürriyet's application development, software update, personalization of our site, there is a section called "Business Intelligence", a team of 4 people is reporting. They are responsive to technical jobs. Organizational structure transforms... For example, it is said that we are looking for a multimedia journalist. What tools do we use today to enrich the multimedia news? For instance, we use interactive graphics. It is not just a typical infographic; it is an infographic that you can see when you are touching on it. This is essential because it allows us to deliver information meaningfully and effectively. To do this, you need to transfer the maximum information as soon as possible. Infographic is one of the most influential. We made it interactive. When you click on the map, information such as the name of the deceased, the profile, the exact nature of the incident, and how many people died are emerge. You can zoom in and out of the map. We are improving the reading experience. We use multimedia to transfer the information we have in the best feasible way. For example, a rocket fell into the Kilis. We put a 360-degree camera into the house where the rocket fell. The reader can wander inside the house. Instead of just transferring the news with text and two photos, we try to give the reader the experience."

Participant 1 also responds to what qualifications the journalist should have in digital journalism. According to this, a journalist who desires to work in digital must have all the necessary technological knowledge for coding, algorithm, infographic, 360-degree reporting. Participant 2 stated that he knew that all journalists working in digital know how to edit video, can analyze social media, can have the knowledge of Google algorithm, and can do research on the internet.

The Effect of Digitization in Terms of Changing The Working Conditions of The Journalist

The other effect of digitalization on journalism is that it changes the working conditions of the journalist adversely. When the answers given by journalists on this subject are evaluated, six problems emerge, from the most specified to the least:

- Aggravating working conditions,
- Non-journalist employees,
- Fewer pressmen employment,
- The lack of legal arrangement,
- Occupational organization problem,
- Illicit work.

All of the journalists interviewed perceive that digitization aggravates the working conditions of journalists as the most compelling effect of digitization on working conditions and the most critical problem. All journalists state that the working conditions are aggravated, that the editor is now involved in all of the news production processes, and that journalism in digital is becoming a 24/7 business. The requirement for constant updating of the news has resulted from the fact that journalists work under a heavy burden of news. Although newspapers shifted to the shift system for 24-hour publishing, the lack of employment rates has led to an increase in the workload of journalists. On the other hand, the multimedia function, which pointed out that it was possible to present the news as visual, auditory and textual, has aggravated the journalist's workload. The multimedia feature will open the way for newspapers to write news reporter, the cameraman to take pictures, and the photographer to take photos, but this is not the case in practice. Instead, it led to the same reporter being held responsible for doing all of this, thus making it necessary for the journalist to have more skills and aggravate the workload. Participant 4 states that the working conditions of the journalist in digitized journalism are getting harder:

"I think internet journalism is the same weight as mining. Because the traditional newspaper has a specific time zone. You are comfortable with some of it. After the newspaper goes to press, whatever you do, you are work is completed. However, since we can publicize every minute, we are under much more pressure than the printed press. Even when we get out of work and go home, we keep track of the agenda."

Participant 2 also explains that the journalist had to work harder and, unlike the traditional press, the responsibility to achieve new objectives, such as "clicking" outside of the reporting, is shouldered by the journalist:

"Internet journalism is kind of like a woman's domestic labor. You know, the woman's work in the house is not noticeable, the internet editor is just like working in the kitchen. We cook all the time, someone is eating, but there is nothing. Unlike the newspaper, the internet editor has a PV goal in addition to its objects such as not skipping the news, presenting a piece of news in the best possible way before anyone else. You need to have

read your news as much as your set target. For a week you have access to an excellent PV and several users, but when the new week starts, everything starts from the beginning."

Eighty percent of journalists see the increase in the number of non-journalists as a problem as a result of digitalization. In particular, the employment of inexperienced and non-journalistic people who can be employed cheaper than professional journalists on non-institutional news sites, the publication of unrealistic and sensational news under the name of news site for the purpose of advertisement of many non-journalists, and the creation of inconveniency by citizen journalism which is not responsible for professional journalism norms, are listed as the reasons for this articles listed by the journalists.

Katılımcı 5, internette artık herkesin kolayca gazete açabilmesinin, amacı gazetecilik olmayanların da bu sisteme kolayca dâhil olabilmesinin yolunu açtığına dikkat çekmektedir. İnternet editörüne göre (katılımcı 5), *"For example, not everyone may be a reporter, but he is an engineer, but he is in this system. There is a problem here with the criteria for who is a journalist. One can also set up a news site to threaten someone or open a news site to make falsified news."* in his words, the lack of clarity between the real journalists and the "journalist appearances" points to the problems that can cause.

In addition to the problems mentioned above, the journalists highlighted the employment of fewer reporters in the third place with 73 percent participation rate in terms of the impact of digitalization on the journalistic profession. Also, it also highlighted the lack of legal arrangement with a 73 percent participation rate. In particular, the lack of legal arrangement and personal rights concerns have been expressed frequently in the negotiations. Participant 4 expresses his concerns on this subject as follows:

"Due to the lack of legislative regulation, I perceive it as a great inconvenience for internet journalists not to be legally accepted as journalists and not to be able to get a yellow press card. I have a yellow press card, and I do not have a problem like that, but many of our co-workers are encountering it. Then you are no different from any profession employee. However, you are getting exhausted, working under more pressure. When it is a bad situation, it is said, "but you are a journalist, you have to do this," but when it comes to claiming your rights, you are a regular employee. This situation creates a contradiction. For example, we were able to put only one journalist at the funeral of Mesut Yılmaz's son because only the journalists with the yellow press card were accepted. Not getting a press card for internet journalists is a severe problem. A reporter friend of mine who works for the internet newspaper might want to get an image, and the police can take him away. Because he is not legally a journalist."

Fewer journalists employment has also been one of the problems seen as significant by journalists. Journalists emphasize that the internet is a positive platform for unemployed journalists to be able to express themselves by setting up their news sites and enabling them to do alternative reporting, but one of the significant problems it poses is the employment of fewer reporters.

Applications such as fast data transfer, social media becoming a news source, applications that allow journalism to produce news headlines such as data journalism and robot journalism, and applications such as digital newspaper, such as the lack of printing costs have led to the increase of desk-bound journalism. The practice of desk job reporting has led to a gradual decrease in the value of the reporter and therefore to a decrease in the employment of the journalist. In addition to decreasing the employment of journalists, desk job news reporting also provides opportunities for the appearance of technology-based news types such as data journalism, robot journalism, diversification of news sources through the internet and virtual interviews with news sources.

According to reporters, this has led to a shrinkage in the value of the reporter working in the field and to a more comprehensive job description of the editor. Editors are no longer preparing the page by editing the news, but, unlike the traditional press, they are also writing the articles as “editor/reporter at the desk.” Participant 2 stated that the role of the editor differs from traditional journalism with these words; *“the editor’s function on the internet has changed. Unlike the written press, the internet editor also writes news when required. For example, there is a matter that needs to be reported as news immediately, and we will edit and publish it right away. We do not wait for the reporter to write. However, if there is time to submit for publishing in the newspaper, the editor asks for the news center, the news center prepares the news and sends it to the editor. On the internet, there is no time to wait. The editor can also translate from a foreign website if necessary.”*

Participant 5 stated that the workload in internet journalism is more than the written press with these words: “At any time in digital, you need to do a continuous check on your field. From journalism, the following has changed; Previously, the journalist would get the information and gather. Now the journalist needs to give instant information before it is too late, he needs to provide accurate information instantly, journalism has changed from this point of view. We had much time before, and now we do not.”

On the impact of speed on working conditions as a dominant factor, participant 6 says: “Journalism in digital, not like the news made by a journalist in the printed press, needs to change continuously, is continuously consumed, or the user leaves. If you keep 25 headlines all the same until the evening, the reader is already visiting them all at the beginning; if you do not establish a new one, the reader leaves from the site because there is competition.”

About speed, another internet content administrator says: “The same thing occurred in the printed paper, every morning a new marathon, the news you inscribed the previous day, the next day is over. You are making a new newspaper every chance here every hour; you cannot stop. If there is anything significant, we are staying in the newspaper. You have to give attention to the headline; it is a delicate matter. For example, you can attack an event in Colombia as you wish, but you have to be sensitive about national issues.” (Participant 3).

The journalists expressed the rapid increase in illicit work employment due to uncontrolled and numerous small news sites, with 53 percent of the impact of digitization on journalists' working conditions, and finally the continuation of the professional organization problem in the digital media in the same way as in the conventional press, with 47 percent. Participant 5 draws attention to the fact that legislative regulation is an obligation for internet journalism with these words: *“This is a process, there will be administrative arrangements. The state newly understands the internet media and an arrangement will be made about it. For example, not everyone may be a reporter, he could be an engineer, but he is in this system. There is also a problem with the criteria; he can only establish a news site to make falsified news. Rather than the press card, this issue is subject to Law No. 212 on personal rights, the depreciation and leave related. Time is required, now that the system has evolved here, its arrangement will be made.”*

Conclusion

In this study, which was formed as a result of interviews with editors who are currently employed in digital journalism, it is revealed how digital journalism affects the journalism profession and working conditions. Journalists agree that the advantages of

the internet in terms of reporting do not apply to the working conditions of journalists. In terms of journalism, the internet has positive features in terms of enabling virtual interviewing with the news source, becoming a news source of social media, increasing data journalism, providing desk job news reporting opportunities and reducing costs. However, according to the journalists interviewed, these features and the transformation experienced adversely influenced the working conditions. Digital journalism has brought a profound change in the two main areas, in the qualifications that the journalist should have and in the working conditions of the journalist.

Together with digital journalism, internet editors have technological knowledge such as coding, algorithm, video editing, and taking over the work executed by more than one person in the press. It has led to the turning of the digital newspaper into a news production system, the news from news agencies and editors being perceived enough to publish journals, the reporter losing value and, as a result, fewer reporters were employed. In digital journalism, the editor has become a “desk reporter/editor” who takes responsibility for the duties and responsibilities of the reporter. Besides, the disappearance of the time and place limit in reporting and the continuous updating of the news, the emergence of the speed as the main factor for differentiating from its competitors, made it compulsory for journalists to operate 24/7 and caused them to live with a constant concern of “missing the news.” The journalist who does not have the chance to publish news developments after going to press in the conventional press, but on the internet news traffic proceeds in an endless loop. Moreover, a “clicking” target and concern was added to this. Also, the fact that the news is consumed in such a short time causes the journalist to feel worthless about himself and his profession.

Another changing condition for reporters is the fact that the journalist on the street is now in the office and the journalist is out of danger on the street. Although this is considered a favorable situation, it contains another risk: A high risk of making mistakes in the speed/competition/clicking target triangle! The first condition of differentiating from its competitors is to become the first entrant, which leads to the spread of unconfirmed, unaccredited news in a short period.

Another problem with the working conditions of the journalist is that journalists working in digital do not have constitutional assurances. Most of them are not subject to 212, and they cannot get a press card. On the one hand, while working under a heavy workload that does not have a concept of working time, on the other hand, they do not have constitutional assurances. Besides, the fact that technology is dominant in the news brings the result of the alienation of the reporters to the profession they do. In the following years, it is speculated that software-based journalism, such as robot journalism, will become widespread, and this seems to bring about new problems for journalists who are not already employed sufficiently.

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PALLIATIVE CARE TOURISM (PCT) AS ONE NEW FOCUS FOR MEDICAL TOURISM

Seyfullah GÜL ¹



¹ Dr. Öğretim Üyesi, OMÜ Turizm Fakültesi, Turizm Rehberliği Bölümü.

Introduction

Tourism has become one of the fastest growing sectors of the world economy in recent years due to its contribution to regional and national economic development. The fact that it has a multidimensional feature with its economic, social, cultural and political influences has separated tourism from other sectors and made it the phenomenon of today. Tourism has been seen as a starting point for the solution of economic problems faced by many countries since the second half of the 20th century and for exceeding the economic bottlenecks (Önen, 2008). The developments in international tourism movements have a great effect on the formation of this idea. Because, according to the data of World Tourism Organization (UNWTO), the number of international tourists, which was 25 million in 1950, reached 1,323 million in 2017. Correspondingly, international tourism revenues also increased to USD 1.6 trillion in 2017 from USD 2.1 billion in 1950. Furthermore, tourism projections for the future indicate that by 2030 there will be significant increases in the number of tourists (1.8 billion people) and tourism expenditures (USD 2 to 3 trillion) due to technological innovations, economic developments and demographic changes (UNWTO, 2018).

It is a known fact that tourism is multidimensional as a concept and also it shows multidimensionality in terms of the diversity of the resources that direct people to tourism. Especially, in the world that continues to be shaped every day, it is generally agreed today that new experiences with different products and services by and for seeking tourists can be created as a newly theme-based types of tourism. In other words, the change in the tourist profile has brought about the diversification of the values that constitute the source of the tourism day by day. Especially the products and services offered within the scope of health tourism have been one of the important motivation tools of national and international tourists.

With the increase in average life expectancy, there has been a significant increase in the number of patients who have to live with the problems associated with life-threatening diseases (Vos, Barber, Bell, Bertozzi-Villa, Biryukov, Bolliger, & Duan, 2015). In order to support the physical, psycho-social and spiritual aspects of these patients and their relatives, which are defined as palliative patients, centers providing palliative care services were established. However, palliative care has created countries with major problem and challenges due to the increase in the number of patients demanding palliative care and the amount of health expenditures (Ghrayeb, 2017). Some of the countries resolved this problem through palliative care centers that they have formed in health institutions and some of them were insufficient to resolve the problem. Projections show that palliative care will occupy the world agenda as a growing problem and that new strategies, planning and stakeholders are needed to resolve the problem (McLeod, 2016). In other words, multi-disciplinary approaches and suggestions are needed in terms of the solution of the problem and the nature of palliative services. At this point, it is thought that the tourism sector, whether or not, can be a focal point in the solution of the problem. However, it is understood from the literature review that tourism has no role in palliative care until now. In other words, the issue of palliative care has never been seen as a market for the tourism sector.

Based on previous analysis, we have identified that palliative care services in health tourism can be considered as a thematic sub-branch. The intention of this broad overview is to bring some particularly useful concepts developed in palliative care to the attention of tourism investors interested in matters of health and to stimulate research along new lines. Thus, it is aimed to create a permanent theme about palliative care tourism. For the purposes of this essay, the term palliative will be taken to mean end-of-life care services supporting peaceful and quality end of life (Patricia, 2016). This essay started with the question: *How can palliative care services affect health tourism?* The

central question then becomes: *Is palliative care an opportunity for world tourism?* In order to find answers to these questions, information regarding the history of palliative care services and the characteristics of the services were provided. It is important to emphasize that palliative care is a long process in which the patient and the family are at the center, where the individual starts with the disease and loses his or her life and involves the mourning process. The number of patients and their relatives, the length of the process and the size of the palliative care expenditures make palliative care an important thematic issue for tourism. This research was conducted after a series of hypothesis testing on how palliative care services can affect world tourism, and the theme of the palliative care tourism on a new type of tourism targeted to bring to the agenda.

Palliative Care: Definition and Scope

It is important to be clear about the definition of palliative care in order to establish this study on the right basis and to relate the subject to tourism. In palliative Latin (pallium) is the cover or curtain, and in French (palliative) drugs or methods that temporarily relieve one's pain or eliminate disease symptoms, and in Turkish it is defined as pain relief health services (Ozcelik, Fadiloğlu, Uyar, & Karabulut, 2010; Turkish Language Institution [TDK], 2018). According to the World Health Organization (WHO, 1990) palliative care is defined as active and holistic care given to patients who do not respond to treatments that eliminate disease. However, in 2010, this definition has been updated as an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual (Temel, 2010; WHO, 2014). This care is the total of services which are offered to the palliative patients in a period of time, including the grief period, from diagnosis to death, depending on a procedure under the supervision of a specialist (such as a psychologist, a palliative physician, a palliative trained nurse and a caregiver, a religious counselor, a family member, or a palliative care volunteer) in a clinic or hospital (Figure 1, 2). In other words, palliative care refers to a long and comprehensive process involving patients and their relatives and service providers.

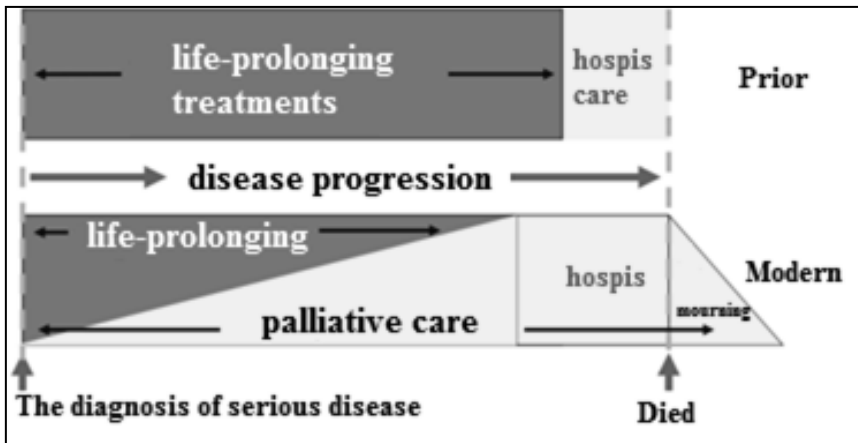


Figure 1. Palliative care processing (Uslu & Terzioğlu, 2015).

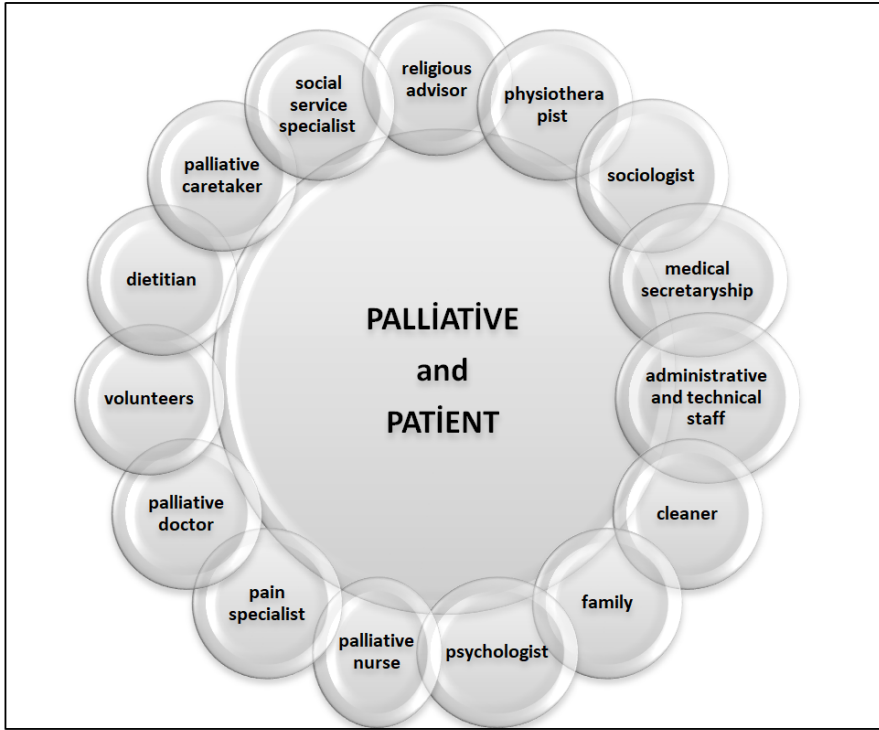


Figure 2. Palliative care team (Prepared by Ministry Health of Turkey, 2018).

In this context, palliative care services cover the services where patients and their families are at the center as their psychosocial, physical and spiritual needs of these individuals are met (İşıkhan, 2016), (Figure 3). In other words, palliative care focuses on early diagnosis and best evaluation of pain and other problems in the patient, who first encountered problems due to life-threatening disease (Meier, 2008). Afterwards, the patient's requirements to meet the needs of some of the pain prevention and pain relief practices are considered (Uslu, 2011). Thanks to these practices, the life quality of patients and patients' relatives are improved and the patient is provided with a peaceful and quality of life.

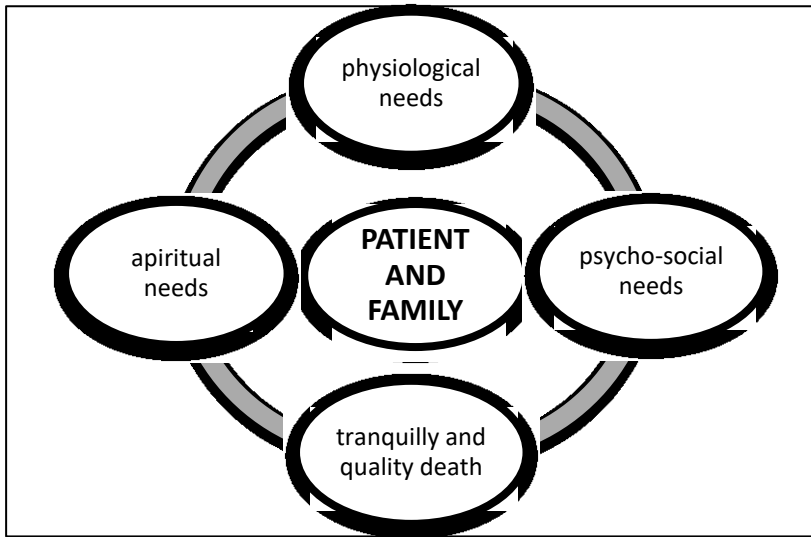


Figure 3. The scope of palliative care services.

The Evolution of Palliative Care

Although the history of the philosophy of palliative care, which is unintended to accelerate or delay death, is very old, it began to enter medical literature in the 1900's (Öngel, 2017). Today, it is used effectively in many countries of the world; others are working on this subject. When we look at the historical development of palliative care, it can be seen that this service first emerged as a hospice-like care center where travelers can rest in the 4th century. In the 19th century, the centers were built where dying patients in Ireland and London waited for death in a religious order. The Hospice service began when Dame Cicely started working as a nurse in St. Thomas Hospital in 1944 and opened a nursing home (hospice) in 1957 after working with a terminal patient (Lundy, 2016). Hospice is a home-like setting care centers designed to provide palliative treatment to the patient in their terminal period. By the 1960s, hospices emerged, which provided more organized and systematic care services outside the traditional care services. After the founding of Christopher Hospice in UK in 1967, respectively Canada (1973), US (1987), Scandinavian countries, England, New Zealand, Australia and in Japan (1990), new hospices were opened (Sucaklı, 2013; Özkan, 2011) and have since entered into a process of development and often started in creating an agenda in the international arena (Klaschik, Nauck, Radbruch, & Sabatowski, 2000). In the 1990's, palliative care services, such as hospital-based palliative care, palliative care at home, and community-based palliative care have been developed. The first pan-European center, devoted solely in developing palliative care and for end-of-life care, was established in 2009 in Trondheim, Norway and still serves today. Nowadays, hospices are available in many hospitals, at family health centers and at homes. Depending on these developments, October 14th is celebrated annually worldwide as the World Palliative Care Day (WHO, 2017). Tremendous strides have been made in the last two decades with regards to the quality of palliative care available to patients at the end of their life. But progress has not been uniform, even among countries in the same regions of the world. Even in countries known with advanced prosperity, such as Denmark,

Norway, Sweden and Finland, there are shortcomings in end-of-life care policies and practices (Hoefler, 2012).

Palliative care is accepted by the World Health Organization as a necessary health service under the universal right to health. Even palliative care has a key role in achieving the goal of sustainable universal health care (The Worldwide Hospice Palliative Care Alliance [WHPCA], 2014). In spite of these developments, palliative care services are integrated in health services and modern hospices only in 45 countries. While palliative care services are being structured in 23 countries, palliative care is provided by local services in 91 countries. Unfortunately, there are still no palliative care activities in 75 countries (Lynch, Connor, & Clark, 2013).

Characteristics of Palliative Care

- Palliative care is a patient-focused special medical care service. This type of care focuses on relieving the symptoms and stress of a serious disease. The purpose of palliative care is not to extend the life of a patient, but to improve the quality of life of people suffering from the symptoms and stress of diseases. Each individual has a different identity as well as a different standard of living. Again, each individual's pain and resistance limit is different from each other. Even researchers say that every individual is unique, each family and dynamics are unique, but each suffering is even more unique (Mok, Chan, Chan, & Yeung, 2003). Therefore, palliative care is a patient-centered service. That is, the patient is asked what is important for them and what are their main priorities, and based on the wishes of the patients or families, a care plan and a strategy are developed.
- The patient's family is also the focus of palliative care. Palliative care is provided by a private team of nurses and other specialists with the doctors of a patient to provide a special layer of support. This team will help palliative patients and their relatives gain the power to continue their daily lives.
- Palliative care is not curative care. However, palliative care and curative care are often confused by most of community. Curative care is a medical care service to prolong the life of the patient with the help of various drugs. But, palliative care is a patient-centered approach that provides many care services, as well as medical drugs including to patients and their families. Both are similar in terms of the provision of services to the patient by experts. However, curative care focuses on life quality and prolong life time while palliative care focuses on the quality of life and quality of death.
- Palliative care is an interdisciplinary formation. There is a need for cooperation between experienced doctors, specialist nurses, psychologists, social workers as well as other occupational groups and volunteers from different fields of expertise in order to present palliative care services accurately and effectively (Ministry of Health (Turkey), 2012).
- Palliative care is a long and comprehensive care service. Although palliative care is seen as temporary at a first glance, however this process sometimes takes decades. Palliative care starting with the diagnosis of the disease is a process that includes the death of the patient and the mourning period after death. In other words, through palliative care that family are notified and informed about patient's death and therapies that may be required for the relatives of the patient are included. Even if specialist doctors from different disciplines are at the center of this process, as for the diagnosis of the disease, there are complex structures with dozens of individuals which are included: such as nurse, physiotherapist, psychiatrist/ psychologist, cleric, social worker, dietician, volunteers and relatives of patients.

- Palliative care is not just oncological care. Unfortunately, when palliative care become the main topic of conversation, the first oncological care comes to mind in many people's thoughts. However, these two issues do not meet each other exactly. The reason for this is perhaps that in many countries palliative care centers are located on oncology centers or most of the palliative patients are cancer patients. Mind you, palliative care units within oncology centers are a type of palliative care, but chronic diseases such as cardiovascular diseases (38.5%), chronic respiratory diseases (10.3%), AIDS (5.7%) and diabetes (4.6%) are also at the forefront of palliative care (WHPCA, 2015), (Figure 4).

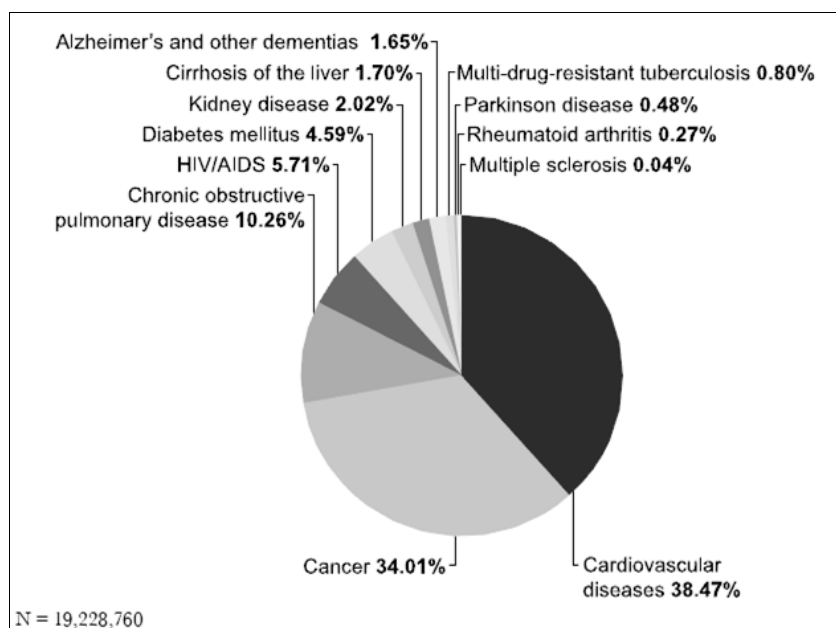


Figure 4. Distribution of adults in need of palliative care at the end of life by disease groups (WHPCA, 2015).

The Importance of Palliative Care

Millions of people living with life-limiting diseases worldwide live and die with much preventable pain and distress. It must be acknowledged that the entire world population is a candidate for palliative care. Although this fact is known to all circles, this issue is seriously neglected in global and national health systems, policies and discourses.

Our findings show that 42% of the world countries have no nursing homes and no available palliative care services. Furthermore, the data show that more than 60 million people suffer from serious illnesses and over 25.5 million people die from serious health problems requiring palliative care every year (Chan, 2018; WHPCA, 2018). The objective of the palliative care service that patients in such situations accept as the normal process to death and to help that individual live as well as possible, and to prevent unnecessary chemotherapy and radiotherapy. It is known that in many countries, palliative care patients are often referred to the emergency department due to complaints and they are

hospitalized only to be taken into intensive care unit for invasive procedure with unnecessary examinations. Thanks to palliative care, it is possible to avoid the above mentioned negativities. In addition, it is possible to increase, with offered the palliative services, the quality of life for patients and their relatives (Rome, Luminais, Bourgeois, & Blais, 2011). In palliative care centers, many services are offered during the mourning periods with physical (treatment of pain and other symptoms), emotional, social, cultural and spiritual support. Particularly, therapies will be available and applied to families during the grief process and studies show that during mourning notifications these services are becoming more important. The services included in the palliative care are important parts of palliative care that included acceptance of the patient's family combating with mourning. When we consider the statistical data, we can summarize that the subject of palliative care will and is one of the topics as part of the world agenda for the future. In particular, the quantitative magnitude of expenditures for health care makes the issue of palliative care more important.

Palliative Care Tourism (PCT): Motive and Conceptual Framework

Tourism is a collection of activities, services and industries which deliver a travel experience; comprised of transportation, accommodation, eating and drinking establishments, retail shops, entertainment businesses and other hospitality services provided for individuals or groups traveling away from home (World Tourism Organization [UNTWO], 2018). Besides the feature and content defined above, tourism is a growing field with many opportunities. That is to say, tourism is not only a limited sector to make investments on the basis of _certain sub-branches. Traveling to solve every problems or to meet interest and desire are a new opportunity for tourism. For this reason, new investment opportunities will be provided to the tourism sector by transforming the interest and requests of tourists into the most appropriate services with new events and phenomena occurring on the world scale.

Perhaps health tourism is the sector which will provide the fastest new sub-branches in the tourism sector. Today, when it comes to health tourism, the first that comes to mind is therapeutic health services. However, with increase in elderly population, the prolongation of life span and especially the life expectancy of patients, in addition to treatment tourism, maintenance services tourism is in the forefront of health tourism. In this context, the population with the need for palliative care has reached a number that will not and cannot be ignored. The data show that approximately 40 million people in the world need palliative care every year, and only 14% of them have access to this service (WHPCA, 2014). Research shows that in 26% of countries, palliative care services are well integrated into health services, 32% of countries offer isolated palliative care services and 42% of countries do not provide palliative care (Seya, Gelders, Achara, Milani, & Scholten, 2011).

In increasing the number of hospices providing palliative care services worldwide and integrating them into tourism will give a new impetus to tourism sector. Therefore, palliative care services have a tourism potential as a thematic sub-branch when it is taken into account the projections related to the numerical magnitude of the mass, the expenditures made and the future of palliative care. Furthermore, the increase in the number of palliative patients in need of palliative care with the increase in expenditures will makes it indispensable not to evaluate the issue within the health tourism.

In national and international literature, palliative care appears to be the subject of medical and health sciences and has a health-oriented terminology. The tourism sector has not taken the issue of palliative care into its agenda like many other sectors. It is observed that the palliative care of tourism is mostly evaluated in the third age tourism. In contrast, research suggests that palliative care is a very different area than that of

elderly care or intensive care and that palliative care is a more organized and systematic, providing services for medical, social, cultural and spiritual dimensions (Kurtluk, 2018). For this reason, it would be more accurate to define palliative care as a sub-branch of health tourism differently from the third age tourism or aged care tourism.

Rather than suggesting a definition in this study, a new theme that may be the source of tourism will be discussed. Therefore, it is important to present this theme rather than to suggest a definition for the study. However, although palliative care is an area of increasing interest, it is not known as a new theme by the tourism sector. This fact forces us to create a definition for palliative care tourism. In this study, palliative care tourism has been defined as the process of traveling outside of place of residence of the patients and their relatives in order to alleviate the symptoms of disease and improve the quality of life in patients who require palliative treatment at any stage of the disease. It is important to emphasize that it would be wrong to evaluate palliative care tourism only for patients and their relatives. Palliative care volunteers are one of the focus points of palliative care tourism. What we mean is that it is known that volunteers also travel in order to participate in care services for palliative patients in recent years. As a result, the definition of palliative care tourism should be clarified by evaluating palliative care volunteers within the scope of palliative care tourism. Palliative care tourism through our analyses are patients who require palliative care treatment, traveling outside of the place of residence of the palliative care volunteers, alongside the patient and patients' relatives, in order to alleviate the symptoms of the disease and improve the quality of life at any stage of the disease.

The Importance of Palliative Care Tourism (PCT)

With demographic developments in the world population while improvements in health services and health service fees may vary significantly between countries, for this reason palliative care tourism makes a strong investment field for the future. Incidentally, this hypothesis may not seem very realistic in some circles. However, when medical tourism came into the agenda before the 2000s, there was little consideration among the tourism sector and stakeholders. Nowadays, health tourism has become an important sector for the world, so much that the services and demands expected from health tourism have increased. In recent years health tourism diversified to give rise to new tourism areas. Among these, advanced age tourism has become a potential for countries. Because the world population has entered a rapid trend of old age, old age has become a feared part of the future.

In the meantime, along with the aging population there has been an increase in the number of palliative patients who have to cope with the long-suffering, incurable pain and diseases. For this reason, palliative care tourism has become one of the issues to be considered in tourism market and investments. Especially in developed countries, the high cost of such care is seen as an advantage for developing countries. It is important to emphasize that because the treatment of palliative patients is long and expensive, private insurance companies either cover only some of the patient care costs or direct these patients to cheaper care services. Some patients' relatives cite that instead of providing quality of life for palliative care patients, these programs create additional pain and suffering for patients and for patients' relatives. What we mean is that palliative care combined with tourism provides a relaxing solution for patients' relatives.

When we examine our researches, it was noted that the elderly and sick population who cannot benefit from care services are the least beneficiaries of tourism services, considering the masses and age groups in the world (Hertog, 2017). Further, research

shows that even in a continent with developed countries such as Europe, more than half (52%) of the European population over 65 years of age do not participate in tourism. In terms of the elderly and the need for palliative care, the ratio falls below 0,1 % (Eurostat, 2017). It is important for the future of palliative care tourism that large hospitals and health centers provide services with palliative care integrated in health tourism as well as therapeutic services.

On the other hand, palliative care tourism should be considered not only for individuals in need of care but also for their families and patient's relatives because family members who need to go on vacation do not participate in tourism activities with their relatives who are in need of palliative care. This often results in the family postponing for the holiday or even canceling their trip. The most important reason for this is the absence of tourism facilities with palliative care centers in destination countries. Of course, it should be noted that there are also socio-cultural reasons. As a result, the opening of touristic hospices offering palliative care, international travels and expenditures will increase as it will offer palliative patients the opportunity to spend a nice holiday with their relatives or loved ones. Therefore, for the palliative patients, the cities and countries offering a total care plan for the physical, emotional, mental, social and spiritual aspects of a disease will be the first places to receive palliative care tourism.

Palliative care tourism offers opportunities to participants who are attracted to voluntary tourism, which has increased in popularity in recent years. Value-based motivations particularly from narratives, integrity, humility, charity, responsibility, spirituality and humanism have become popular among young people in recent years (Bonney, 2004). Voluntourism is one of the fastest growing travel trends with more than 1.6 million volunteers spending over US \$ 2 billion a year (Pompurová, Marčeková, Šebová, Sokolová, & Zofaj, 2018). This centers where people in need of palliative care are available to offer opportunities for volunteer tourists (Söderhamn, Flateland, Fensli, & Skaar, 2017). What we mean is that people who travel from different countries of the world due to palliative care tourism can spend time working with palliative care patients, an enriching experience that is consistent with the principles of the development of responsible tourism.

Another argument on the necessity of supporting palliative care tourism is the rapid increase in tourism or euthanasia tourism. While in some jurisdictions suicide or euthanasia is legal, euthanasia is not allowed in many countries. It is important to emphasize that the demand for euthanasia increases in palliative patients who are unable to receive the necessary care and attention or just left alone (Broeckaert & Janssens, 2002). For this reason, many palliative patients residing in countries where suicide or euthanasia is not legal, they will travel to countries where euthanasia is legal (Miller, 1997). The development and proliferation of palliative care tourism may help to reduce the rate of suicide and euthanasia in the world. So, it is thought that palliative tourism will also provide a solution to this particular social problem.

Palliative care is not a service at home single-handedly. It is imperative that there is always the presence of someone near the patient. For this reason, family members who have palliative patients have to take long-term paid or unpaid leave. Individuals who do not go to work for a long time, significant economic losses are experienced. When this issue is viewed in Turkey, for example, the law provides for relatives of patients in need of palliative care are given paid leave up to six months. (Ministry of Health (Turkey), 2018). Considering this length of time, the economic loss is great. We must admit that palliative care tourism will increase the continuity of the care of relatives of patients who are staying in safe hospices supported by tourism and this problem will be resolved to a large extent.

Research shows that 80% of patients admitted to emergency departments, 50% requires palliative care (Uslu & Terzioğlu, 2015). In this respect, it is impossible for patients who require more urgent care to receive the health services they need due to the sheer high number. There is a definite need for more centers providing palliative care: to provide health care services to patients in need of an outpatient clinic. This is not a simple problem that can only be solved by the health sector. Accordingly, the solution of the problem is only possible by considering the interdisciplinary work of health institutions and the tourism sector. The reason being palliative care as integrated with tourism will create a sustainable palliative care.

Palliative care is one of the highest health recorded expenses under the health expenditures per patient. If we analyse on Turkey and European scale, this problem will be better understood. Palliative patients make up 60% of deaths in hospitals in Turkey. Each terminal period maintenance lasts 15.8 days. The cost of care for these patients varies between US \$ 300-350 per day. Daily care costs are over US 300 dollars in Europe (Bickel & Ozanne, 2017). On the other hand, research shows that palliative care services have a 30-65% decrease in expenditures when taken from hospices instead of hospitals (Kaya, 2015). The spread of palliative care centers and its support for tourism will reduce hospitalizations by preventing unnecessary examinations and chemotherapy. In addition, unnecessary anxiety for the patients and their relatives will be prevented (Kaya, 2015). As a result, palliative care tourism will increase the quality of life of palliative patients and their relatives, and will also provide significant savings to the economies of the country.

Discussion and Conclusions

In this study, palliative care services were integrated into tourism, and we created a new thematic tourism sub-branch called palliative care tourism in health tourism. Because of developments in living standards, economy, health services and technology, these factors have increased the average lives of people. However, the population that is living longer with incurable diseases have also increased. Increasing the quality of life for the population in need of palliative care and supporting their relatives is accepted as a universal health service by the World Health Organization (WHO, 2018). It is apparent that countries have large expenditures for palliative care, which includes a process that lasts until death and the period of mourning for relatives. For example, in Canada, although the population with a life expectancy of less than six is 1.1% of the country's population, the share of this population in the country's health expenditures is more than 25% (Fassbender, Fainsinger, Carson, & Finegan, 2009). In addition, 25% of health expenditures in the US constitute palliative care expenses (Riley & Lubitz, 2010). However, despite all these expenditures, patients in need of palliative care in the world are deprived of adequate and quality palliative care even if their economic conditions are good. It even reveals studies on palliative care that palliative patients experience significant traumas due to fear of leaving of doctors, and for those who did not receive palliative care died due to overloading of drugs that they had taken to reduce pain (Benzel, 2018). On the other hand, thanks to palliative care, the quality of life increased by 0.03 and depression decreased and life-related mourning process decreased by 0.01 (Jakobsson, 2016). In addition, the palliative care of the survivors, at the end of the loss of patients, with depressive problems, were to be more reasonable with palliative care services compared to without palliative care services (Ornstein, Aldridge, Garrido, Gorges, Meier, & Kelley, 2015). The foregoing discussions are addressed that if we integrate tourism and palliative care with a multidisciplinary approach, medical costs for patient treatment are reduced and palliative patients are provided with a palliative period by increasing patient satisfaction and family satisfaction.

The literature shows that palliative care, which is an interdisciplinary subject, is unfortunately only considered in the context of general health care in countries, and that other areas other than the health sector do not have much interest in the universal right of palliative care. Particularly, it is seen that palliative care, which is a universal right to health, is not considered within the scope of health tourism and investments are not made. Nowadays, palliative care tourism should be developed for palliative care patients and their families, whose numbers can be expressed in hundreds of thousands, which will provide significant added value to national economies through health tourism. The necessity of establishing a common palliative care and recreation culture integrated with tourism was tested with palliative care and palliative care tourism data. The results show that palliative tourism will contribute to prevent the life of palliative patients from being excluded and isolated in care centers, and that palliative patients will be intertwined with other people.

Here, it is necessary to initiate a conversation to criticize whether palliative care tourism will be ethical. If the first thought that comes to mind when it comes to palliative care is oncology centers and intensive care, for tourism, only sea-sand-sun and entertainment comes to mind. However, all activities necessary for a healthier life are also of interest to tourism. In short, good health service and socio-cultural studies are inclusive in tourism. Health tourism, which started with thermal tourism and continued with third age tourism, including therapeutic health services, has become one of the most important sectors of tourism today (Özsarı & Karatana, 2013; Tontuş, 2015; Tufan, Köse, & Ayan, 2017). To summarize, it would be more accurate to consider palliative care tourism as a service that provides rights to people who deserve an honorable death rather than a sector that considers palliative patients as a commodity that will only yield an economic gain.

Unfortunately today, palliative care in the world is perceived as intensive care centers. Perhaps the reasons being that many patients in need of intensive care have occupied intensive care units by patients seeking palliative care. It is obvious that palliative care supported by tourism will contribute to the solution of this problem.

In recent years, the increase in the number of palliative care patients and expenditures show that the tourism sector should take into account the issue of palliative care. Particularly, in parallel with the positive developments in palliative care services, it is recommended to establish tourism hospices. Since it is difficult for patients requiring palliative care to participate in long and tiring trips, access to the locations where these centers are established is important. But most hospices established today are not achievable. In addition to the availability of these hospices, it is recommended to pay close attention to the selection of establishments by considering the climate, air pollution, number of trained personnel and location. However, it is important that the enterprises providing service in the scope of palliative care tourism should provide services for a qualitative palliative care rather than a quantitative one. In other words, in palliative tourism, the quality dimension of palliative tourism, i.e. brand and satisfaction dimension should be kept in the foreground rather than the number of tourists. As this satisfaction will support sustainable palliative tourism, as both per capita spending will increase and promotion will be provided. For as much, the main dynamic of a sustainable palliative tourism is satisfaction. Another issue to be considered in palliative care tourism is to consider palliative care centers not only as a medical care center but also as a large tourism complex where families and volunteers participate in socio-cultural activities (music, painting, small trips, and visits) and recreational activities. With these features included in palliative care centers, the quality of palliative care can be increased. Thanks to palliative care tourism, palliative care centers may expect "life" instead of the expected death.

Our entire world population is a potential candidate for palliative care. In other words, there are more than seven billion people who can request palliative care. For this reason, without forgetting that one of the basic elements of tourism is tourism demand, palliative care tourism should be demanded. As the saying goes, "the early bird catches the worm", meaning whichever country decides to develop the palliative care tourism, will have the most economic impact for their country.

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**THE PARODY OF BYZANTIUM IN THE TURKISH
CINEMA:
*THE PERFIDIOUS BYZANTIUM AND BYZANTINE
INTRIGUES***

Özge GÜVEN AKDOĞAN¹



¹ Dr., Ankara Hacı Bayram Veli Üniversitesi İletişim Fakültesi.

Introduction²

The costume adventure films as a genre specific to the Turkish cinema are based on screenplays basing on historical events and adventures. In these films are generally shown heroes who are so strong that they can destroy an entire army alone, through cinema adaptation of historical novels and comic strips. In these films, the screenplay is dominated by powerful male heroes with a strong charm and attraction for foreign women, rather than highlighting historical realities. With visualisation of excessive power and charisma along with mistakes in respect of historical realities in costume and stage design, these films have had a special place in the so called Yeşilçam cinema in Turkey.

The forerunners of these films in the genre of historical adventure were *Kızıltuğ* (1952, by Aydın Arakon) ve *Battal Gazi Geliyor* (*Battal Gazi is coming* / 1953, by Sami Ayanoglu) (Karadoğan, 2002: 66). The film *Karaoğlan-Altay'dan Gelen Yiğit* (*Karaoğlan, the Hero from the Altay* / 1965, by Suat Yalaz) was the first-ever example of adaptation of a comic strip to the cinema (Karadoğan, 2002: 66). The market of popular films of the 1960s highlighting heroes like *Malkoçoğlu*, *Tarkan* and *Kara Murat* experienced a decline for a long time in the 1980s, a period where the political and cultural atmosphere began to change. These films are both part of a universal narrative tradition and present a species genre to Yeşilçam (Karadoğan, 2000). In 2000, the film *Kahpe Bizans* (*the Perfidious Byzantium*), a film produced by Gani Müjde on the basis of stories from Turkish history came to the theatres; it was a film that parodied this genre. In 1972 the film *Fatih'in Fedaisi-Kara Murat* (*Kara Murat, the Bodyguard of Sultan the Conqueror* by Natuk Baytan) with Cüneyt Arkın in the leading role was produced, which was reproduced later in 2015 by Aytekin Birkon under the same title. In a country like Turkey that has been experiencing a delayed modernity compared to Western countries, this film represented an attempt to interpret the field of cinema in the framework of tensions between Turks and Byzantines. In nation states, the representation systems in cultural productions and the narratives concerning the national identity are of great importance in such productions with respect to sustaining the social power. In the Turkish cinema specifically, the notion of Byzantium was placed at the core of the images that reflected the characteristics on which the national identity has been based.

This study investigates the films *Kahpe Bizans* (*The Perfidious Byzantium*) and *Bizans Oyunları* (*Byzantine Intrigues*), both films parodying the genre based on Byzantine themes. These two films differ from the films of this genre previously produced in the Turkish cinema. These films with a screenplay in the comedy genre parody the representation styles in the genre of Byzantium films produced in the period of Yeşilçam cinema. The study suggests that these films provide, by way of such parodying, information on the relationship established with the contemporary history. In these films the notions of adventure, humour, rage and tension are discussed in respect of Turkey's relationship with modernity, in other words in respect of its relationship with the West. In this framework, political analysis is directed to fantasy factors expressed in cinema language by using the notions of rhetoric analysis. Ultimately, it is suggested that the rhetoric used in the costume adventure films produced in the Yeşilçam cinema are used in these films in an exaggerated style, with heroic roles represented in a caricatured form. The notion of nationality found in historic accounts was highlighted in these costume adventure films, which made it possible to sustain social life and political establishment. A powerful male figure that easily beats all the foreign rivals and women represented as objects to be conquered are used in these films to feed the tension. In

² This study is the edited and expanded version of the study presented at the European Conference on Science, Art and Culture held on April 18-21, 2019.

these films that present a functional narrative intended to compensate the deficiencies arising from the delayed passage of Turkey into modernity, cinematic images used previously are combined in different narratives.

2. The History of Tension Used in Films and Its Theoretical Context

In his book titled *Imagined Communities*, Benedict Anderson defines a nation as an imagined community that has replaced old-type communities. This imagination is based on the assumption in accordance which every nation describes itself as the oldest and longest established nation and others as external enemies (2009: 12). The process of building and development of the Turkish nationalism and the national consciousness that became evident at the outset of the 20th century also carries the traces of such a categorisation. On the other hand, the fact that nationalist ideals and aspirations that flourished in Europe in previous centuries had a delayed effect in the Ottoman Empire caused that the Turkish nationalism developed in a frame of mind marked with *belatedness*. The experience of Turkey's nation-state can be examined on the basis of two essential characteristics arising from this symptom of feeling of delay. The first was the wish of *westernisation* which was the essential driving force of the experience of building a nation in the process of transition from an empire to a nation-state. The second one was that the process of this delayed modernisation was realised as a top-down nation building project.

The social engineering activity was based on the notions of internal-external world, east-west and traditional-modern. In this modernisation project, the Ottoman-Islamic heritage is rejected. It was attempted to realise the westernisation through acceptance of some fields of modernity. This strategy that was the founding spirit in the cultural domain led to the emergence of "equivocal" values in the relationship of what was "national" with what was "modern". In this process, the concept of Turks as individuals of a pure and unmixed race was used to legitimate the we-consciousness that would build the bond as a nation. While this pure "we-consciousness" was sometimes associated with the notions of Eastern and Western, it was attempted, some other time, to carry out a synthesis or to differentiate between external-internal and domestic-foreign.

This study attempts to interpret the tension of being Byzantine and Turkish in the field of cinema in a Turkey experiencing a "delayed" modernity. It seeks, in this context, to interpret the characteristics of an "exceptional" modernity. Assuming that the investigated films provide insights into the relationship established with the Western modern history, the study discusses the tension, humour, rage and adventure embedded in these films on the basis of Turkey's relationship with modernity, in other words with the "West". In this framework, political analysis is directed to fantasy factors expressed in cinema language by drawing upon the notions of sociology, psychoanalysis and rhetoric analysis. In this context, first the study mentions the research papers performed by Koçak (1995), Gürbilek (2011) and Ahıska (2005) addressing these notions within sociology, psychoanalysis and rhetoric on the basis of Turkey's modernisation. The first two studies deal with literature, the third one with radio. The study further analyses the contexts of the tension between Western-Turkish as reflected in the field of cinema, on the basis of different meanings which have been attributed to these notions in a cultural field not part of the Western world.

The study also seeks to examine the rhetoric used by the actors in power in the period investigated in the study on the tension between being Byzantine-Turkish. As reported by Koçak (1995), Gürbilek (2011), Ahıska (2005) and Yeğen (2007), there can be, in this rhetoric used by those in power, an aspect that uses certain techniques and images to ignore various problems. It is an aspect characterised with the usage of the

wounds of conscious not only for resistance or advocacy, but they are also used to rule society, to ignore the inequalities and conflicts in society and to create own alternatives to legitimate this usage. The attitudes adopted in this rhetoric of power in a dilemma of adopting or refusing in every relationship established with the West can be explained on the basis of the conceptual field of psychoanalytical approach. The frame of mind shown to us in the said literature will enable us to avoid the tendency of presenting the cultural production and nationalism by iconising them with the claim of "authenticity, namely handicaps in association with cultural authenticity; this is especially the case in any community that experiences modernity through westernisation. Thus, it would enable us to realise that certain images and reactions belonging to the cultural domain, which also harbour resistance and defence, are used to ignore some inequalities in the social power relations, and that own internal mechanisms are thus re-actuated in power relations.

In his article in which he investigated the analyses of Nurullah Ataç (1988) and Cemil Meriç (1974,1992, 1996) on Shakespeare's work *The Tempest*, Orhan Koçak (1995) suggests that the authors re-create the controversy between the notions of west-east, doing it by ignoring the imperialistic history of the West. In this work of Shakespeare, Prospero, the duke of Milan who loses power and is sent in exile on a deserted island, establishes a power position on Caliban, a native of the island. Studies are available in academic literature, which have investigated this relation of domination from a post-colonial perspective.³ However, neither Ataç, "a westerner", nor Meriç, "an easterner", did think that the Caliban figure in this work could represent a native of the new world enslaved by the invaders coming from Europe.⁴ Koçak suggests that, for these two authors who have placed themselves at different poles in the "West-East polarisation", Caliban represents "a member of the universal common herd, dregs of society". The authors cannot see the metaphor underlying this figure of Caliban. What is, however, of primary importance is that they re-create the "they-we" contrast instead of providing new terms for the question of Orientalism and Occidentalism, imprisoned in an essential contradiction between a uniform notion of the East and a uniform notion of the West.

Gürbilek (2011) is another researcher who investigated the texts of Peyami Safa (1935, 1963, 1996) and Cemil Meriç (1992a, 1992b, 1996). Examining the similar and differing views of these authors on the notion of the West, he found results similar to those observed by Koçak (1995): "*Whether they represent a nation or a community or all the defeated humans all over world, all these metaphors not only encourage a power solely 'specific to us', but they turn a blind eye to the real reasons of the domination of the West* (2011: 198). Referring to the fact that the West and the East each have different "cores", the administrative practice mentioned by Gürbilek is nothing else than a practice which re-creates this difference, providing that the internal mechanisms of social power

³ See Mannoni, 1990; Griffiths, 1983.

⁴ According to Koçak, this has to do with the policy of westernisation in Turkey. To be a part of the West is a principle embedded in the founding principles of the Republic of Turkey. In the same period as Meriç and Atay, he mentions the condition of Turkey in the Bandung Conference held in Indonesia in 1955. Within the framework of the international tensions in that period, the countries of the third world regarded Turkey, already a NATO member, with doubt in that period as well (1995: 238). The relationship of Turkey with "the Western Civilisation" was presented as a struggle of life-or-death. Under the circumstances of that period, Turkey would either become westernised by its own will and be an important partner of the West or would be dissolved in one of the colonial empires. As Koçak argued, while the West recognised the official boundaries of Turkey, Turkey turned its back on those that targeted the colonialist policies of the Western countries (1995: 239). Connecting the two facts indicated above, Koçak raises the following question: "Can the universalism at the literal plane and the partiality of the political plane be two different faces of the same syndrome?" (1995: 229).

relations are re-created. Drawing upon this practice, those in power manage to distract the attention of society by presenting them certain images of the West and the East. This practice is carried out sometimes by creating own alternatives, sometimes by hiding behind the claims of authenticity, and some other time, however, by highlighting victimisations.

Ahiska (2005) has investigated the practice in question in the field of radio broadcasting. He suggests that the national image created in the history of Turkey emerging out of the representation of the West and the East has taken form by way of a "Occidentalism fantasy". In this context, Occidentalism is a map of rhetoric in which the power practices are both set up and interpreted (74). While, in cultural practices, the identities defined as "Turkish" and "Westerner" are squeezed into notions of "easterness" and "westernness", Occidentalism forms the universe of images concerning the self-foundation and self-justification of a nation. Thus, the subject called "we" that is positioned against the West is founded as the subject of the power practices in their own fields.⁵

Occidentalism is one of the theoretical mechanisms that ensure the re-creation of power practices. Ahiska defines the fantasy he calls as Occidentalism not as a stereotype of a consciousness and emotional situation, but as the framework of an analysis that re-questions the Western notions and acceptations. In this sense, he defines the notion of Occidentalism as a map that establishes and interprets power practices and subjectivity (74). The backbone of this fantasy is "the wish" to determine and interpret the essential "deficiency" in "the people" defined within the framework of a nationalist and modernist rhetoric. This wish takes form by way of a double reflection, on the one side what the subject would want to be, and on the other what the subject would not want to be (87). It explains the position of "the West" in the political subjectivity of the privileged in Turkey on the basis of some moments considered to be historically important. For example, "Turkish music" that was defined by the West as a *la Turca* in the 1930s was taken out of radio programmes, just because the available music was not defined "to be of value" (127).

Besides Ahiska who addresses Occidentalism is an administration practice which both establishes and interprets power practices, there are also authors that portraits it as the opposite of Orientalism. According to Buruma and Margarit (2009: 63), Occidentalists perceive the frame of mind of the West as stupidity. They suggest that a Western mentality in the mind of an Occidentalists;

"... is to be like a divine stupid, like a person deprived of intelligence, but has a special gift for mathematics. It is a frame of mind without soul, useful like a hand calculator, but a hopeless case in respect of displaying human behaviours. Substantial economic successes can certainly be achieved, and technology can be developed and presented by drawing upon Western mentality, but a mind that has no sense of spirituality and is far from understanding human sufferings cannot perceive important things in the life" (2009: 63).

⁵ Ahiska believes that the fact that radio archives were destroyed in Turkey in the period 1930-1950 gives a hint about the relation established with the Western modern history. He maintains that destroying of archives was an attempt of cleansing by those in power, who fear to confront with the past, to re-create the past. He discusses this act by positioning it within the framework of Turkey's relationship with "the West", a perspective that has always represented modernity in Turkey.

Placing Orientalism against Occidentalism, Buruma and Margarit suggest that the East is a field where anti-imperialistic and national reactions are defined and expressed. In his work in which he examines Şerif Mardin's views on the basis of Occidentalism and Orientalism, Alim Arlı (2004) questions whether Mardin's views are anti-occidentalism and concludes that Orientalism and Occidentalism could not be a production of such a symmetrical analysis (13). According to Arlı, it is impossible to carry out an analysis between Orientalism and Occidentalism in respect of their historical backgrounds and sociological contexts (65). Representing this difference, Arlı suggests that Orientalism has become a "core paradigm" because of the information systematic it established. However, he holds the view that Occidentalism has failed to create historical information; "it is a rhetoric style that is resister on one side and defender on the other" (65).

The study performed by Yeğen (2007) is worth of mention in this respect. In this study, he analyses Turkish cinema by associating the tensions which the experience of modernity created on "the national subject" with the division of East-West. According to Yeğen who examined the Turkish cinema on the basis of Turkey's delayed modernity experience and the wounds inflicted by the East-West division on the national identity, the social power mechanism comes into play in the encounter of national values with modernity. He underlines, on the basis of cultural-psychoanalytical interpretation, that this system is re-created by integrating national subject into national identity.

It was highlighted, from the proclamation of the Republic until the 1940s, that the homeland of Turks was Central Asia and Anatolia, marginalising the Ottoman heritage (Cantek, 2003: 39). The region of the Central Asia, the homeland of Turks before migrating to the West, which is the indicator of purity, symbolises the motherland of Turks. In this sense, it defines a geographical and political area (Cantek, 2003: 40). In the 1960s during which historical heroes became popular in comic strips in popular culture, these heroes were transformed into heroic figures who "addressed today's problems in the past (carries the past into the now) and made it possible to overcome conflicts through narratives, rather than being figures belonging to the past" (Cantek, 2003: 45). When we examine the popularity of these products in the 1960s, the effect of the coup of 27 May 1960 becomes evident. Canbek suggests that, after the coup d'état that changed the social order, these representations offered ways, in emotional sense, to sustain the social life and political order. The emphasis on nationalism in the conceptions and tendencies led to the popularisation of these historical fantasy narratives. The erotic fantasy narratives and foreign woman figures shown as objects to be conquered in these films did also feed the tension between Occidentalism and Turkishness (2003: 45-49). Along with the changes in the political atmosphere in the 1970s, the films dealing with the theme of Byzantium were no more shown in the theatres (Özgüç, 2005: 37). However, in this period comic strips, caricatures and wits which satirised the characteristics appeared in humour magazines and historic narratives. To these products which offered narratives that reversed the typical agreements embedded in historical comic strips, novels and films was added the film *the Perfidious Byzantium* in 2000.

3. The Parody of Byzantium: The Perfidious Byzantium and Byzantine Intrigues

In their studies on the Turkish cinema, Agâh Özgüç (2005) and Giovanni Scognamillo (2005) report that the theme of Byzantium was first used in the Turkish cinema in the film *The Conquest of İstanbul* (by Aydın Arakon, 1951). In this film, Sultan Mehmet the Conqueror sends his men to Byzantium to get important information. Thanks to such information, he conquers İstanbul leading his army as commander. The script also

includes the act of Ulubathı Hasan, the hero who planted the first flag on the city walls of Byzantium and fell at the spot. The film *Kızıl Tuğ* (2004) was adapted from the novel with the same title written by Abdullah Ziya Kozanoğlu. This novel that was a forerunner for historical Turkish adventure films is the first novel adapted for the cinema (Türkeş, 1999: 50). According to Scognamillo, the motifs depicted in this film were the first examples used in historical heroic films. The general figures used in these films are heroes, the girl friend of the hero, friends of the hero, noble enemy figures, wicked individuals, a castle used as studio, women kidnapped, fights and battles, confrontations and people who revenge on other people (2005:146).

In the films with Battal Gazi, another heroic figure, produced in the 1960s, the territory of Anatolia is shared by Byzantines and Arabs. In the films *Yedi Dağın Aslanı* (*Lion of Seven Mounts* by Yılmaz Atadeniz, 1966) ve *Aslanların Dönüşü* (*Return of Lions* also by Yılmaz Atadeniz, 1966) produced in the same period, the screenplay is based on a boy who witnesses the murder of his father by Byzantines and takes revenge. Disguised as a priest, Gökşen, the boy in the film, manages to rescue a Turkish seignior kept as prisoner in a Byzantine dungeon. On the other hand, the daughter of the man who has committed the murder falls in love with Gökşen. The adventures of Karaoğlan, another heroic figure, dominates the scripts of the films *Baybora'nın Oğlu* (*Son of Baybora*) and *Bizanslı Zorba* (*The Tyrant from Byzantium*). As in the film *Aslanların Dönüşü* (*Return of Lions*), the leading figure in these Karaoğlan films disguises himself as a priest and manages to kill the emperor of Byzantium. In the film *Bizanslı Titreten Yiğit* (*The Hero who Makes Byzantium to Tremble* (by Muharrem Gürses, 1967), a Turk fights against Byzantium all alone. In the film *Battal Gazi Destanı* (*The Epic of Battal Gazi*) (by Atif Yılmaz, 1970), Hammer, a Byzantine, converts to Islam when he has been beaten by Battal in arm wrestling. The film *Battal Gazi'nin İntikamı* (*The Revenge of Battal Gazi*) (by Natuk Baytan, 1972), shows the revenge of Battal, whose wife is murdered, and his children are kidnapped by Byzantines (Özgüç, 2005: 34-37). In the films with heroes such as Karaoğlan, Malkoçoğlu, Tarkan and Kara Murat, the heroes easily beat Byzantine gladiators, either rescuing their fathers or taking revenge of their father's murder on well-off Byzantines. They have a love affair with a Byzantine princess or disguising themselves they manage to enter dungeons. It often happens in these films that Christian clergymen or princesses convert to Islam. *Kuşatma Altında Aşk* (*Love under Siege*) (by Ersin Pertan, 1997) and *Kahpe Bizans* (*The Perfidious Byzantium*) (by Gani Müjde, 2000) were two films in which Byzantines returned to the silver screen after a long period of inactivity in this area.

Films that feature the hostility against Byzantium have been produced in the Turkish cinema since the 1950s. Heroic stories of the past were used in the 1960s and the 1970s to ease the tension arising from economic problems and political conflicts in those decades. According to Marciniak, among national cinemas the Turkish cinema is the one which produced the most films featuring Byzantine period (2014: 251). Giovanni Scognamillo and Metin Demirhan report that such costume films that may falsify historical realities could be compared with western films. In western films produced in the American cinema, Indians are always shown as evil, aggressive and criminal characters, just like the Byzantines who are depicted as evil and criminal figures in Turkish costume films (2005: 143).



Illustrations 1, 2, 3: Film posters of the Epic of Battal Gazi and Malkaçoğlu

Scognamillo argues that Byzantium that was depicted in Turkish films produced in the genre of historical fantasy in the period of Yeşilçam cinema was used as a setting where heroic figures with superior characteristics dominated the scene (2005: 139). He concludes that such films may not remain true to historical facts; rather, it is all about a symbolic encounter. In this encounter between the hero and the enemy, it is always the Turkish hero who beats Byzantium again and again. The Byzantium films include narratives based on these patterns. Turks and Byzantines as well as Christians and Moslems are depicted as figures harbouring hostile feelings against each other. The priests shown in these films are portrayed as the main perpetrators of conflicts. Sometimes, the hero also disguises himself as a priest. The combat of the Turkish hero puts an end to tyrannical acts of the Byzantine emperor. In these films where the period of Byzantium was used as a decor, rather than historical events, the script is dominated by adventures embedded in the historical stage set. The city walls at the Rumeli Castle in İstanbul were used as stage set in these films. Apart from this castle, there are also fortresses, palaces, dungeons and taverns in these films in which cinematic narrative is based on action and love. The male hero often conquers the heart of a Byzantine princess. Byzantines, on the other hand, torture the male hero, raid villages, extort money from people, tyrannise over people and torment Turks in dungeons. It is always heroic figures, sometimes Kılıç Aslan, some other time Battal Gazi, who put an end such cruel acts. There is always a hero who combats a tyrannical Byzantine emperor and intriguing people around him in a setting set out in exact boundaries (2005: 139-149)

The film *Kahpe Bizans (The Perfidious Byzantium)* differs from other films in that it is an absurd comedy. In this film, Illetius, emperor of Byzantium, dreams that he is killed by a child. A dream interpreter describes his dream as a terrible damnation and tells him that he would be killed by a boy born that day in the county of Nacar. Consequently, Illetius orders that the villages in Nacar be raided and all the children living there be killed. Then, his soldiers begin to attack all the villages in the area and kill all the newborns. During the raids, a man called Süper Gazi who has three newborns asks his wife to take the infants to a secure place. His wife puts the babies in a basket and releases the basket on the lake.



Illustrations 4 and 5: In the film *Kahpe Bizans (The Perfidious Byzantium)*, Süper Gazi speaking to his newborns (left). Battal Gazi never gives up fighting despite all the sufferings he has to endure. As a parody of this resolution, in captivity he removes the door at which he is chained as seen in this scene with the chains he breaks off (right).

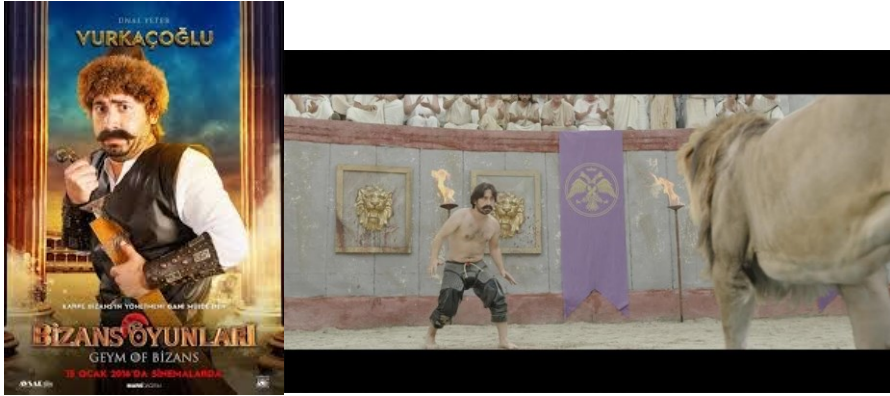
In the film, figures adapted from legendary heroes of Turks such as Karaoğlan, Malkoçoğlu, Köroğlu and Tarkan featured in these series of films are caricatured. All these films are based on comic strips. Levent Cantek reports the adventures of Karaoğlan were first published in newspapers and then in magazines for a period of about three decades. Adaptation of comic strip heroes to the cinema took place in the period after 1965, the time when The Turkish cinema experienced a boom in respect of quantity. The attempt was to establish a pan-turanist genre in the cinema through these films (2003: 23-31).

The name Süper Gazi (Super Veteran) is an ironic reference to male heroes shown to have super powers in these films. Illetius, emperor of Byzantium, represents Byzantine kings depicted as evil, egoist and unmerciful figures in historical narratives and Turkish films. In the film, masculinity and heroism are caricatured, serving as materials to create an absurd comedy. The heroic acts of Cüneyt Arkın, the actor upon whom super powers are bestowed in the films featuring Süper Gazi and Battal Gazi, are presented in a humoristic way, which visualises the existing "exaggeration" in a stronger manner. Thus, the power of comedy that guides one to observe objects in a better way is used in an exaggerated way. Aristotle is worthy of mention in respect of theoretical background in this field. For him, laughter has a didactical power, because it enables us to establish unexpected and witty relationships. It can offer different perspectives in respect of epics, tragedies and other historical narratives. In his novel *the Name of the Rose*, Umberto Eco brings forward a similar argument about a similar theoretical field, suggesting that caricaturing the source of the fear empowers one. Laughter can provide witty and enlightening abilities (Eco, 2011: 656-660). The film *Kahpe Bizans (The*

Perfidious Byzantium) humiliates the notions of courage, power, cleverness and warrior spirit, notions that were shown as the essential characteristics of the Turkish identity, the symbol of the national pride, in the genre of Byzantine films in the Turkish cinema. It ridicules the exaggerated presentation of the national identity in the Turkish cinema.

The act of caricaturing can be used to ridicule and humiliate certain groups in society in the context of gender, race, ethnical identity or nationality (King, 2006: 143). Laughing at others offers social groups a way to define themselves. The discrimination between one and others can be in a way in which a culture sees the norms of another culture as "foolish" or "unconformable", and this is a widespread phenomenon as a potential source of comedy in the genre of popular comedy in the cinema. The widespread usage of discrimination which is indirectly used in other cinematic genres takes place in the genre of comedy almost in a direct way, and these racist, sexist and ethnical discriminations are perceived as ignorable in the genre of comedy (King, 2006: 150). Comedy makes it possible to use racism, sexism and religious and ethnical discrimination without smoothing them even at extreme points (King, 2006: 150). Viewed from this perspective, by ridiculing exaggerated national identity fantasies in cinematic expression, indicator systems used in acknowledging the national imagination would be violated. At this point, the ridiculous pleasure arises from the replacement of such exaggerations already known at the silver screen with awkwardness.

What is seen on the silver screen is the parody of old Turkish films. According to Freud there are various ways to ridicule objects, which are eulogy, caricature, parody and mimicking. He advocates the opinion that caricaturing extolled individuals who lay claim to authority by way of caricature, parody and mimicking can degrade these individuals. In parody and mimicking, this is achieved by distorting the unity between individuals' known characteristics and their speech and acts or by replacing their words with more inferior ones. When this caricaturing by way of language games as advocated by Freud is directed to those in power, it has the power to degrade people who create an oppressive atmosphere by indicating the oppressive character of those in power. Freud suggests that through laughter humans could create a free field for themselves by avoiding oppression; furthermore, in wits he sees the symbolic stages of humans' development towards maturity. According to Freud, the first stage of wit is seen in plays of children who have pleasure to recognise what is already known (1993: 124). He suggests that the more children gain a sense of self, the less often they would play. The reaction of children to this new situation in which they continually encounter a series of no's creates a temporary comic situation. It is type of behaviour that goes around bans, walking away from them; Freud calls this condition as jest. Jest is defined as achieving a goal without violating the related rules. Jest allows the super-ego, which operates like a critical and rational judge, to close itself for a certain period of time that would suffice for the creation of a meaningful play. For this very reason, the content of jests has a value of secondary importance. What is important is the theoretical power of jests and its ability to eliminate the unrests of civilisation and to temporarily remove the pressures of the modern life (1993: 124).



Illustrations 6 and 7: The poster of the film *Bizans Oyunları* (*The Intrigues of Byzantium*) (left). As a result of an intrigue of Byzantines, the son of Gazi Magosa has to fight with a lion in the arena (right).

In these films male Byzantine figures are depicted as coward and mischievous people involved in intrigues. Karadoğan argues that “such contrasts created in these films between Turkish and foreign heroes embody the clear manifestation of the emphasis of nationality in these films” (2002: 71). Such contrasts between male heroes bestowed with extraordinary features and their enemies are also established between women figures. While, on the one side there are women who symbolise courage and chastity, immoral, tricky and power-crazy women are depicted on the other side (Çoruk, 2002: 92). The mother figure in the film *Kahpe Bizans* (*The Perfidious Byzantium*) depicted as a self-sacrificing woman ready to sacrifice herself for her children and hides her identity for this cause is a character that ridicules the exaggerated representation of women in costume adventure films.

The films *Kahpe Bizans'ın Sindrellası* (*Cinderella of the Perfidious Byzantium*, 2004), *Fetih 1453* (*The Conquest 1453* by Faruk Aksoy, 2012), *Fatih'in Fedaisi: Kara Murat* (*Kara Murat, the Bodyguard of Sultan the Conqueror*, 2015, by Aytekin Birkan), *Bizans Oyunları* (*The Intrigues of Byzantium*, by Gani Müjde, 2016) are the films with the theme Byzantium produced in the 2000s. The films *Fetih* and *Fatih'in Fedaisi* are compatible with the ideas advocating Neo-Ottomanism that dominated the 2000s in Turkey. The film *Bizans Oyunları* produced by the producer of the film *Kahpe Bizans* also includes a parody of these heroic narratives. In this film, Maya people representing a superior civilisation migrate from Central America to Anatolia. They mix with the Turkish tribes in the area, adopting Turkish traditions and customs. In the film Turks are depicted as playing golf. The Byzantines grudge this Maya civilisation and set to destroy it. The screenplay of the film is dominated by this grudge against the Mayas. Gazi Magosa is the seignior of the nomad group with his wife Kösem Sultan. The Byzantines host them to view Byzantine gladiator games, but they are cheated by the Byzantines. The son of Gazi Magosa is forced to fight a real lion in the arena. In the fight the son displays heroic acts; for instance he does a somersault over the lion. He surprises the lion with a stick with red light invented by a Turk. Thus, he causes that the lion attacks the Princess of Byzantium. The Byzantine Prince dressed in the clothes of the Roman Period says he does not like war, but he values love and fraternity above all. However, while saying this, he knocks down those attacking him. He flees Byzantium, seeks refuge in the Group of

Nomads. Later he returns to the Byzantine castle and rescues the daughter of the Nomad group's leader from captivity. In the film, physical strength of Turkish men are praised. The star and the crescent moon, an important flag figure for Turks, is also praised with admiration, expressing that it would a good motif for a flag. It is intended, with such a presentation, to reinforce the admiration of the Byzantines for Turks.

Benedict Anderson defines a nation as an imagined community that has replaced old-type communities. While every nation describes itself as the oldest and longest established nation, it describes others as "external enemies" (2009: 12). The delayed outset of the Turkish modernisation compared to the nationalist movements in Europe led to the construction of Turkish nationality in a frame of mind marked with belatedness. In this construction and struggle, contrasts such as internal-external world, east-west and traditional-modern came into play. Several principles were adopted to achieve progress, development and modernisation. In the film, the seignior of the County of Nacar wishes that his new born children be intelligent, nimble and secular. The ideal Turk was imagined sometimes through syntheses, but some other time on the basis of the native-foreign contrast. Learning that he is also of Nacar origin, the son of Illetius, emperor of Byzantium, grows a beard and a moustache. Previously escaping the battle field, now he is willing to fight. Another circumstance integrated in the film is that the Byzantine priest converts to Islam and is circumcised and then becomes the minister responsible for religious affairs in the County of Nacar. By way of cinematic expression, the stereotyped figures in the films such as Battal Gazi and Karaoğlan are caricatured. Gazi Magosa, Seignior of Nacar, dies with the door he is fastened at. All throughout the film, this door symbolizes his obstinate and combative personality despite all his sufferings in captivity.

Çoruk describes the characteristics of the comic strip heroes that have served as an inspiration for the heroic figures in costume adventure films, who derive their power and achievements from Turkish identity and Islam, as follows: "being just, protecting the weak and the poor, not remaining silent against injustice, never stab even an enemy in the back, never telling a lie, not drinking any alcoholic drinks even though they have no health problems to avoid it, being athletic-sportive (...)" (2002: 76). The exaggerated representation of these ideal characteristics is one of the reasons which led to the production of Byzantium parodies in the Turkish cinema. To understand another reason, we should focus on the neo-liberal policies and the cultural transformation that dominated Turkey after 1980. The 1980s were a period where the capital globalised, with liberal policies prevailing in the economy (Keyder, 2000: 21-22). Along with these policies that were pre-eminent in the 1990s and later, the national culture began to be questioned, along with a consumer society encouraged by media and advertisement sector. Flexibility in life styles created an atmosphere where national and cultural values were discussed. In this period the neo-liberal policies of the 1980s were practically deadlocked, a condition that had a negative impact on many social dynamics, as a result of which political parties began to experience a representation crisis (Ataay, 2008: 8-11). In this process, a cinematic genre emerged, which represented Byzantines in a certain fashion in respect of physical and emotional sense.

Conclusion

Male figures that fought alone against Byzantium were the heroes in the Turkish cinema in the 1950s, 1960s and 1970s. In correlation with the economic and political tensions that prevailed in that period, male characters that fought against criminal Byzantines, challenging their tyranny dominated these films. The films *Kahpe Bizans* and *Bizans Oyunları* involved the parodies of the films which were previously produced in the Turkish cinema in order to create a mythical Turkish image. In these films

stereotypes and exaggerations presented in official historical accounts and cultural products are used, with heroic features that are ridiculed. Cinematic images that were previously used to compensate the deficiencies arising from the relatively delayed modernity of Turkey were combined with other rhetorical elements in these films. While, sometimes, the heroes were presented as naive, pure, courageous individuals with a fighter identity, some other time they are depicted as shy persons that can be easily deceived. In these narratives that smooth the distinctions created in the Turkish cinema in a comic way, the passages in question take place in a rapid fashion.

In the costume adventure films that came to the theatres from the 1950s until the 1970s, heroic narratives of the past and a sense of hostility against Byzantium were used to ease the economic and political tensions of that period. After 1980, the time where neo-liberal policies began to experience a decline, along with a cultural transformation that took place in that period, national values and narratives began to be questioned. The Byzantium parodies investigated in the present study present a cynical interpretation of the exaggerated heroic narratives of the Yeşilcam cinema and the characters depicted in clear lines in contrast with these. The type of narrative that caricature and ridicule the characteristics of historical comic strips presented in an exaggerated manner as unconquerable and sportive individuals with extraordinary attraction can be regarded as a cynical interpretation of the stereotypes depicted in these narratives. Such a style addresses the exaggerated features of the cultural life.

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LOGISTICS MANAGEMENT IN TOURISM

Hakan AKYURT ¹ , Mustafa ERGÜN ²



¹ Asst. Prof. Dr. Giresun University, Bulancak School of Applied Sciences Department of Tourism and Hotel Management.

² Asst. Prof. Dr. Giresun University, Bulancak School of Applied Sciences Department of International Logistics and Transportation.

INTRODUCTION

Logistics industry is one of the increasing sectors with the importance of cost and time calculations in recent years. The involvement of logistics activities in almost all industries requires the examination of the logistic elements and the detailed study of them. This situation increases the importance of the concept of logistics to reduce costs and save time for enterprises. On the other hand, the tourism industry has become one of the most important industries with the increase of transportation and communication opportunities. The increase in tourism revenues and number of tourists every year necessitates the importance of tourism in terms of national economies.

Although the tourism and logistics industries are not seen as too closely related to each other at first glance, the tourism industry is one of the industries that use the logistics transportation continuously. The tourism industry conducts both human and product transportation at the same time by air, rail, sea and road. The relationship between tourism and logistics industries is tried to be explained with the concept of supply chain in general. The concept of supply chain is focused on the methods of delivering products to tourists. However, the fact that the tourism industry is associated with the logistics industry in order to provide products only to tourists is inadequate. It should not be forgotten that the tourism industry is a industry that enables people to move from one place to another. Therefore, it is also necessary to address the transfer operations of people in logistics management of the tourism industry.

The concept of logistics in tourism is an important and effective activity that directs people's travels in addition to supply chain management. The logistics industry is directly related to tourism and has a significant impact on the replacement of people other than product transfer. This section, which is prepared for this purpose, includes the concept of logistics and the functions of the logistics industry. Then, the place of logistics in the tourism industry by referring to the supply chain activities in tourism is explained. Finally, information is provided on tourism and organizations that direct the transportation of tourism logistics. In this section, the aim is to explain the relationship between tourism and logistics industry and the importance of logistics management in tourism industry.

1. THE CONCEPT OF LOGISTICS

1.1. Definition of Logistics

In the historical process, it is observed that people are constantly moving their products from one place to another and these services exist throughout history. Communities continued to deliver products not available in their countries through various means of transport. According to the structure of customer demands, the functions of transporting products or services in any part of the world by road, air, sea and rail transportation are realized (Küçük, 2016: 19). The basic element of logistics activities is the transport operations. Logistics is called as "All of the functions specified in the agreements made with the customers by the means of transportation, at the desired time and place, without delay, carrying out the complete transportation and undamaged delivery functions" (Long, 2012: 10).

The concept of logistics is a term used especially for military purposes since the beginning of 1900. It is a concept that includes material and soldier shipments during wars. The use of the concept of logistics in business life starts especially after the 1970s. For this reason, while expressing the concept of logistics, military and military means of transporting weapons and ammunition are also used. However, with the widespread use of the logistics concept for commercial purposes, logistics is expressed as "The process

of controlling and planning the appropriate storage conditions when transmitting all kinds of information, products or services from the place of production to the final consumer to meet the needs of the customers" (Zorlu, 2008: 41).

1.2.Importance of Logistics

A country needs to sell its products and buy different products by acquiring foreign exchange input. At this stage, the logistics industry is involved. The transfer, storage and customs clearance of goods or services between countries is in the fields of logistics. The logistics industry is an indispensable element in the export and import of countries. For this reason, logistics activities are aimed at providing a good service to reduce costs (Bowersox and Closs, 1996: 8).

It is possible to summarize the general objectives of logistics as follows(Uçar, 2007: 5-6):

- To reduce the transportation costs by bring the right product to the right business at the right time,
- Reduce stocking costs and take the product when the business needs it,
- To deliver accurate and high quality services to customers with minimum costs,
- To support the increase of operational efficiency,
- Monitoring and tracking of customers' products and services,
- Ensure that the product or service is obtained through a sustainable system.

It is important to meet the expectations of customers within the general objectives of the logistics industry. It is one of the tasks of the logistics industry to meet the demands and needs of the customers at the right time, at the right place and at the right time. It is necessary to deliver the product or service in accordance with the agreements made with the customer and to ensure customer satisfaction. In this way, businesses will not suffer customer loss and will have a sustainable structure. For this reason, the logistics industry has an important role to play in the regular and systematic manner of the relations between the enterprises and their customers. The logistics activities are not only important for the business or military purposes. In addition, logistics activities play an active role in the matters concerning the lives of people and all living things in nature. The logistics industry carries out important activities for all living things in nature, global disasters and for the purpose of aid.

1.3. Logistics Activities and Features

Limiting the logistics of a product only with the transport function will be a missing expression. Due to its structure, the logistics industry incorporates multiple activities. Purchasing function, storage, customs, insurance, packaging, return and many different functions are evaluated within the logistics industry. The general activities of logistics are summarized in Table 1 below (Murphy and Knemeyer, 2016: 16).

Table 1: General activities of logistics (Murphy, P. And Knemeyer, M., 2016: 16)

General Logistics Activities	
Transportation	International Logistics
Demand Status Forecast	Order Management
Inventory	Material Management
Packaging	Facility Location
Warehouse Management	Customer Service
Purchasing	Reverse Logistics

Logistics services are activities that are carried out continuously in national and international areas. Businesses use these activities both at home and abroad through logistics companies. Although there are transportation and storage functions on the basis of logistics activities, customs clearance functions are also included in the working area of the logistics industry due to the realization of these activities abroad. The most costly part is transportation. In addition, storage and customs activities are also important in terms of logistics (Coyle et al., 2011: 34).

“Transportation” services, which are the most important in terms of cost in logistics industry, constitute the basis of logistics services. The transportation activities at the base of logistics activities are carried out under the following headings in general in line with the demands of enterprises and customers (Baudin, 2005: 35):

- Airline transportation,
- Highway Transportation,
- Maritime transportation,
- Railway transportation
- Pipeline transportation.

The logistics companies act according to the demands of the companies in relation to the aforementioned modes of transportation before making a decision of carriage. Many criteria such as the cost of transportation, the point of departure and destination, the requested delivery time, the property of the product, the geographical situation are effective for the products or services that will be logistics. However, some elements are important in transportation. These elements are listed below (Frazelle, 2002: 90):

- Costs of Transportation,
- Transport Speed,
- Reliable Transport,
- Flexible Transfer,
- Suitability of Capacity,
- Transport Diversity.

Warehousing and customs clearance activities in these transportation elements are also among the subjects of logistics, depending on the nature of the products or services and the availability of countries. The physical and chemical properties of a product or service from where it is transported may require storage as well as customs procedures. Special storage forms and areas can be built for the companies that they make continuous agreements by logistics companies (Long, 2012: 24).

However, considering the international operations of the enterprises carrying out the logistic activities, they have to specialize in the legislation of the country in which they are dealing with the country. Informs its customers about customs and legal regulations (Daugherty, 2011: 28).

For these reasons, the logistics industry also carries out transportation, storage and customs clearance activities. The costs of these activities according to national or international characteristics are also calculated by the logistics industry. It deals with its customers by taking the whole of these activities. Therefore, the logistics industry is seen as effective as a national or international industry which has to carry out many activities together (Panayides and Venus, 2009: 36).

2. TOURISM LOGISTICS

2.1. Relationship Between Tourism and Logistics

Tourism industry works in cooperation with many different industries with its multi-faceted structure. Touristic products and services resulting from the wishes and needs of tourists vary in every country and region. Meeting these expectations is one of the main objectives of the enterprises working in the tourism industry. It requires the tourism industry to work with the logistics industry because of providing both products and services to tourists. Due to the changing and differentiating tourist needs, tourists are obliged to offer their products and services immediately. Therefore, enterprises in the tourism industry should use the logistic elements very well and respond to expectations.

When the academic studies in the field of tourism are examined, it is seen that the concepts of tourism and supply chain are used together. The number of academic studies on the supply chain in the tourism industry is quite high. This shows the importance of the relationship between tourism and logistics. Therefore, the link between logistics and supply chain is of primary importance.

In the field of tourism, we mentioned above that the concept of supply chain is frequently examined. Therefore, making a brief description of the supply chain will be appropriate for understanding the issue. The supply chain is defined as a system that enables a large number of business processes to move in harmony at the same time in order to transform products into finished products, distribution of these products to agents and customers and simplify the flow of information (Min and Zhou, 2002: 232).

It is necessary to specify the location of the supply chain within the concept of logistics and explain why the concept of supply chain is used in tourism activities. The supply chain is the process of systematically managing all functions from the start of the purchase to the last consumer. As tourists are seen as the ultimate consumers in the tourism industry, it is important that the supply chain operates regularly without interruption. Logistics elements are also seen as part of the supply chain. In particular, it is expressed as the transfer of the product or service. By taking full responsibility of the suppliers, it is stated as the transportation of the enterprise to the final consumer with minimum cost (Vitasek et al., 2013: 118).

However, today's logistics activities offer all the elements that the supply chain performs for the enterprises. All transactions made by the supply chain are also carried out by logistics companies. In the past, logistics companies were only engaged in transportation, warehousing and customs operations, but now they also function as supply chain. The main reason for this is that businesses aim to reduce costs and save time. Especially in competitive conditions, the more enterprises can reduce their logistics costs, the higher profitability rates increase (Murphy and Knemeyer, 2016: 25).

The concepts of logistics and supply chain are used in the tourism industry. The logistics elements refer to transportation, warehousing and customs operations, while the supply chain elements cover all other aspects of the logistics concept. It is necessary

to use the right logistics methods in terms of reducing costs for enterprises and sustainability. In this context, the selection of enterprises that manage logistics and the supply chain within the tourism industry is gaining importance.

2.2. Logistics Suppliers in Tourism

The main difference distinguishes the tourism industry from other industries in terms of logistics is that people have the means to travel from one place to another. Logistics activities include the transfer services of people in the field of military and tourism, even though they are seen in the field of product. The functions of the suppliers in tourism continue to start with the location of the customers, continue their holidays and return. Tourism suppliers manage a detailed planning process that carries out procurement, transportation, taxes, insurance, accommodation, catering and all other activities. The supplier system in tourism is summarized in Figure 1 below (Zhang et al., 2009: 353):

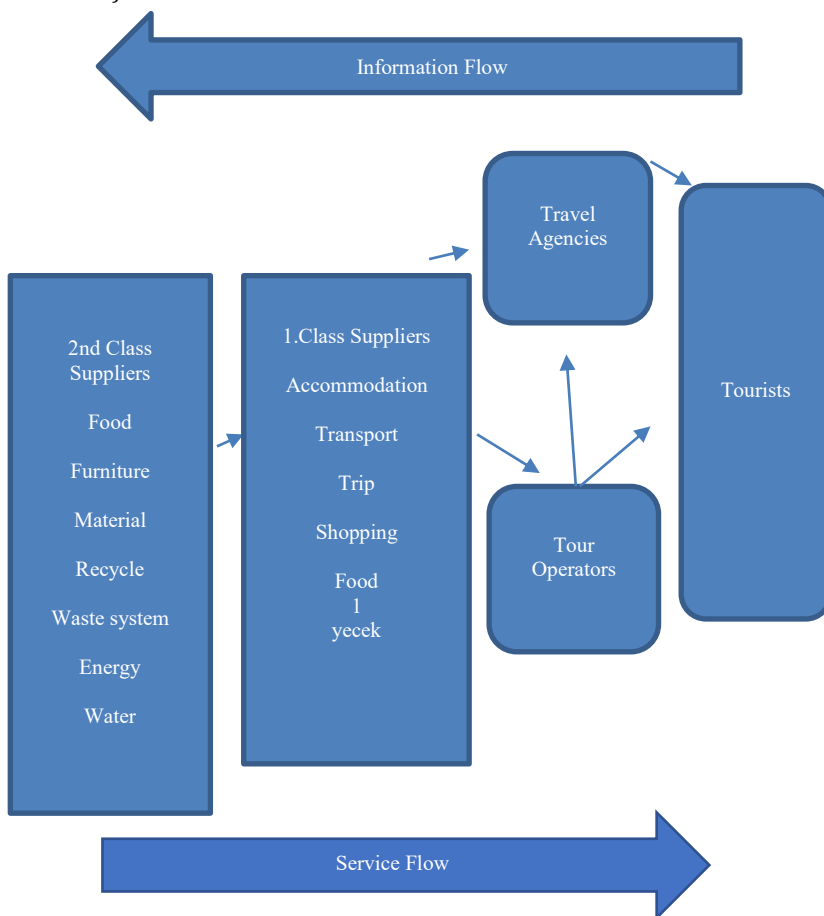


Figure 1: Supplier System in Tourism (Zhang et al., 2009: 353)

As can be seen from the above figure, travel agencies and tour operators play an active role in the tourism system. From the time when tourists make holiday decisions to the end of their holidays, the whole time is in the activity of these two enterprises. For this reason, it will be beneficial to the integrity of the issue in the definition of the functions of the travel agencies and tour operators performing the logistic activities in the tourism industry.

Travel agencies are businesses that meet all needs of people who want to take a vacation. The activities of travel agencies and tour operators include the logistics process in the tourism industry. In this context, it also carries out many activities such as organizing tours, providing transfer services, informing customers, organizing congress and conference, organizing touristic trips, renting cars, selling air tickets, making promotions (İçöz, 2000: 47).

Tour operators purchase the products they need during their travels in advance of the tourist product producing companies. After that, these touristic products are the ones that sell to tourists by creating a package tour at certain prices (Karamustafa and Öz, 2008: 276).

Travel agencies and tour operators, which are called as intermediary companies, are responsible for increasing tourism efficiency, increasing tourist demand, and achieving a sustainable tourism potential. In particular, tour operators combine the production of the products needed by tourists, and a large number of different basic and additional tourism services. After this stage, it offers tourist products directly to tourists or hotels. Other enterprises working in the tourism industry and providing services are in cooperation. For this reason, tour operators have a significant impact on the tourism industry's logistics. It also brings together businesses and tourists within the supply chain structure. Travel agencies and tour operators are important supplier enterprises that provide the cooperation of tourism industry and tourists with planning and management activities related to logistics management (Muhcina and Popovici, 2008: 123).

Rapid spread of the internet and easy access to customers have necessitated changes in logistics and tourism industries as well as in many industries. Logistics systems in classical style have been replaced with systems used over the internet. Businesses using logistics activities and supply chain structure provide easy access to the internet. As a result of these developments, with the development of the internet, many of the activities of travel agencies and tour operators are carried out over the internet. The supplier tourism companies are required to adapt to the e-logistics system, since they are focused on information and product sales. Due to the international nature of many of its activities, travel agencies and tour operators cooperate with similar organizations in other countries. Fast, reliable and systematic operation of e-logistics activities that will meet the needs of tourists will provide significant advantages to tourism enterprises, suppliers and tourists (Bosun et al., 2014: 76).

2.3. Transportation Systems in Tourism Logistics

As tourism industry presents products and services together, the expectations of tourists differ according to other industries. According to the needs of tourists, it may be necessary to realize the logistics of both products and people at the same time. Transportation systems in logistics management are almost the same in the tourism industry. Products, people and services offered to them are provided by road, sea, rail and air transportation vehicles and by other logistics activities. In particular, there is a transportation system in which the logistics of people is used and services and products are used at the same time.

2.3.1. Airline Logistics in Tourism

Air transportation is an important transportation system used in many countries for military, trade and tourism purposes. In recent years, with the advancement of technology and the opening of new airports, demand for airline vehicles has increased considerably. There are also important benefits for the tourism industry, such as all industries in terms of developed and less developed countries (Aktepe and Şahbaz, 2010: 70). Airline transportation systems, especially with the increase in mass tourism, provide tourists with time savings in long-distance travel. It is a fast, comfortable, inexpensive and reliable transportation system considering the travel of both products and tourists (Ege, 2015: 223).

Due to the diversity of touristic products, the expectations of tourists and the change of wishes, the desire of tourists to travel increases. For this reason, air transportation has become an indispensable part of the tourism industry, especially in terms of speed compared to other transportation vehicles. It is possible to state the importance of air transportation in tourism industry as follows (Usta, 2008: 41):

- Helps to open up new tourist destinations,
- It allows tourists who have limited time to participate in tourism,
- Increases the length of stay in tourism destinations,
- It allows the participation of people who cannot travel long term,
- It has an affordable demand-increasing effect for the seasonal tourism destinations,
- Airfares are included in package tours to reduce the costs of tourists,
- It is advantageous for families aiming to reach the holiday area in a short time,
- Provides an increase in international mobility in tourism.

Due to the diversification of air transport and the availability of prices, the number of tourists in the tourism industry is increasing. The diversification of air vehicles increases the visits for tourism and offers opportunities for new tourist destinations. It offers an easy transfer service for tourists who want to travel anywhere in the world. This provides significant advantages for tourists who want to see new places and want to vacation in less time. Air transport, which is an important part of logistics transportation, has an important role in the transportation of both products and tourists in the tourism industry. For this reason, it is accepted as the transportation services which are used intensively by the logistics suppliers in the transportation of tourists in tourism.

2.3.2. Maritime Logistics In Tourism

The maritime transportation, which dates back to ancient times, was used for military and commercial purposes between continents. Especially in the 1800's, it was observed that ships were used for travel purposes. (Kılıçhan and İlhan, 2014: 229). Considering the logistic industry, maritime vehicles have a great importance in the transfer of products with weight and quantity as well as in international transportation. It provides a cost benefit for the transportation of heavy mass products. In terms of tourism industry, it uses maritime logistics both for product and holiday purposes. In recent years, especially in terms of tourists who want to spend their holidays both at sea and on land, maritime transport is used as an important transportation and holiday form.

In terms of tourism sector, maritime logistics, which is used in transportation of products and tourists, has gained momentum especially with the use of ships for holiday purposes. In this context, cruise tourism comes to the forefront in which tourists can see new places, have fun, eat-drink, stay, do sports and perform many different activities. Tourists have the opportunity to visit different places and perform many activities within the ship (Gibson, 2006: 20). Cruise ships accommodate a large number of tourists. Thus, they can make holiday purchases in the form of a package tour and visit the holiday destinations they can reach by sea.

The touristic destinations in the tourism industry use the sea transportation with yachts and boats. Boat trips to the coastal shores of the region and to the islands in nearby countries are organized. In this way, a significant income from maritime transport is provided. In addition, yacht tours, which provide food, drink and sightseeing on the beaches all day long, are carried out. However, maritime transport elements, such as boats and sailing yachts, are used in the tourism industry for the purpose of spending time with tourists in sports, entertainment and leisure (Jennings, 2007: 35).

2.3.3. Railway Logistics in Tourism

Since the railway logistics is fast and big capacity from highway transportation, it has started to be used in the beginning of 20th century. Mass transportation has remained as a logistic tool for a long time in terms of freight and military purposes. With the advancement of technology, the attractiveness of railway logistics decreased with the developments in airline and maritime logistics activities (Li and Tang, 2008: 316). In terms of tourism industry, it is the first transportation vehicle for mass tourism. Due to the low cost and the possibility to visit many tourist destinations, it is in demand in terms of tourism (Hacıoğlu, 2002: 7). In many countries around the world, there are train routes for tourism purposes, traveling, eating and drinking. This type of tourist transportation, which is comfortable and affordable, provides an alternative type of tourism to the masses.

2.3.4. Highway Logistics In Tourism

Highway logistics elements are indispensable for the transfer of products and people in terms of all industries. Although it has a long duration of highway transportation, it is used continuously due to geographical conditions and operating costs. With the advancement of technology, it is not possible to save time due to traffic rules even if the transportation vehicles are more comfortable and fast.

With the development of highway's infrastructure, road vehicles are preferred especially in short and medium distance tourism activities. Transfers between touristic regions are carried out by highway transport, which is difficult to reach to touristic areas and transfer services between accommodation facilities and other means of transportation. Tourists who prefer long-distance aircraft or sea-based logistics vehicles benefit from Highway logistics opportunities in short-distance either by compulsion or willingly (Yüksek, 2012: 13).

Travel agencies and tour operators, which carry out the logistic activities in the tourism industry, organize tours with road vehicles in their activities within the country. In addition, it performs tours by bus for nearby and neighboring countries. The main reason for this situation is that the costs are more suitable than other types of transportation. Apart from that, travel agencies provide services to tourists through car rental. Tourism enterprises also use highway transport vehicles on a daily basis with the transfer of tourists from a tourist destination to another destination. In this regard,

highway logistics are used frequently both in the product logistics of accommodation establishments and in the transfer services of tourists.

3. RESULTS OF THE TOPIC

There is intense cooperation between tourism and logistics industry. The increase in the number of tourists and the increase in the revenues from tourism forced the countries to invest in the tourism industry. Cost elements have gained importance due to the aggravation of economic conditions and increasing competition conditions between countries. In this context, it is necessary to reduce the costs of logistics activities for both countries and enterprises. The use of the most appropriate logistics vehicles is especially important for the tourism industry in terms of providing low costs and for tourist satisfaction.

The expectations and needs of tourists in tourism are targeted to visit many tourist regions in a short time. The transportation vehicles used in the logistics industry are also very frequently used by the tourism industry. However, human behavior and attitudes reveal differences in travel options. It is necessary to select and use the logistic vehicles suitable for the holiday plans and purposes of the tourists. Travel agencies and tour operators operate as businesses that establish the relationship between the tourism industry and the logistics industry. These organizations are important intermediaries for both countries, tourists and other businesses.

In addition, catering and hospitality companies operating in tourism are constantly working with the logistics industry in the supply and delivery of products. Timely and accurate delivery of the products is important for the satisfaction of tourists. Touristic products must be provided with services immediately. Therefore, the use of the right logistics vehicles in the tourism industry is important for the sustainability of tourism. The systematic and correct logistics methods in the tourism industry contribute to the increase of tourist demand and to increase the revenues from tourism.

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EXAMINING MEDIATOR ROLE OF CHILDHOOD TRAUMAS OF PSYCHOLOGICAL COUNSELLORS BETWEEN THEIR SELF-EFFICACY AND JOB SATISFACTION

Ece CÖMERTPAY ¹, Binnaz KIRAN ²



¹ Uzman Psikolojik Danışman, Adana MEB Yüreğir Rehberlik Araştırma Merkezi.

² Doç. Dr. Mersin Üniversitesi.

Introduction

Technological improvements and changing environmental conditions with an increase in personal problems, having question marks on many personal and occupational topics once more showed the importance of psychological help occupations. Especially school counsellors are those who are generally first consulted for talking on personal, occupational and family problems of students, and on any problems experienced with teachers and family with student. Furthermore, school counsellors are seen as a school leader supporting the academic, career, social and personal success (Paisley and Hayes, 2003).

It is thought that school counsellors are leader people who develop an inclusive program for all students, who pay attention to success, who are interested in the school and the system, whose education is holistic and roles are clear, and who serve in cooperation (House and Hayes, 2002). The role of a school counsellor may greatly change depending on different grades and on where they live. Daily duties of school counsellors at every level are psychological counselling individually and with small group, and class guidance. Besides these, they help provide counselling to parents, teachers and administrators, school leadership, mental health, prevent suicide, pregnancy, school dropout and drug usage, and provide response to students under risk (Paisley, 2001).

It is expected that school counsellors are competent in occupational adjustment, identity and ethic subjects, social and cultural basis of occupation, educational psychology, lifestyle and career development, psychological counselling and information about psychotherapy theories, program development and research and psychopathology. In addition to occupational skills, counsellors need to develop their self-competency beliefs in activities about counselling (Larson and Daniels, 1998). In other words, the level of belief of counsellors about their competency on their duties is important in terms of the expected success in their occupations (Seligman, 2006).

Self-competency is the belief of a person in being able to succeed according to his/her skills (Bandura, 1986). According to Bandura (1994), self-competency belief affects our ideas, emotions, motivations and behaviors. Individuals with high self-competency level tend to make an effort about setting higher goals and reaching these goals. So, self-efficacy level affects setting goals, behavior choice, motivation, performance, effort and determination (Bandura, 1977). People with low self-efficacy are in the habit to fail to cope with difficulties, to avoid trying new skills, to judge themselves against failure (Larson, 1996). According to Hall (2009), if people believe the activity to be practiced is beyond their capacity, they tend to avoid doing this activity.

Counsellor self-efficacy is a vital component of an effective therapeutic relationship. Counsellors with high level self-efficacy determine their thoughts, behaviors and emotional reactions to other individuals (Brogan, Suarez, Rehfuß and Shope, 2013). Counselling is positively associated with variables about counselling sufficiency, like self-efficacy, amount of education taken and effective counselling behaviors (Larson et al., 1999; Urbani et al., 2002).

As much as self-efficacy beliefs of school counsellors about the response they would give to any problems, job satisfaction level they get from their jobs is also important. Although studies about job satisfaction concept are based on 1910s, it is not possible to talk about a universal definition accepted by everyone. When definitions are generally studied, job satisfaction is defined as a concept occurring when the wishes of the job, especially of the workers, match and providing gladness of the worker from work (Kadioğlu, 2014). Factors affecting job satisfaction are divided into two, as internal

factors involving personal characteristics, and external factors involving characteristics related to the job itself.

When examined in terms of job satisfaction, it is thought that school counsellors may be directly affected from positive or negative environment of the school they work at. So, it is primarily important for the school counsellors to recognize their own feelings and ideas about their job. It may be necessary for them to determine various factors around them affecting themselves negatively and change them if necessary, in order to be satisfied with the job they chose (Pelsma, 2000). The items below can be defined among important factors affection job satisfaction of school counsellors:

1. Trusting the person in charge and being able to interact with him/her,
2. Working hours and use of time,
3. Students' motivations, disciplines and will to learn,
4. Work environment, necessary equipment and materials which help them in education process,
5. Promotion prospects, extra bonuses and income level,
6. Relationship with parents, teachers and other staff,
7. Satisfaction of students from counseling service (Pelsma, 2000; Sears, 2002).

When this information is considered, it is thought that here will be a relationship between the self-efficacy and job satisfaction levels of school counsellors. Another variable thought to possibly affect this relationship is childhood traumas.

According to NCTSN (The National Child Traumatic Stress Network), early childhood trauma generally refers to traumatic experiences occurring for children between 0-6. These traumas may be as a result of physical or sexual abuse of the child, or of family violence or of natural disaster, of accident or of war. Young children may also experience traumatic stress in response to painful medical procedures, or to sudden parent/caretaker loss, and this situation may have lifelong effective results (NCTSN, 2019). Childhood emotional traumas have effect in adulthood period like wrong personality formation, creating victimization idea, passive-aggressiveness passiveness (Brandt, 2019). Its effect can be felt in various fields like emotional health, physical health, mental health and personal relationships.

According to Anda et al. (2004); childhood traumas are thought to be the cause of psychological problems people experience in their adulthood and of many health problems that may appear throughout their lives. It can be observed that health problems and risks are higher in later periods of life when a negative childhood is experienced. Wagner (2016) states that suicidal tendency prevalence is meaningfully high in adults having experienced traumas like physical abuse, sexual abuse and family violence in childhood, and that they may experience problems in their romantic relationships. According to studies of Souza, Molina, Silva and Jansen, (2016) unsuccessful marriage and end of relationship is higher in rate in individuals who are child abuse victims, when compared to others. It was identified that, in adult individuals having been exposed to childhood traumas, there is a positive relationship between childhood traumas and depression, and a negative relationship between childhood traumas ad life satisfaction (Sönmez, 2015).

When the literature is examined, no studies were found examining self-efficacy and job satisfaction level of counsellors continuing psychological help occupation and childhood traumas together. Because the variables considered were examined with

similar psychological structures and meaningful relationships were put forth, the variables are decided to be examined together in this study. This study aims to reveal the relationships between self-efficacy and job satisfaction level of school counsellors and the mediator role of childhood traumas in this relationship. In accordance with this aim, answers to the questions below were sought after.

- 1) Is there a statistically meaningful relationship between subdimensions of school counsellors' self-efficacy, job satisfaction and childhood variables?
- 2) Do subdimensions of childhood traumas play a mediator role between school counsellors' self-efficacy subdimensions and job satisfaction-appropriacy to quality subdimensions?
- 3) Do subdimensions of childhood traumas play a mediator role between school counsellors' self-efficacy subdimensions and job satisfaction-opportunity to develop subdimensions?

Method

Research Model

Modeling presented in Figure 2 was applied to study whether childhood traumas that direct and indirect effects between the variables in the study could be analyzed together (Seçer, 2015) play a mediator role between Counsellors' Self-efficacy and Job Satisfaction levels. Thus, direct and indirect effects of the self-efficacy level of the counsellor on job satisfaction were examined. The criteria (dependent) variable of the study is job satisfaction level, and the predictor variables are self-efficacy level and childhood traumas of counsellors.

Mediator Effects: Three separate regression equations presented in Figure 1 were formed for importance tests of mediator variables:

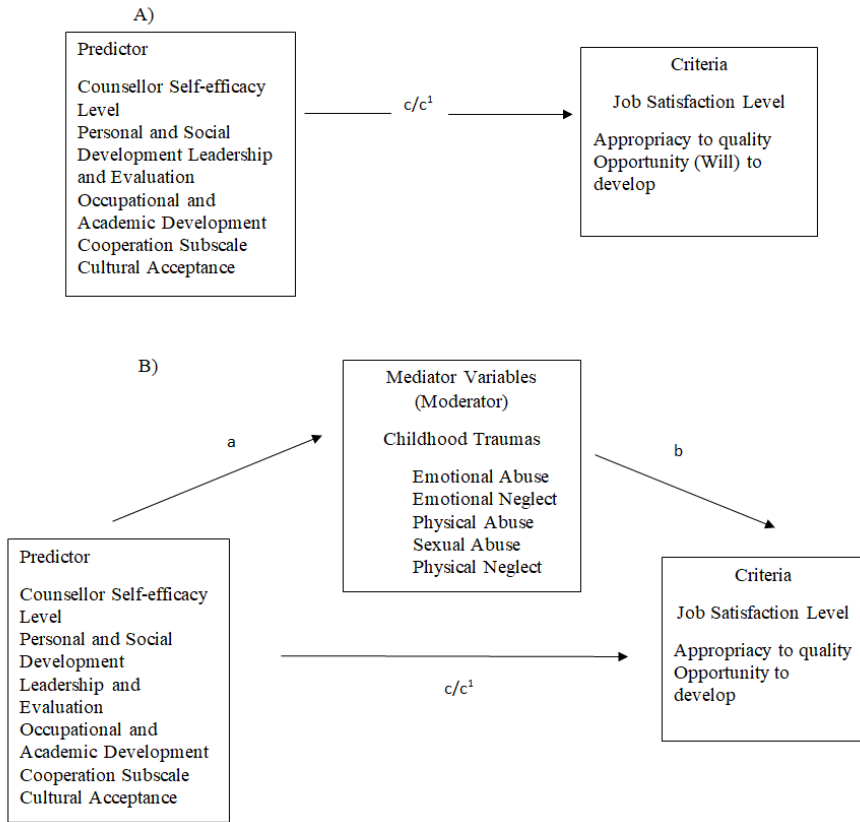


Figure 1. Mediator Model

As it can be seen in Figure 1, in order to mention an indirect effect, the predictability of appropriacy to quality and opportunity to develop subdimensions of job satisfaction were first tested with counsellor self-efficacy subdimensions (A: path c). Followingly, counsellor self-efficacy subdimensions childhood traumas predictability (B: path a), and in the third equation, subdimensions of childhood traumas (B: path b) predictability of appropriacy to quality and opportunity to develop subdimensions of job satisfaction were tested.

In order to provide external validity of the study, efficient sampling to represent the population, from school counsellors serving in central districts of Adana – determined as target population, was tried to be formed (50% were taken). In order to provide internal validity of the study, by focusing on data analysis process, by determining lost data and extreme values, homogeneity was tried to be provided.

Study Group

394 counsellors serving in Adana province central districts (Çukurova, Sarıçam, Seyhan and Yüreğir) schools and counselling and research centers in 2017-2018 Educational year determined among a total of 766 counsellors with stratified, proportional and random sampling methods form the study group. 62.2% of the school

counsellors in study group are women, 37.8% are men, 69.8% are married, and 30.2% are single, 60.4% are between 25-34, 26.4% are between 35-44, 52% are between 45-54 years old, and 26.9% serve in primary school, 39.3% in secondary school, 24.6% in high school and 9.1% in CRS.

Data Collection Tools

Childhood Traumas Scale

Childhood Traumas Questionnaire was formed by Bernstein et al. (1994) to evaluate traumatic neglect and abuse experiences in childhood period. Translated into Turkish by Şar (1996), the scale consists of 28 items. Validity and reliability studies of the scale were done by Şar et al. (2012). Cronbach alpha value of the scale was found 0.93 for internal consistency, and correlation coefficient for total points in test-repeat test was found as 0.90 ($p<.0001$, $N=48$). For subscales, the calculations are as such; $r=.90$ in emotional abuse ($p=.001$), $r=.85$ in emotional neglect ($p<.0001$), $r=.90$ in physical abuse ($p<.001$), $r=.73$ in sexual abuse ($p<.001$), and $r=.71$ in physical neglect ($p<.001$) (Balci, 2018).

Cronbach alpha coefficient of credibility coefficients redone with the data obtained from this study was calculated as such; .73 in emotional abuse ($p<.01$), .84 in emotional neglect ($p<.01$), .73 in physical abuse ($p<.01$), .84 in sexual abuse ($p<.01$), and .48 in physical neglect ($p<.01$). Besides, second degree confirmatory factor analysis related to Childhood Traumas Scale was done, and agreement index is presented in Table 1.

Table 1. Childhood Traumas Scale Factor Analysis Agreement Index Values

χ^2	Df	P	GFI	CFI	AGFI	RMSEA
839.083	267	0.00	0.85	0.85	0.82	0.07

According to Table 1, when model agreement statistics are examined, it can be seen that there is an acceptable level of agreement, although there is not a perfect agreement.

Job Satisfaction Scale

Developed by Kuzgun, Aydemir and Hamacı (199) to determine the job satisfaction of school counsellors, the scale has two subscales as “appropriacy to quality” and “opportunity (will) to develop”. Internal consistency coefficient of the scale was calculated as .91 for the first, and .75 for the second subscale. Rerun with the data obtained from this study, Cronbach Alpha credibility coefficients were calculated as .91 for “appropriacy to quality” subscale, and as .71 for opportunity (will) to develop subscale. Furthermore, second degree confirmatory factor analysis agreement index related to job satisfaction scale has been given in Table 2.

Table 2. Job Satisfaction Scale Agreement Index Values

χ^2	Df	P	GFI	CFI	AGFI	RMSEA
720.631	161	0.00	0.84	0.86	0.79	0.09

According to Table 2, when model agreement statistics are examined, it can be seen that there is an acceptable level of agreement, although there is not a perfect agreement.

School Counsellor Self-efficacy Scale

School Counsellor Self-efficacy Scale (SCSS) was developed by Bodenhorn and Skaggs (2005), and translated to Turkish by Balcı (2014). Originally consisting of 43 items, the scale is made up of 5 subscales. In Turkish adaptation, credibility coefficient obtained by repeating the test is .83 for the whole scale. Besides, the credibility coefficient of the first of 5 factors of the test was calculated as .77, the second as .78, the third as .80, the fourth as .75 and the fifth as .81. Cronbach Alpha credibility coefficient of the test was calculated as 0.819. Rerun with the data obtained from this study, Cronbach Alpha credibility coefficients were calculated as .91 for Personal and Social Development Subscale, as .89 for Leadership and Evaluation Subscale, as .88 for Occupational and Academic Development, as .88 for Cooperation Subscale, and .84 for Cultural Acceptance Subscale.

Second-degree confirmatory factor analysis agreement index related to Counsellor Self-efficacy Scale has been given in Table 3.

Table 3. Agreement Index Values of School Counsellors' Self-efficacy Scale

χ^2	Df	P	GFI	CFI	AGFI	RMSEA
2336.715	618	0.00	0.70	0.84	0.66	0.08

According to Table 3, when model agreement statistics are examined, it can be seen that there is an acceptable level of agreement, although there is not a perfect agreement.

Data Analysis

In this study, the relationship between job satisfaction and self-efficacy levels of counsellors and mediator role of Childhood Traumas in this relationship were evaluated by doing structural regressions and mediator analysis, using lavaan package in R programming language. In Structural Equality Model, mediator relationship was tested by using Hayes' (2014) parallel multiple mediation method. Besides the fact that Structural Equality Model is a statistical method used to answer research questions including more than one regression analysis, as it enables the calculation of relationships in an error-free way, it enables us to obtain more reliable results compared to regression analysis (Meydan and Şeşen, 2011).

Findings

In this part of the study, analysis results related to mediator effect of childhood traumas subdimensions among self-efficacy subdimensions and job satisfaction subdimensions of school counsellors.

1. Findings Related to Relationships Between Childhood Traumas, Self-efficacy and Job Satisfaction Subdimensions in School Counsellors

It was studied whether there is a statistically meaningful relationship between subdimensions of self-efficacy, job satisfaction and childhood traumas of counsellors scales, and the relationships between the variables were studied by calculating Pearson Product-Moment Correlation Coefficient and shown in Table 4.

Table. 4 Correlation (r) Values of Relationships Between Self-efficacy, Job Satisfaction and Childhood Traumas

	P.A.	P.N.	E.N.	S.A.	P.D.	Lead.	Occ.	Co.	C.A.	A.Q.	O.D
E.A.	0.53**	0.33**	0.55**	0.43**	-0.08	-0.10*	-0.11*	-0.03	-0.10*	-0.11*	-0.08
P.A.		0.31**	0.41**	0.38**	-0.06	-0.04	-0.03	-0.05	-0.02	-0.05	-0.07
P.N.			0.51**	0.18**	-0.06	-0.03	0.01	-0.06	-0.02	-0.02	-0.06
E.A.				0.22**	-0.18**	-0.20**	-0.20**	-0.18**	-0.15**	-0.06	-0.15**
S.A.					-0.06	-0.08	-0.09	-0.05	-0.09	-0.12*	0.01
P.D.						0.82**	0.72**	0.79**	0.80**	0.23**	0.34**
Lead.							0.79**	0.76**	0.78**	0.27**	0.34**
Occ.								0.79**	0.66**	0.29**	0.38**
Co.									0.69**	0.25**	0.34**
C.A.										0.21**	0.27**
A.Q.											0.50**

*0.05, ** 0.01

According to Table 4, it can be seen that childhood traumas scale show positive and meaningful relationships between its own subdimensions, highly positive meaningful relationships between subdimensions of school counsellors' self-efficacy scale, and medium-level positive and meaningful relationships between subdimensions of job satisfaction scale.

2. Studying Mediator Role of Childhood Traumas Between Self-efficacy and Job Satisfaction-Appropriacy to Quality Subdimension in School Counsellors

Table. 5 Parallel Multiple Mediator Analysis Related to Mediator Role of Childhood Traumas Between Self-efficacy and Job Satisfaction-Appropriacy to Quality Subdimension

Mediator Variable Test Def.	B	Sh	p	Mediator Variable Test Def.	β	sh	p
Personal-Social Development S. Total Effect Step1(Path c)				Per.-Social Development S Direct Effect Step1(Path c1)			
Personal and S.D \Rightarrow Quality A.	0,23	0,09	0,00**	Personal and S.D \Rightarrow Quality A.	0,40	0,09	0,00**
Personal and Social D. (Path a) Predictor Variable				CT (Path b) Mediator			
Per.-Soc. D. a1 \Rightarrow Emo. A.	-0,08	0,02	0,09	Emo. A. b1 \Rightarrow Quality A.	-0,08	0,22	0,11
Per.-Soc. D. a2 \Rightarrow Physical A.	-0,06	0,01	0,24	Physical A. b2 \Rightarrow Quality A.	-0,02	0,35	0,67
Per.-Soc. D. a3 \Rightarrow Physical N.	-0,06	0,02	0,23	Physical N. b3 \Rightarrow Quality A.	-0,02	0,23	0,75
Per.-Soc. D. a4 \Rightarrow Emo. N.	-0,18	0,03	0,00**	Emo. N. b4 \Rightarrow Quality A.	-0,02	0,13	0,67
Per.-Soc. D. a5 \Rightarrow Sexual A.	-0,06	0,02	0,20	Sexual A.b5 \Rightarrow Quality A.	-0,09	0,30	0,08
Leadership and Evaluation S. Total Effect Step 1 (Path c)				Leadership and Evaluation S. D. Effect Step 1(Path c1)			
Leadership and E. \Rightarrow Quality A.	0,27	0,09	0,00**	L&E. \Rightarrow Quality A.	0,26	0,09	0,00**
Leadership and Evaluation (Path a) Predictor Variable				CT (Path b) Mediator			
L&E. a1 \Rightarrow Emo. A.	-0,10	0,02	0,04*	Emo. A. b1 \Rightarrow Quality A.	-0,07	0,21	0,14
L&E. a2 \Rightarrow Physical A.	0,04	0,01	0,42	Physical A. b2 \Rightarrow Quality A.	0,01	0,35	0,85
L&E. a3 \Rightarrow Physical N.	-0,03	0,02	0,62	Physical N. b3 \Rightarrow Quality A.	-0,00	0,22	0,96
L&E. a4 \Rightarrow Emo. N.	-0,20	0,04	0,00**	Emo. N. b4 \Rightarrow Quality A.	0,04	0,13	0,38
L&E. a5 \Rightarrow Sexual A.	-0,08	0,02	0,12	Sexual A.b5 \Rightarrow Quality A.	-0,08	0,29	0,11
Occupational and Academic Development S. Total Effect Step 1 (Path c)				Occupational and Academic Development S. Direct Effect Step 1 (Path c1)			
Occ. & A. D. \Rightarrow Quality A.	0,29	0,11	0,00**	Occ. & A. D. \Rightarrow Quality A.	0,29	0,11	0,00**
Occupational and Academic Development (Path a) P.V.				CT (Path b) Mediator			
Occ. & A. D. a1 \Rightarrow Emo. A.	-0,11	0,03	0,04*	Emo. A. b1 \Rightarrow Quality A.	-0,07	0,21	0,14
Occ. & A. D. a2 \Rightarrow Physical A.	-0,03	0,02	0,50	Physical A. b2 \Rightarrow Quality A.	0,01	0,35	0,90
Occ. & A. D. a3 \Rightarrow Physical N.	0,01	0,02	0,87	Physical N. b3 \Rightarrow Quality A.	-0,02	0,23	0,73
Occ. & A. D. a4 \Rightarrow Emo. N.	-0,20	0,04	0,00**	Emo. N. b4 \Rightarrow Quality A.	0,05	0,13	0,28
Occ. & A. D. a5 \Rightarrow Sexual A.	-0,09	0,02	0,08	Sexual A.b5 \Rightarrow Quality A.	-0,07	0,29	0,13
Cooperation S. Total Effect Step 1 (Path c)				Cooperation S. Direct Effect Step 1 (Path c1)			
Cooperation \Rightarrow Quality A.	0,25	0,10	0,00*	Cooperation \Rightarrow Quality A.	0,26	0,10	0,00**
Cooperation (Path a) Predictor Variable				CT (Path b) Mediator			
Cooperation a1 \Rightarrow Emo. A.	-0,03	0,02	0,60	Emo. A. b1 \Rightarrow Quality A.	-0,10	0,21	0,03*
Cooperation a2 \Rightarrow Physical A.	-0,5	0,01	0,33	Physical A. b2 \Rightarrow Quality A.	0,03	0,35	0,60
Cooperation a3 \Rightarrow Physical N.	-0,06	0,02	0,22	Physical N. b3 \Rightarrow Quality A.	0,02	0,23	0,76
Cooperation a4 \Rightarrow Emo. N.	-0,18	0,04	0,00**	Emo. N. b4 \Rightarrow Quality A.	0,04	0,13	0,44
Cooperation a5 \Rightarrow Sexual A.	-0,05	0,02	0,35	Sexual A. b5 \Rightarrow Quality A.	-0,08	0,29	0,09
Cultural Acceptance S. Total Effect Step 1 (Path c)				Cultural Acceptance S. Direct Effect Step 1 (Path c1)			
Cultural A \Rightarrow Quality A.	0,21	0,17	0,00*	Cultural A. \Rightarrow Quality A.	0,20	0,18	0,00*
Cultural Acceptance (Path a) Predictor Variable				CT (Path b) Mediator			
Cultural A. a1 \Rightarrow Emo. A.	-0,10	0,04	0,04*	Emo. A. b1 \Rightarrow Quality A.	-0,06	0,22	0,19
Cultural A. a2 \Rightarrow Physical A.	-0,02	0,03	0,64	Physical A. b2 \Rightarrow Quality A.	0,01	0,35	0,84
Cultural A. a3 \Rightarrow Physical N.	-0,02	0,04	0,69	Physical N. b3 \Rightarrow Quality A.	0,01	0,23	0,83
Cultural A. a4 \Rightarrow Emo. N.	-0,15	0,07	0,00**	Emo. N. b4 \Rightarrow Quality A.	0,01	0,13	0,87
Cultural A. a5 \Rightarrow Sexual A.	-0,09	0,03	0,08	Sexual A. b5 \Rightarrow Quality A.	-0,08	0,30	0,11

*P<0,01, **P<0,05

When results are studied according to Table.5, it can be seen that Personal and Social Development (path a) ($\beta = -0.18$, SH = 0.03, $p = 0.00$), Leadership and Evaluation ($\beta = -0.20$, SH = 0.04, $p = 0.00$), Occupational and Academic Development ($\beta = -0.20$, SH = 0.04, $p = 0.00$), Cooperation ($\beta = -0.18$, SH = 0.04, $p = 0.00$) and Cultural Acceptance ($\beta = -0.15$, SH = 0.07, $p = 0.00$) subdimensions have meaningful predictor effect on emotional neglect. Besides, it was found that Leadership and Evaluation (path a) ($\beta = -0.10$, SH = 0.02, $p = 0.04$), Occupational and Academic Development ($\beta = -0.11$, SH = 0.03, $p = 0.04$) and Cultural Acceptance ($\beta = -0.10$, SH = 0.04, $p = 0.04$) subdimensions predict emotional neglect. It can be seen that other variables do not have a meaningful predictor effect on job satisfaction-appropriacy to quality subdimension.

When studied in terms of Total effect (path c), job satisfaction-appropriacy to quality predictability of Personal and Social Development ($\beta = 0.23$, SH = 0.09, $p = 0.00$), Leadership and Evaluation ($\beta = 0.27$, SH = 0.09, $p = 0.00$), Occupational and Academic Development ($\beta = 0.29$, SH = 0.11, $p = 0.00$), Cooperation ($\beta = 0.25$, SH = 0.10, $p = 0.00$) and Cultural Acceptance ($\beta = 0.21$, SH = 0.17, $p = 0.00$) variables were found meaningful. When studied in terms of Direct effect (path c1), job satisfaction-appropriacy to quality predictability of Personal and Social Development ($\beta = 0.40$, SH = 0.09, $p = 0.00$), Leadership and Evaluation ($\beta = 0.26$, SH = 0.09, $p = 0.00$), Occupational and Academic Development ($\beta = 0.29$, SH = 0.11, $p = 0.00$), Cooperation ($\beta = 0.26$, SH = 0.10, $p = 0.00$) and Cultural Acceptance ($\beta = 0.20$, SH = 0.18, $p = 0.00$) variables were found meaningful. In other words, subdimensions showing self-efficacy of counsellors predict appropriacy to quality – subdimension of job satisfaction – both in the presence and absence of mediator variables. So, it was identified that subdimensions related to childhood traumas in relevant dimensions do not have any kind of mediator role.

3. Studying Mediator Role of Childhood Traumas Between Self-efficacy and Job Satisfaction-Opportunity to Develop Subdimension in School Counsellors

Table 6. Parallel Multiple Mediator Analysis Related to Mediator Role of Childhood Traumas Between Self-efficacy and Job Satisfaction-Opportunity to Develop Subdimension

Mediator Variable Test Def.	B	Sh	P	Mediator Variable Test Definitions	B	Sh	P
Personal-Social Development S. Total Effect Step 1 (Path c)				Personal-Social Development S Direct Effect Step 1 (Path c1)			
Personal and S.D. Opp. To D.	0,34	0,03	0,00**	Personal and S.D. Opp. To D.	0,32	0,03	0,00**
Personal and Social D. (Path a) Predictor Variable				CT (Path b) Mediator			
Per.-Soc. D. a1 Emo. A.	-0,08	0,02	0,09	Emo. A. b1 ➡ Opp. To D.	-0,02	0,08	0,75
Per.-Soc. D. a2 Physical A.	-0,06	0,01	0,24	Physical A. b2 ➡ Opp. To D.	-0,04	0,14	0,42
Per.-Soc. D. a3 Physical N.	-0,06	0,02	0,23	Physical N. b3 ➡ Opp. To D.	-0,01	0,09	0,78
Per.-Soc. D. a4 Emo. N.	-0,18	0,03	0,00**	Emo. N. b4 ➡ Opp. To D.	-0,09	0,05	0,06
Per.-Soc. D. a5 Sexual A.	-0,06	0,02	0,20	Sexual A. b5 ➡ Opp. To D.	-0,07	0,11	0,16
Leadership and Evaluation S. Total Effect Step 1 (Path c)				Leadership and Evaluation S. Direct Effect Step 1 (Path c1)			
Leadership & E. ➡ Opp. To D.	0,34	0,04	0,00**	Leadership&E. ➡ Opp. To D.	0,33	0,04	0,00**
Leadership and Evaluation (Path a) Predictor Variable				CT (Path b) Mediator			
L. & E. a1 ➡ Emo. A.	-0,10	0,02	0,04*	Emo. A. b1 ➡ Opp. To D.	-0,01	0,08	0,89
L. & E. a2 Physical A.	0,04	0,01	0,42	Physical A. b2 ➡ Opp. To D.	-0,05	0,14	0,28
L. & E. a3 Physical N.	-0,03	0,02	0,62	Physical N. b3 ➡ Opp. To D.	-0,01	0,09	0,88
L. & E. a4 Emo. N.	-0,20	0,04	0,00**	Emo. N. b4 ➡ Opp. To D.	-0,07	0,05	0,13
L. & E. a5 Sexual A.	-0,08	0,02	0,12	Sexual A. b5 ➡ Opp. To D.	0,07	0,11	0,12
Occupational and Academic Development S. Total Effect Step 1 (Path c)				Occupational and Academic Development S. Direct Effect Step 1 (Path c1)			
Occ. & A. D. ➡ Opp. To D.	0,38	0,04	0,00**	Occ. & A. D. ➡ Opp. To D.	0,37	0,04	0,00**
Occup. and Academic Dev. (Path a) Predictor Variable				CT (Path b) Mediator			
Occ. & A. D. a1 ➡ Emo. A.	-0,11	0,03	0,04*	Emo. A. b1 ➡ Opp. To D.	-0,01	0,08	0,91
Occ. & A. D. a2 ➡ Physical A.	- 0,03	0,02	0,50	Physical A. b2 ➡ Opp. To D.	-0,06	0,13	0,23
Occ. & A. D. a3 ➡ Physical N.	0,01	0,02	0,87	Physical N. b3 ➡ Opp. To D.	-0,03	0,09	0,55
Occ. & A. D. a4 ➡ Emo. N.	-0,20	0,04	0,00**	Emo. N. b4 ➡ Opp. To D.	-0,06	0,05	0,24
Occ. & A. D. a5 ➡ Sexual A.	-0,09	0,02	0,08	Sexual A. b5 ➡ Opp. To D.	0,08	0,11	0,08
Cooperation S. Total Effect Step 1 (Path c)				Cooperation S. Direct Effect Step 1 (Path c1)			
Cooperation ➡ Opp. To D.	0,34	0,04	0,00**	Cooperation ➡ Opp. To D.	0,33	0,04	0,00**
Cooperation (Path a) Predictor Variable				CT (Path b) Mediator			
Cooperation a1 ➡ Emo. A.	-0,03	0,02	0,60	Emo. A. b1 ➡ Opp. To D.	-0,05	0,08	0,33
Cooperation a2 ➡ Physical A.	-0,5	0,01	0,33	Physical A. b2 ➡ Opp. To D.	-0,03	0,14	0,51
Cooperation a3 ➡ Physical N.	-0,06	0,02	0,22	Physical N. b3 ➡ Opp. To D.	0,01	0,09	0,77
Cooperation a4 ➡ Emo. N.	-0,18	0,04	0,00**	Emo. N. b4 ➡ Opp. To D.	-0,08	0,05	0,11
Cooperation a5 ➡ Sexual A.	-0,05	0,02	0,35	Sexual A. b5 ➡ Opp. To D.	0,07	0,11	0,14
Cultural Acceptance S. Total Effect Step 1 (Path c)				Cultural Acceptance S. Direct Effect Step 1 (Path c1)			
Cultural A. ➡ Opp. To D.	0,27	0,07	0,00**	Cultural A ➡ Opp. To D.	0,26	0,07	0,00**
Cultural Acceptance (Path a) Predictor Variable				CT (Path b) Mediator			
Cultural A. a1 ➡ Emo. A.	-0,10	0,04	0,04*	Emo. A. b1 ➡ Opp. To D.	0,04	0,09	0,94
Cultural A. a2 ➡ Physical A.	-0,02	0,03	0,64	Physical A. b2 ➡ Opp. To D.	-0,05	0,14	0,29
Cultural A. a3 ➡ Physical N.	-0,02	0,04	0,69	Physical N. b3 ➡ Opp. To D.	0,01	0,09	0,87
Cultural A. a4 ➡ Emo. N.	-0,15	0,07	0,00**	Emo. N. b4 ➡ Opp. To D.	-0,11	0,05	0,02*
Cultural A. a5 ➡ Sexual A.	-0,09	0,03	0,08	Sexual A. b5 ➡ Opp. To D.	-0,07	0,12	0,13

*P<0,01, **P<0,05

When results are studied according to Table 6, it can be seen that Personal and Social Development (path a) ($\beta = -0.18$, SH = 0.03, $p = 0.00$), Leadership and Evaluation ($\beta = -0.20$, SH = 0.04, $p = 0.00$), Occupational and Academic Development ($\beta = -0.20$, SH = 0.04, $p = 0.00$), Cooperation ($\beta = -0.18$, SH = 0.04, $p = 0.00$) and Cultural Acceptance ($\beta = -0.15$, SH = 0.07, $p = 0.00$) subdimensions have a meaningful predictor effect on emotional neglect. Besides, it was also found that Leadership and Evaluation (path a) ($\beta = -0.10$, SH = 0.02, $p = 0.04$), Occupational and Academic Development ($\beta = -0.11$, SH = 0.03, $p = 0.04$) and Cultural Acceptance ($\beta = -0.10$, SH = 0.04, $p = 0.04$) subdimensions predict emotional neglect. It can be seen that only emotional neglect (path b) ($\beta = -0.11$, SH = 0.05, $p = 0.02$) subdimension from childhood traumas have a meaningful predictor effect on emotional neglect job satisfaction-opportunity to develop subdimension. It was found that other variables do not have a meaningful predictor effect on job satisfaction-opportunity to develop subdimension.

When studied in terms of Total effect (path c), job satisfaction-opportunity to develop subdimension predictability of Personal and Social Development dimension ($\beta = 0.34$, SH = 0.03, $p = 0.00$), Leadership and Evaluation ($\beta = 0.34$, SH = 0.04, $p = 0.00$), Occupational and Academic Development ($\beta = 0.38$, SH = 0.04, $p = 0.00$), Cooperation ($\beta = 0.34$, SH = 0.04, $p = 0.00$) and Cultural Acceptance ($\beta = 0.27$, SH = 0.07, $p = 0.00$) variables were found meaningful. When studied in terms of Direct effect (path c1), job satisfaction-opportunity to develop subdimension predictability of Personal and Social Development dimension ($\beta = 0.32$, SH = 0.03, $p = 0.000$), Leadership and Evaluation ($\beta = 0.33$, SH = 0.04, $p = 0.00$), Occupational and Academic Development ($\beta = 0.37$, SH = 0.04, $p = 0.00$), Cooperation ($\beta = 0.33$, SH = 0.04, $p = 0.00$) and Cultural Acceptance ($\beta = 0.26$, SH = 0.07, $p = 0.00$) variables were found meaningful. In other words, subdimensions showing self-efficacy of counsellors predict opportunity to develop – subdimension of job satisfaction – both in the presence and absence of mediator variables. So, it was identified that subdimensions related to childhood traumas in relevant dimensions do not have any kind of mediator role.

Discussion and Suggestions

As a result of this study, it was seen that subdimensions showing self-efficacy of counsellors predict subdimensions of job satisfaction – both in the presence and absence of mediator variable childhood traumas. So, it was identified that subdimensions related to childhood traumas in relevant dimensions do not have any kind of mediator role.

Job satisfaction is a result of people's various existing attitudes. These attitudes are shaped according to characteristics of job, personal characteristics and personal relationships. Job satisfaction can, in a way, be thought as a sign of psychological health of workers. Amodia, Cano and Eliason (2005) found that there is a positive relationship between people's job satisfaction level and their emotional health levels. So, as people's emotional health level increases, job satisfaction level also increases. There are studies showing that childhood traumas cause individuals to develop identity confusion, difficulty in feeling regulation, low self-esteem, insufficiency personal uniqueness perception, physical violence towards self, risky behaviors and a couple of negative behavior and thinking patterns (Kourt, 2011; Bedirhanbeyoğlu, 2018; Çakar vd., 2018; Kahraman, 2018; Sönmez, 2015). Elliott and Guy (1993) and Feldman and Pope (1994), studying on psychologists offering psychological help, identified that almost one fourth of psychologists experienced neglect in their childhood. The effect of this situation on choice of profession is not known. However, Ulaş (2017) concluded in his study where he studied the relationship between personal characteristics of psychology students with choice of profession and childhood traumas that childhood traumas have no effect on choice of profession.

Stating that individuals form self-efficacy – another concept related to mental health – by evaluating what they have done and comparing them with others, Bandura (1977) emphasized that success is not related only to having necessary skills and ability, but that effective use of skill and ability is also important. It was concluded that individuals with an externally audited, low self-efficacy perception level, strict personality have lower level of job satisfaction (Robins and Judge, 2013). There are studies putting forward the relationship between self-efficacy and job satisfaction level of counsellors (Atıcı et al., 2005; Durmuş, 2015; Karçkay, 2008; Kocayörük, 2000). It was concluded that self-efficacy and social support have a meaningful relationship between many variables as finding the job entertaining (Gündüz, 2012), anxiety level (Larson, 1992), personality characteristics (Özgün, 2007; Yam, 2014), satisfaction with life (Pamukçu, 2011), and having effective counsellor characteristics (Yayla, 2016). Defined by Larson (1998) as beliefs and judgements towards studies made to studies of counsellors, high counsellor self-efficacy causes performance increase, and so job satisfaction level increase. It was seen that self-efficacy belief is related to characteristics which belong to personal differences predicting general helping skills like self-respect, faith in problem-solving ability, attentiveness, empathy, and trait anxiety (Barbee, Scherer and Combs, 2003; Greason and Cashwell, 2009). It can be said that results obtained from these studies support the results of this study.

School counsellors graduate from psychological counselling and guidance programs of universities by obtaining required occupational knowledge and skills (Larson, 1998). This obtained education may have contributed counsellors to develop skills to cope with childhood traumas by helping them know themselves, foster personal characteristics. At the same time, it was seen that the education of counsellors increases counselling skills, occupational sufficiency and self-efficacy level, and decreases anxiety (Sharpley and Ridgway, 1993; Tang et al., 2004; Yiyit, 2001; Larson et al., 1992).

A counsellor who can gain advantage from himself/herself is able to obtain experiences to himself/herself from all his/her traumatic experiences. In studies especially examining self-efficacy and childhood traumas separately, it is known that positive self-efficacy belief is related to positive thought and behavior patterns, and that childhood traumas are related to negative thought and behavior patterns. That there is a strong relationship between self-efficacy and job satisfaction supported with many studies was also supported with this study, and it was identified that childhood traumas are not among factors paving the way for relationship. In relation to this result, it is suggested that, as studies related to childhood traumas of people giving psychological help service are inefficient, this kind of studies should be increased, and that this study is repeated also in people serving in different help jobs.

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**SUSTAINABILITY OF ECONOMIC GROWTH AND ITS
INCLUSIVENESS ON LABOR FORCE PARTICIPATION
RATIOS IN TURKISH ECONOMY: CAUSALITY,
IMPULSE-RESPONSE AND VARIANCE
DECOMPOSITION ANALYSIS ¹**

Ömer Uğur BULUT ² , Murat AYKIRI ³



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² (Asst. Prof.); Kafkas University, Kars, Turkey.

³ (Asst. Prof.); Kafkas University, Kars, Turkey.

INTRODUCTION

Economic growth is traditionally defined as real gross domestic product increase or gross national product per capita increase. Especially after the 2008 global crisis, sustainability of the increase over time and that the ascending growth includes different segments of the society come into prominence. At this point, sustainability and inclusiveness of the growth define both the process and the result of the implemented economy policies at the same time. For this reason, sustainable and inclusive growth defines economically disadvantaged groups as political tools that provide the opportunity to get an equal share from growth (Klasen, 2010, p.3). Main concern of recent studies in economic growth is not only growth itself but also sustainability and inclusiveness of growth. In this direction, sustainable and inclusive growth literature becomes rich gradually.

According to Organization of Economic Cooperation and Development (OECD), inclusive growth is the one which provides all segments of the society with the opportunity to increase their prosperity, and which, along with these, allocates all the welfare components, be it monetary or non-monetary, to the society equitably. This definition of inclusiveness implies that there is a firm connection between micro and macro determinants of growth and that it must be sustainable at the same time. Sustainable and inclusive growth approach takes into account the macro and micro determinants together with a long time period. At this point, the focus must be on efficient employment as a tool to increase revenues of disadvantaged groups rather than on direct reallocation of income (Habito, 2009).

Sustainable and inclusive growth is defined in a nutshell as a sustainable output growth that includes all the sectors of economy, provides efficient employment opportunities for the population at working age and reduces poverty (Bocutoğlu, 2017, s.189). Sustainable and inclusive growth puts emphasis on both the structure and the rate of economic growth. Besides, as the policies developed for the sake of inclusive growth are also important components of most public strategies developed for sustainable growth, it is assumed that the main instrument for sustainable and inclusive growth is "efficient employment". While "Employment Growth" provides new revenues for both employees and employers in new businesses and small companies, "productivity growth" increases present wages of the employees and revenues of small company owners. (Ianchovichina, Lundstrom & Garrido, 2009, pp.1-16).

While economy evolves in time, the ability of individuals to be employed efficiently depends on the opportunities making possible the use of available sources entirely. For this reason, while sustainable inclusive growth analysis seeks ways of consolidating efficient sources and capacities of individuals in terms of labour supply, it also focuses on posing new efficient employment opportunities in terms of labour demand (Ianchovichina et al., 2009, pp.2-6). This, accordingly, takes into account the distribution of employment in accordance with sectors, firm extent and urban/rural, formal/informal or other convenient qualities. Another important issue is the degree of potential for future income increases of an individual's present employment position. Because when an individual leaves her job that means she will switch to another job in the same sector or to a different sector. Since sustainable inclusive growth analysis is based on a longer-term perspective, the time delay between the results of reforms and reforms becomes more important as the time dimension increases (Klasen, 2010).

Sustainable inclusive growth literature suggests long-term sustainable high growth rates to reduce poverty (Deiniger & Squire 1998; Dollar & Kraay 2002; White & Anderson 2001; Ravallion, 2001; Bourguignon, 2003). According to Kraay (2004), growth in the average income explains 70% of poverty reduction in the short term and

in the long term it explains %90. Changes in income distribution are 30% effective in short term and 10% effective in long term in poverty reduction. According to Lopez and Serven (2004), at a given level of inequality, the poorer countries are, the more important the growth component is among other components in explaining poverty reduction. Sustainable high growth rates and poverty reduction can only be fulfilled by increasing the resources allocated for growth and by the inclusion of an increased proportion of the workforce through efficient employment, in other words by inclusion. Some policies can both increase growth and reduce inequality (Bocutoglu, 2017, pp.191-192). After reviewing the applied literature, Lopez (2004) concluded that: Policies that provide macroeconomic stability in inflation, education and infrastructure are the policies which affect growth positively and inequality negatively, which are on the side of super poor and which have a win-win character. In terms of the consequences of growth, inequality of wealth is more important than income inequality. According to Deininger and Squire (1998), inequality of land-based assets negatively affects growth.

Related to the comparative country literature on growth that is on the side of growth and poor, there are studies showing the technological change, financial deepening and globalization as the reasons of increasing inequality (Acemoglu & Autor, 2011; Aizenman, Minsoo & Donghyun, 2012). On the other hand, it is suggested that discussions on the relationship between austerity and growth, calls for reduce financial deepening and globalization rates may reduce the inequality in income distribution but may also slow down inclusive growth (Anand, Mishra & Peiris, 2013, p.4). Redistribution of income is generally positive in terms of its impact on growth. For an average country, redistribution decreases income inequality, which has protective effects in terms of both level and sustainability of economic growth. Only in extreme country cases, it has been concluded that redistribution of income has harmful effects on growth. In conclusion, redistribution of income is, on average, a growth biased policy (Ostry, Berg & Tsangarides, 2014).

In this study, by creating two separate econometric model, the pace and structure of economic growth figures in Turkey have been analyzed empirically in terms of sustainability and inclusiveness. In the first created model, the extent to which the selected basic macroeconomic indicators affect the growth rates and how they affect the sustainability are discussed, and in the second model, interaction and causal relationship between these macroeconomic indicators and the labor force participation rates, which should be considered for sustainable growth, are discussed with regard to inclusiveness.

DATA SET, METHOD AND EMPIRICAL FINDINGS

In order for growth in Turkey's economy to be inclusive and sustainable, it is necessary to consider production, consumption, the budgetary balance and loan use. Economic policies implemented on the basis of these macroeconomic factors can cause significant economic impacts in income distribution, labor force participation rates, education and health infrastructures. In our study, two separate Vector Autoregressive (VAR) Models were formed on the basis of these thoughts and causality, impulse - response, variance decomposition analysis and Toda - Yamamoto causality test were performed.

In the study using 2000-2017 period quarterly data of Turkey, variables that are subject to econometric analysis are given in Table 1. Macroeconomic variables are not linear over their actual values, but are generally linear over their logarithmic values. Therefore, it is recommended to use logarithmic values instead of actual values of the series (İşığçık, 1994, 48). For this reason, before the unit root test, the related variables were purified from seasonality by using the "Moving Average" method first and then

napierian logarithm was taken. The data sets were taken at the Central Bank of the Republic of Turkey Electronic Data Distribution System. E-Views 10 package program was used for estimating the econometric models created and for other analyzes.

Table 1: Sustainability, Inclusiveness and Growth Indicators

Sustainability	Inclusiveness	Growth
Industrial Production Index (prodsa)	Labor Force Participation Rate (unempsa)	Gross Domestic Product with Expenditure Method (gdpsa)
Consumption Expenditures (conssa)		
General Budget Balance (budgetsa)		
Credit Growth (creditsa)		

Zivot-Andrews test was used to test whether the variables contained unit roots before the econometric analysis. Time series that do not meet stability conditions are non-stationary and they have unit roots (Asteriou & Hall, 2007, p.231). Many time series have unit roots, especially the economic and financial series. Granger and Newbold (1974) stated that making econometric analyzes with non-stationary time series data could lead to a fake regression problem in which high explanatory power and meaningful values were attained but interpretation of the results became meaningless. In order not to encounter false regression problem and inaccurate results, it is necessary to look at whether the series have unit roots before the model prediction (Gujarati, 2003, p.814; Hansen, 2016, p.309).

Considering 2000/2001 Turkey crisis, 2008 global crisis and 2010 Europe debt crisis, structural breaking is inevitable for Turkey in these years. In our study, while stationary ranks of the variables were determined, Zivot-Andrews unit root test, which looks for the presence of unit root on the basis of structural breaking in series, was used as a counterpart of Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) tests that are frequently used in time series analyses.

Zivot and Andrews (1992) developed an alternative test method for time series where the structural breakpoints are not previously known or approached exteriorly. In Zivot-Andrews unit root test, each year in the sample is considered to be a possible breaking point and the presence of unit root under the presence of structural breaks is investigated by the following models:

$$GDPSA_t = \mu^A + \theta^A DU_t(\lambda) + \beta^A t + \alpha^A GDPSA_{t-1} + \sum_{j=1}^k c_j^A \Delta GDPSA_{t-j} + \varepsilon_t \quad (1)$$

$$GDPSA_t = \mu^B + \beta^B t + \gamma^B DT_t(\lambda) + \alpha^B GDPSA_{t-1} + \sum_{j=1}^k c_j^B \Delta GDPSA_{t-j} + \varepsilon_t \quad (2)$$

$$GDPSA_t = \mu^c + \theta^c DU_t(\lambda) + \beta^c t + \gamma^c DT_t(\lambda) + \alpha^c GDPSA_{t-1} + \sum_{j=1}^k c_j^c \Delta GDPSA_{t-j} + \varepsilon_t \quad (3)$$

$H_0 : \alpha = 1$ Series has a unit root (Non-Stationary)

$H_1 : \alpha = 0$ Series has not a unit root (Stationary)

Here, $t=1,2,3,\dots,T$ is the prediction period, λ is the breaking point. All models are estimated by Least Squares Method (OLS) from $j=t$ to $j=(T-1)/T$. For each value of λ k delay number is determined and $\alpha^i = 1$ is tested with the t statistic (Korkmaz, Zaman & Çevik, 2008). "If the calculated "t" is greater than the Zivot-Andrews critical value in the absolute value of the statistic, H_0 is rejected. In this case, we can say that economic growth (gdp) is stationary in the stability test where structural breaks are taken into account" (Korkmaz et al., 2008, p. 25; Temurlenk & Oltulur, 2007).

In Table 2; The values at the 1%, 5% and 10% significance levels for the breaks in constant are -5.34, -4.93 and -4.58, respectively. For the break in the trend, -4.80, -4.42 and -4.11 respectively. For constant and trend breaks, -5.57, -5.08 and -4.82 respectively. DCONSSA, DBUDGETSA, DCREDITSA and DGDPSA show the first differences. The dates in parentheses indicate the selected break years. As it is understood from this table, according to the results of Zivot-Andrews unit root test, in which invariable and trend are used and Schwarz criterion is applied for the selection of lag length, PRODSA and UNEMPSEA variables become stationary at level values and other variables also become stationary when the first differential is taken. Therefore, in our study, stationary ranks of variables has been taken into account when creating VAR models.

Table 2. Zivot-Andrews Unit Root Test Results

VARIABLES	CONSTANT	CONSTANT & TREND
PRODSA	-5.894814 (2009Q2)	-6.456783 (2009Q2)
CONSSA	-3.260902 (2016Q1)	-3.910369 (2015Q1)
DCONSSA	-15.07730 (2015Q4)	-14.88075 (2015Q4)
BUDGETSA	-3.968196 (2015Q3)	-3.897519 (2014Q4)
DBUDGETSA	-5.912828 (2015Q3)	-5.784965 (2015Q3)
CREDITSA	-3.634569 (2010Q4)	-3.444896 (2010Q4)
DCREDITSA	-6.991295 (2013Q2)	-6.046116 (2010Q4)
GDPSA	-3.385551 (2009Q3)	-3.243896 (2009Q3)
DGDPSA	-13.56851 (2010Q1)	-14.21344 (2010Q1)
UNEMPSEA	-7.456047 (2014Q1)	-6.834918 (2014Q1)

Note: the values at the 1%, 5% and 10% significance levels for the break point in constant are respectively -5,34, -4,93 and -4,58. The values for the constant and trend at the same significance levels are -5,57, -5,08 and - 4,82. The dates in parantheses show the break point years.

VAR models can give dynamic relationships without any restrictions on the structural model and is therefore used frequently for time series (Keating, 1990, pp.453-454). Since the VAR model, which is used widely in economic studies on time series, does not require the internal-external distinction of the variables based on any economic theory, it differs from the systems of simultaneous equations in this respect (Wojciech & Derek, 1992: 182). In addition, lag length values of the dependent variables

in VAR models make it possible to make strong predictions for the future (Kumar, Leona & Gasking, 1995, p.365).

As a result of the estimation of the VAR model, instead of interpreting the obtained parameters, it is possible to make comments about the future by continuing the analysis of the residues obtained as a result of the system's estimation. The effect of the shocks in the error terms of the variables in the model on other variables is measured by the Impulse-Response functions. Variance Decomposition, which is determined by the estimation of the model and which measures predictive error variance, is another technique used in the analysis of residues (Enders, 1995, pp. 305-311). The effects of statistical shocks on the variables are indicated with the technical assistance mentioned. The economic relations between the variables can be better explained by calculating the explanation ratio of the shock in the error term of a variable by other variables. If the shock regarding the error term of a variable can explain the variance of other variable's prospective prediction error, then the variable in question can be evaluated internally (Lütkepohl, 1993, pp.56-57)

In our study, two separate Vector Autoregressive (VAR) Models were created and the impulse - response and variance decomposition analyses were performed. In the first model, to what extent and in what direction the industrial production index, government final consumption expenditure, budget balance and loan uses of non-financial private sector affect the growth figures obtained from Turkey in 2000s has been investigated in terms of sustainability. In the second model, the interaction between selected macroeconomic indicators and labor force participation rates in the respective years in Turkey's economy has been analyzed in terms of inclusiveness.

According to the Zivot-Andrews unit root test results in Table 2, since the variables were not equally stationary, no cointegration research was conducted. Each variable was added to the models at their stationary ranks.

SUSTAINABILITY OF ECONOMIC GROWTH

The appropriate lag length for the model was determined before starting the VAR model to be estimated for the sustainability of economic growth. Test results are given in Table 3.

Table 3. Determination of Appropriate Lag Length of VAR Model

Lag Length	FPE	AIC	SC	HQ
0	4671.993	22.63834	23.05628	22.79053
1	244.7711	19.67282	21.13563	20.20550
2	65.16060	18.27809	20.78576*	19.19124
3	53.94095	17.91167	21.46420	19.20531
4	25.87729*	16.81513	21.41251	18.48924
5	45.52421	16.69074	22.33299	18.74534
6	27.46284	14.84092*	21.52803	17.27600*

Note: AIC is Akaike Information Criteria, SC is Schwartz Criteria, HQ is Hannan-Quinn Criterion and FPE refers to the criteria for Final Prediction Error. Lag length level was started with 6. Due to the fact that the time size is not long, longer (like 12 delay) lag length levels could not be calculated.

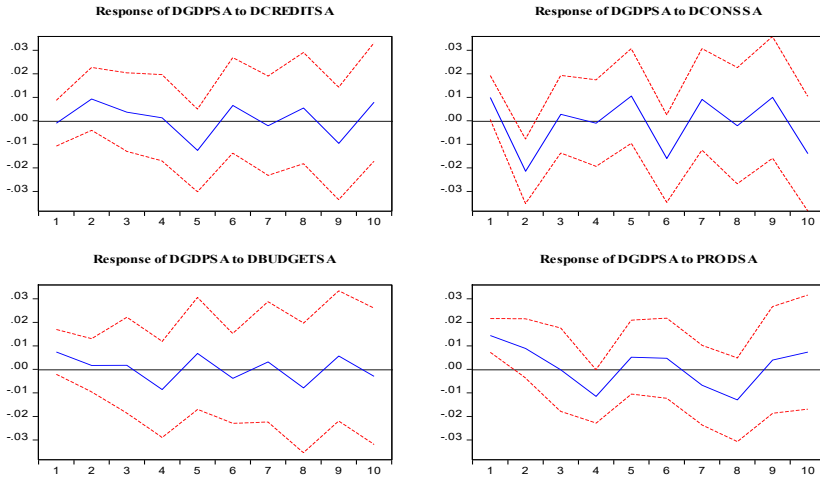
* indicates the lag length which is selected by the information criterions

When Table 3 is examined, it is observed that the AIC and HQ information criteria give minimum value for 4 lag length, and that the SC provides minimum value for 2 lag length and FPE for 4 lag length. Among these criteria, the AIC is based on the minimization of the mean error frame and is more likely to be taken into account in future estimates. HQ, on the other hand, is criteria considered for determining the level of consistent lag length (Lütkepohl, 1993, pp.130-133). However, structural problems were encountered in the lag lengths indicated by the information criteria. The most appropriate lag length is 3 in which there are no structural problems such as heteroskedasticity and autocorrelation. The results of the compatibility test of VAR model with 3 lag length are given in Table 4. VAR model with 3 delay length is consistent and stable.

Table 4. Compatibility Test Results of VAR Model

Lagrange Multiplier (LM) Autocorrelation Test		White Heteroskedasticity Test		Normality Test	
Lag Length	Probability Value	Chi-Square Value	Probability Value	Jarque-Bera Value	Probability Value
1	0.1574	483.1601	0.4509	8.516334	0.5785
2	0.2036				
3	0.3372				
4	0.2967				
5	0.2010				
6	0.8522				

Graph 1 shows the reactions the economic growth gives to the shock taking place in the macroeconomic variables that are chosen as sustainability indicators, for 10 periods. When the 10 periods are considered generally, the effect of credit growth and the general budget balance on economic growth is unstable both in the short term and long term. Although they affect it negatively in some periods and positively in some other, the reactions given by the economic growth are generally unclear and close to 0. Economic growth gives the most significant responses to consumption expenditures and industrial production index. The consumption expenditures in the 2nd and 6th periods and the industrial production index in the 4th and 8th periods significantly affect the growth negatively. However, as in the other two macroeconomic indicators, the direction of economic growth responses is unstable.



Graphic 1. Response to One Standard Deviation Innovations

When the results of the variance decomposition in Table 5 are analyzed, it is seen that the most important variable explaining the economic growth at the end of the ten periods is itself. 42% of the shock occurred in the economic growth at the end of the tenth cycle is explained by itself. The share of consumption expenditures and the general budget balance to explain the economic growth remains low compared to other sustainability indicators. In this context, the percentages of consumption expenditures, industrial production index, credit growth and the general budget balance to explain the economic growth are 27%, 15%, 10% and 6%, respectively. These results support impulse-response analysis.

Table 5. Variance Decomposition Results

Period	DCREDTSA	DCONSSA	DBUDGETSA	PRODSA	DGDPSA
1	0.122571	11.68713	6.540423	24.63950	57.01038
2	5.123222	32.47618	3.380161	16.69894	42.32149
3	5.320414	29.61553	3.203967	15.01887	46.84122
4	4.686065	25.70827	6.097383	19.00161	44.50667
5	9.229943	23.96954	6.370138	15.74876	44.68162
6	9.329885	28.68976	5.982461	14.36018	41.63771
7	8.435114	27.84587	5.605142	14.03507	44.07880
8	8.426910	25.48876	6.657021	16.97380	42.45351
9	9.514376	24.81873	6.630424	15.42014	43.61634
10	10.01505	26.70538	6.264695	15.25445	41.76044

INCLUSIVENESS OF ECONOMIC GROWTH

In order to test the inclusiveness of the economic growth, VAR model, which includes labor force participation rates with selected sustainability indicators, has been created.

The appropriate lag length is selected before the VAR analysis and the results are given in Table 6 and Table 7.

Table 6. Determination of Appropriate Lag Length of VAR Model

Lag Length	FPE	AIC	SC	HQ
0	196.3282	19.46879	19.88673	19.62098
1	21.75308	17.25226	18.71506*	17.78493
2	21.57867	17.17294	19.68061	18.08609
3	10.69900*	16.29393	19.84646	17.58757
4	16.94435	16.39169	20.98908	18.06581
5	17.34775	15.72596	21.36821	17.78056
6	13.57254	14.13614*	20.82325	16.57121*

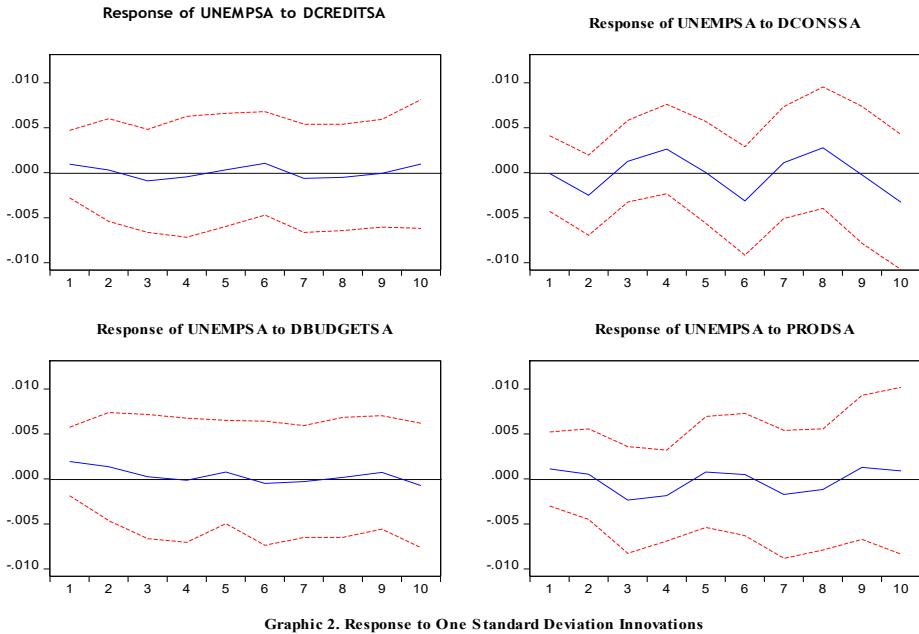
In Table 6, it is seen that the FPE information criterion provides a minimum value in 3 lag lengths. No structural problem has been encountered with 3 lag lengths indicated by FPE. According to the results in Table 7, the VAR model is compatible with 3 lag length and ensures stability conditions.

Table 7. Compatibility Test Results of VAR Model

Lagrange Multiplier (LM) Autocorrelation Test		White Heteroskedasticity Test		Normality Test	
Lag Length	Probability Value	Chi-Square Value	Probability Value	Jarque-Bera Value	Probability Value
1	0.4557	483.3202	0.4489	6.501664	0.7715
2	0.2319				
3	0.0716				
4	0.5172				
5	0.1047				
6	0.5382				

Graph 2 shows the responses of the labor force participation rates to a standard deviation shock occurring in macroeconomic variables, which are selected as sustainability indicators, over 10 periods. Considering the overall period of 10 periods, the effect of credit growth, general budget balance and industrial production index on

economic growth is close to zero, uncertain and unstable. Consumption expenditures are the indicators which have the most significant effect on labor force participation rates. Consumption expenditures affect labor force participation rates negatively in the 2nd, 6th and 10th periods, positively in the 4th and 8th periods. However, as in the other macroeconomic indicators, the responses of labor force participation rates are unstable.



When the results of the variance decomposition in Table 8 are analyzed, it is seen that the most important variable explaining the labor force participation rates at the end of the 10th period is mostly itself. %77 of a shock occurred in the labor force participation rate at the end of the tenth period is explained by itself. The share of consumption expenditures, general budget balance and industrial production index to explain labor force participation rates is lower than that of consumption expenditures. In this respect, the percentages of consumption expenditures, industrial production index, general budget balance and credit growth to explain labor force participation rates are 13%, 5%, 2% and 1% respectively. These results support impulse-response analysis.

Table 8. Variance Decomposition Results

Period	DCREDITS _A	DCONSSA	DBUDGETSA	PRODSA	UNEMPSA
1	0.750263	0.007212	3.136579	1.040013	95.06593
2	0.516331	3.251345	2.945224	0.795983	92.49112
3	0.893604	3.864826	2.806732	3.459536	88.97530
4	0.937138	6.821788	2.643628	4.832396	84.76505
5	0.867561	6.021041	2.576208	4.506429	86.02876
6	1.191847	9.140797	2.437299	4.198265	83.03179
7	1.261348	9.098354	2.336444	5.005864	82.29799
8	1.289272	11.23159	2.231009	5.216097	80.03203
9	1.232930	10.74617	2.299682	5.510098	80.21112
10	1.451249	13.39771	2.341281	5.459924	77.34984

CAUSALITY ANALYSIS OF ECONOMIC GROWTH, SUSTAINABILITY AND INCLUSIVENESS

For Granger (1969) test, the series should be stabilized, while Toda-Yamamoto (1995) does not have such a requirement. In other words, the series are included in the analysis without being sensitive to the degree of stability. This situation provides that series include more information and also yields successful results (Çil, 2006, 169). In order to be able to conduct the Toda-Yamamoto (1995) test, it is necessary to determine the lag length (k) with the help of the VAR model. In the second step, the highest degree of integration (dmax) is added to the lag length. In this case, the relevant VAR models are expressed as in equations 4 and 5.

$$UNEMPSA_t = \alpha_0 + \sum_{i=1}^{k+d \max} \alpha_{1(i+d \max)} UNEMPSA_{t-(i+d \max)} + \sum_{i=1}^{k+d \max} \alpha_{2(i+d \max)} BUDGETSA_{t-(i+d \max)} + \varepsilon_{1t} \quad (4)$$

$$GDPSA_t = \beta_0 + \sum_{i=1}^{k+d \max} \beta_{1(i+d \max)} GDPSA_{t-(i+d \max)} + \sum_{i=1}^{k+d \max} \beta_{2(i+d \max)} BUDGETSA_{t-(i+d \max)} + U'_{1t} \quad (5)$$

The lag length to be used in the models are determined by VAR analysis. The optimal lag length for equations 4 and 5 is 2 (k = 2). This lag length does not have heteroskedasticity and autocorrelation problems and is compatible with the model. According to the Zivot-Andrews unit root test results in Table 2, the maximum degree of integration for both models is 1. It is concluded that the level of k + dmax required for Toda-Yamamoto causality analysis is 3 for both models. The results obtained by considering the related situation are given in Table 9.

Table 9. Toda-Yamamoto Causality Test Results

The Direction Of Causality	Chi-Square Stat Probability Values	Result
BUDGETSA → UNEMPISA	0.7821	There is no causality from the general budget balance to labor force participation rates.
CONSSA → UNEMPISA	0.6628	There is no causality from consumption expenditures to labor force participation rates.
CREDITSA → UNEMPISA	0.6962	There is no causality from credit growth to labor force participation rates.
PRODSA → UNEMPISA	0.9379	There is no causality from industrial production index to labor force participation rates.
BUDGETSA → GDPSA	0.2986	There is no causality from the general budget balance to economic growth.
CONSSA → GDPSA	0.0001	There is causality from consumption expenditures to economic growth at %1, %5 and %10 significance level.
CREDITSA → GDPSA	0.4387	There is no causality from credit growth to economic growth.
PRODSA → GDPSA	0.0023	There is causality from industrial production index to economic growth at %1, %5 and %10 significance level.

CONCLUSION AND EVALUATION

Inclusive growth is a growth approach in which everyone in society is in some way involved in the growth of the economy and the gains achieved by growth are reflected in everyone in the society, where no one in society is excluded from the benefits of economic growth. In other words, Inclusive growth refers to a growth situation that improves the economic and social situation of the poor in a country. In a growth model with this understanding, it is a great importance to eliminate the barriers to the participation of the poor in the growth process. According to the World Bank, economic growth is needed to reduce absolute poverty, and for sustainable growth in the long term, it must be valid for all sectors and effectively cover the entire country's labor force. The OECD says that people should be provided with the opportunity to increase welfare for the economic growth by means of investments in the fields of education and health, and the implemented financial policies should be focused on people, it should create labor force profile compatible with the labor market. Furthermore, the OEDCD underline that it should eliminate the inequalities between the sexes and supporting women's participation in economic activities.

Especially after the global crisis in 2008, it has been observed that a global, high-rate, sustainable and inclusive understanding of the growth of all segments of society started to gain importance. Thus, in this study, we try to analyze the rate and structure of growth in Turkish economy empirically in terms of sustainability and inclusiveness by creating two separate econometric models, in the period after 2000. In the first model, we tried to examine the proportional and structural effect of the selected basic macroeconomic indicators on economic growth in terms of sustainability. In the second model, the interaction between these macroeconomic indicators and the labor force participation rates which should be taken into account for sustainable growth are investigated in terms of inclusiveness.

According to empirical findings, in Turkish economy at the end of 2017, macroeconomic indicators that affect the economic growth figures except for their own shocks are government final consumption expenditure, industrial production index, loan

use of non-financial private sector and budget balance, respectively. The direction of the response of growth figures to the selected macroeconomic indicators between the first quarter of 2000 and the last quarter of 2017 has been unstable. On the other hand, macroeconomic indicators, which have the greatest effect on labor force participation rates, are government final consumption expenditures, industrial production index, budget balance and loan use of non-financial private sector, respectively, while the direction of these effects appears to be unstable as in growth figures. In addition, no causality between the labor force participation rates and the selected macroeconomic indicators has been found. According to the empirical findings, the growth figures of Turkey in 2000s are not sustainable in terms of selected macroeconomic indicators and they also lack inclusiveness regarding labor force participation rates.

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TURKEY-GERMANY TRADE AND J-CURVE: A CRITICAL APPROACH

Reşat Can AKKAY ¹



¹ Dr. Öğretim Üyesi İstanbul Üniversitesi İktisat Fakültesi İktisat Politikası Anabilim Dalı.

1. Introduction

The liberalization of trade after 1980's caused important macroeconomic changes especially in developing and in emerging market countries. Maybe the most important change has been the trade imbalances which became as the main source of the macroeconomic fragilities like exchange rate crashes, debt defaults and recessions in most of the developing and emerging market countries. The chronic trade deficit problems in these countries led increasing expectation about the depreciation of their domestic currencies in the world financial markets. At the first sight the devaluation/depreciation² of the domestic currency seemed to be an easy and effective way for the solution of the current account problem but the reality indicates that this solution is transitory for the deficit countries to improve their trade balance.³ The debate about the effect of the currency devaluation/depreciation on the trade balance begins with the contributions of Alfred Marshall and Abba P. Lerner to the literature which is known as the Marshall-Lerner (ML) condition. The Marshall-Lerner condition states that the currency depreciation/devaluation improves the trade balance if the sum of absolute value of import and export elasticities exceeds unity. However in reality there have been some cases where currency was devalued or depreciated but the trade balance continued to deteriorate although the ML condition was satisfied. The devaluation of the US dollar and the unexpected deterioration of the US trade balance afterwards in 1971 is the well-known example for this case. This fact led researchers to explore the effect of currency devaluations/depreciations in more detail. Magee (1973), Junz and Rohmberg (1973), Bahmani-Oskooee (1985), and Meade (1988) have been the pioneers of this new literature who investigates the impact of the currency depreciation/devaluation on the trade balance in the long- and short-run. According to the analysis of the aforementioned researchers, the expected positive effect of the currency devaluation/depreciation on the trade balance may not be seen immediately. On the contrary they found out that the trade balance may deteriorate before it improves which is called as the 'J-curve' phenomenon. The main contributing factors to this phenomenon are said to be the adjustment lags of trade flows to the international price changes.⁴ The pioneering works of Magee, Junz and Rhomberg, Bahmani-Oskooee and Meade has been the starting point of a large body of literature which was reviewed in two detailed works made by Bahmani-Oskooee and Ratha (2004) and by Bahmani-Oskooee and Hegerty (2010). Both surveys indicate that the empirical literature is divided into two parts as; (i) studies using aggregate data and (ii) studies using disaggregate data. The first group contains pioneering studies which explored the J-curve relation of different countries with the rest of the world at aggregate level. The following studies that belong to the second group criticized the first group studies from the aggregation bias point of view. According to their view aggregation may cause to get misleading results about the short-run and long-run effect of the real exchange rate changes on the trade balance. This stems from the fact that the devaluation/depreciation may affect the trade balance positively or negatively at bilateral level. Hence the aggregate effect may be zero or at least less negative or less positive than expected because positive and negative counter effects may cancel each other. Furthermore the

² "Devaluation" is used to describe the loss in the value of the domestic currency in the fixed exchange rate system as a result of the policy makers' decision whilst "depreciation" is used to describe a decrease in the value of the domestic currency as a result of the decision of the market forces in a flexible exchange rate system.

³ The export of high value added products and the decrease in the dependency of exports to the imported intermediate goods should be the target for the solution of the trade imbalances.

⁴ The adjustment lag means a time lag between the recognition of the relative price advantage due to the depreciation/devaluation of the currency and the processes like order placement, production and delivery.

speed of the reaction and adjustment of the trade balance due to the changes in the value of domestic currencies may differ from country to country. Thus, a new body of studies has started to explore the mentioned relation at bilateral and industry level which provides relatively sound and healthy results about the “J-curve” phenomena. These studies also allow making more significant trade policy implications. The disaggregation of the aggregate data at country or industrial level⁵ seems to be a good solution for the aggregation problem but the inconsistency of the real exchange rates and the corresponding trade balances exists as another problem at this point.⁶ Therefore we prefer to investigate “J-curve” relation by distinguishing the total trade in capital, consumption and intermediate categories⁷ at bilateral level with Germany⁸ and compare it with the case of aggregate data. Our research differs from other studies at some points. The first point is the usage of specific bilateral real exchange rate series for specific trade categories. Hence we construct two bilateral real exchange rate series based on the consumer and producer price indices to match the proper real exchange rate with the proper trade category.⁹ The second point is about the time frequency. Most of the empirical studies in the literature use quarterly or yearly data which stems from the fact there is no GDP data at monthly level. We believe that the frequency of the data plays also an important role about the soundness of the analysis. In today’s world the production, trade and payment procedures are not the same as in the 1970s. The production and delivery processes are easier and faster as a result of the improving technology. Hence quarterly, semi-annually or annually data may cause to miss out some responses of the trade balance to the real exchange rate changes in the short-run. In order to overcome this problem we employed industrial production index (IPI) to represent the output growth for the intermediate and capital goods category of the Broad Economic Classification.¹⁰ On the other hand despite the graphs of IPI and GDP indicate approximately a parallel movement on the quarterly data basis the differences between these two measures may cause some miscalculation at the consumption goods category.¹¹ Hence we employed the real GDP level to represent the income level of

⁵ It is possible to explore the J-curve effect bilaterally like Turkey versus Germany. The relation can be explored at the industry level like the J-curve relation for the manufacturing sector of Turkey. The third alternative is to use these two approaches simultaneously; the J-curve relation between Turkey and Germany at industry level.

⁶ An industry based real exchange rate might be more appropriate to investigate the J-curve relation at industry level. In most of the studies the real exchange rate is based on CPI. The usage of PPI based real exchange rate seems to be a better choice but there are still some technical problems which stems from the fact that the different industries have different trade partners with different weights in total trade. This fact gives rise to construct “industry-based real exchange rates” for each industry adding the different weights of the trade partners into calculation.

⁷ The original Classification by Broad Economic Categories (BEC) was produced in 1961. There have been four revisions since that date. The latest version was endorsed in 2016. Our classification is based on the fourth revision (Rev.4) which classifies goods and services into three main groups as intermediate, consumption and capital goods.

⁸ Germany has been continuing as the most important trade partner of Turkey. See Appendix for the trade relation of Turkey with Germany in more detail.

⁹ We construct CPI-based quarterly real exchange rate to explore the J-curve relation for the consumption goods and total trade. On the other hand we use monthly PPI-based real exchange rate to analyze the J-curve relation at the capital and intermediate goods level.

¹⁰ We prefer to use IPI rather than GDP to explore the J-curve relation for the intermediate and capital goods because both are used by different industries in the process of production. This fact makes IPI a better measure for the model. We believe this choice makes our empirical results more accurate. Besides the frequency of IPI allows us to catch the quick responses of the trade balance to the real bilateral exchange rate changes which may be not noticed if quarterly data were used.

¹¹ See Appendix for the graph.

Turkey and Germany. We think that the abovementioned modifications help us to overcome aggregation bias, time frequency and real exchange rate inconsistency problems of the previous studies.

Our paper is organized as follows: In the next section the existing literature is surveyed based on the most cited studies that investigate the J-curve relation globally and specific for Turkey. The theoretical model and the methodology are presented in the third section. In the fourth section the empirical results are discussed. Conclusions and policy implications are made in the last section.

2. Literature Survey

As we mentioned above the existing literature until 2009 has been already reviewed in two comprehensive research done by Bahmani-Oskooee and Ratha (2004) and Bahmani-Oskooee and Hegerty (2010). We find it time consuming to repeat the rigorous literature reviews of these authors. Hence our survey consists of important J-curve studies that were published after 2009 can be seen as the continuation of these two literature surveys. In addition to these studies we mention important studies that investigate the J-curve relation specific for Turkey.¹²

2.1. J-curve studies after 2009

The study of Petrovic (2010) investigates the J-curve relation for Serbia on monthly basis for the period 2002-2007. He employs ARDL approach and impulse-response analysis in his empirical research and he determines the J-curve relation for Serbia at aggregate level. Oskooee and Hegerty (2011) explore the J-curve relation between Mexico and US at industry level. They use annual data and ECM as the empirical method to analyze the J-curve relation over the (1962-2004) period. According to their research peso depreciation has a positive long-run effect on 24 of 102 Mexican industries and a negative short-run effect on 19 of 102 industries. On the other hand the J-curve relation is supported only in 7 of 102 industries. Oskooee and Zhang (2013) investigate the J-curve relation at commodity level for UK and China over the (1978-2010) period. The previous studies about China indicated no evidence about a J-curve relation neither at aggregate nor at bilateral level. The authors disaggregate the trade flow of China and they show that the real depreciation has favorable short-run effect in most cases out of 47 industries. However, only in seven cases the short-run positive effect last into the long-term. In another work Oskooee and Zhang (2014) examine the Korean case at the industry level. Previous studies on the Korean trade balance with the rest of the world have not been able to discover significant effects of the exchange rate depreciation in the short and in the long run. The researchers suspected the aggregation bias and in order to eliminate this problem they made their analysis at industry level. They used bounds testing approach to cointegration and ECM to investigate the short-run relation. According to the empirical results there is a short-run effect of currency depreciation in 91 industries out of 148. "J-curve" effect is detected in 58 industries but there are only 26 industries that are benefited from the currency depreciation in the long-run. Oskooee, Harvey and Hegerty (2014) investigated the J-curve relation for Brazil with this biggest trading partner US by using annual data over the 1971-2010 period. Using ECM and bounds testing approach to cointegration they find support for long-run favorable effects of currency depreciation in 31 industries out of 92 industries though the short-run effects are unfavorable. These results support the short-run deterioration combined with the long-run improvement. Oskoe and Harvey (2014) explore the J-curve relation of Singapore with US at industry level. There are limited number of

¹² See Table 1. in Appendix

studies investigated the effect of currency depreciation on the trade balance in the short and in the long run for Singapore. While the existing studies are able to provide some evidence supporting short-run effects, they are unable to discover any long-run effect. The authors disaggregate the trade flows between US and Singapore at commodity level and investigate the short-run and long-run relation by using quarterly data over the 1973-2009 period. Using bounds testing approach to cointegration and error-correction modeling, they determine short-run significant effect of depreciation on the trade balance in 48 out of 65 industries. The short-run effects, however, last into the long run favorable effects only in 24 industries. The J-Curve effect is discovered in 27 industries. Oskooee, Huseynov and Jamilov (2014) explore industrial level J-curve relation for Azerbaijan by using quarterly data over the 2000-2009 period. The authors analyze the bilateral trade relation of 10 largest non-oil industries vis-a-vis Azerbaijan's 4 biggest trade partners which accounts %72 of the Azerbaijan's total non-oil trade. They employ ARDL model to estimate the trade balance model. The results suggest that the industry-specific trade balance improves for 5 of the 10 industries in the long run as a result of the currency depreciation. The J-curve effect is found in 7 the 10 cases in the short run. Oskooee and Fariditavana (2015) add a new perspective to the J-curve analysis in their work. The authors point out that all previous studies have assumed that the depreciation and appreciation of the exchange rate affects the trade balance in a symmetric way. They test the validity of this assumption by using linear and non linear ARDL approach for Canada, China, Japan and USA over the 1971-2013 period. Their analysis provides an important outcome for the literature which states that the effects of exchange rate changes on the trade balance are asymmetric for all investigated countries. The authors suggest that future research should concentrate on testing the symmetric vs. asymmetric effects of the exchange rate change on the trade balance.¹³ Oskooee and Faridatavana (2016) revisited the bilateral trade balance model to investigate the J-curve relation between US and her biggest trade partners over the period 1971-2013III. The result suggests that when non-linear ARDL approach is used, the J-curve effect is supported in five of six models. The authors assert that the non-linear adjustment process is helpful to discover more evidence of the J-curve. Furthermore, the non-linear approach also shows that the effects of exchange rate changes are asymmetric in most cases. Oskooee, Halicioglu and Hegerty (2016) employ both the linear and the nonlinear versions of the Autoregressive Distributed Lag (ARDL) co-integration and error correction methodologies to investigate the Mexico's bilateral trade with her 13 trade partners. According the results peso depreciation improves Mexico's trade balance with Brazil, Canada, France, Japan, Korea, Spain and the UK, peso appreciations worsen it with Brazil, Canada, France, the US, India, Japan, Korea, Peru and Spain. They also find out that the effects of peso appreciation are significantly different than effects of peso depreciation which supports the asymmetric effects of real exchange rate changes.

2.2. Studies about Turkey

The studies which examine the relationship between the Turkish trade balance and the real exchange rate movements can be classified as the studies that investigates Turkey as a country in many countries at the aggregate level and as the studies that specifically concentrates on the Turkish case. The second group studies employ

¹³ Non-linear adjustment process for other countries by using aggregate trade flows between one country and rest of the world, trade data at bilateral level between two countries, and commodity-level trade data between two countries.

aggregate and disaggregate data with different empirical techniques. The review of these studies is represented below.¹⁴

As far as is known the study of Rose (1990) is the first one that investigates the J-curve phenomenon for Turkey as one of the countries in the data set. The results show that the depreciation of the Turkish Lira would cause the trade balance for Turkey to improve slightly in the long run. Bahmani-Oskooee and Malixi (1992) explore the same relation for 13 developing countries including Turkey. The results suggested no evidence for a J-curve relation for Turkey. On the other hand the researchers detect an N-shaped response of the trade balance following the real depreciation that means that the Turkish trade balance deteriorates first then improves for a while but concludes with deterioration in the long-run. Bahmani-Oskooee and Alse (1994) examine the J-curve relation for 22 less developed and 19 developed countries. They find that devaluations of the Turkish Lira have a short run negative and then a long run positive effect on the Turkish trade balance which supports a J-curve relation. To the best of one's knowledge the study of Brada, Kutun and Zhou (1997) is the first one that investigates the J-curve relation only for Turkey. They find a positive relation between exchange rate changes and trade balance but not exactly following the J-curve pattern. Kale (2001) employs an aggregate data set and finds that the Turkish trade balance improves approximately 8% in the long run as a result of a 10% real depreciation of the TL. Moreover, the author concludes that a real depreciation causes deterioration in the trade balance three quarters later which can be seen as an evidence of a delayed J-curve. Akbostanci (2004) finds that a real depreciation influences the trade balance positively in the short run as well as in the long run which means no evidence for a J-curve relation for the Turkish case. Yazici (2006) explores the J-curve relation only for the agricultural sector. The results indicate that the depreciation in the exchange rate causes the trade balance to improve, worsen and improve again which means an N-curve relation rather than a J-curve relation. Halicioglu (2007) explores the J-curve relation at both aggregate and bilateral level with nine trade partners of Turkey. The results indicate positive long-run relationship at aggregate level as well as at bilateral level with Germany, Holland, Italy, Switzerland and the US. On the other hand there is no evidence for a J-curve relation. Halicioglu (2008a) makes the same analysis for 13 trade partners at bilateral level again and detects no evidence for a J-curve relation with any trade partner. Besides it is stated that the real depreciation of the Turkish lira improves the trade balance with UK and US in the long run. In the same year Halicioglu (2008b) investigates the J-curve relation again on an improved interval and at aggregate level. The results indicate no long run impact of the currency depreciation on the Turkish trade balance. One year later Bahmani-Oskooee and Kutun (2009) examine the J-curve relation for Turkey as one of the 11 East European countries. Their research shows a short-run response of the trade balance to the exchange rate changes but they cannot find any significant relationship in the long-run. They also state that the short and the long run coefficients derived for Turkey are instable that may cause ineffective exchange rate policy. Yazici and Klasra (2010) examine the J-curve relation for the mining and manufacturing sector. They stress the import dependency of the Turkish exports in their analysis and find a delayed J-curve relation for both sectors. Furthermore, they state that devaluation improves the trade balance for both sectors in the long run. They conclude that using more imported inputs in exported outputs results violation of a J-curve. Celik and Kaya (2010) investigate the J-curve relation at bilateral level with Germany, France, Netherlands, Italy, Japan, US and UK. Their analysis indicates a long-run positive relationship between currency depreciation and trade balance improvement in the case of Germany, Japan and UK. Moreover, there is no evidence of a J-curve relation with any of these trade partners. Yazici and Islam (2011) explore the J-curve relation with EU

¹⁴ The summary of the detailed review can be seen in Table 1.

countries in the short-run and long-run. The results indicate no J-curve effect in the short-run and no significant relationship between real exchange rate and trade balance nor in the short neither in the long run. Besides they detect that the domestic income variable has a significant and expected negative effect on the trade balance in the long run. Durmaz (2015) tests the J-curve relation by disaggregating the Turkish export and import data at industry level. The empirical results reveal a weak support for the J-Curve effect. The real depreciation of Turkish Lira improves the trade balance in 11 industries. The results suggest that the exchange rate policy for large trade balance surplus is not effective. Karamelikli (2016) explores the bilateral trade of Turkey with her main four trade partners. The empirical results indicated no J-curve relation in the short-run for US and France; symmetric J-curve relation with Germany and asymmetric relation with UK. In the long-run the results are mixed. They find asymmetric long-run relation with US, symmetric long-run relation with Germany and no long-run relation with France and UK.

3. The trade balance model and data

Rose and Yellen (1989) introduced shortcomings with the trade balance model for the first time and the model has become the most preferred one thereafter in studies which explores J-curve relation. In another paper Ardalani and Oskooee (2007) applied the model of Rose and Yellen to assess the effect of changes of real exchange rate on the trade balance at commodity level. We follow the same route and use the shortcomings of Rose and Yellen under the application of Ardalani and Oskooee. Our model is as follows:

$$\ln TB_{i,t} = \alpha_i + \beta_i \ln Y_{TR,t} + \gamma_i \ln Y_{GER,t} + \delta_i \ln RER_t + \varepsilon_{it} \quad (1)$$

Here ($TB_{i,t}$) is the ratio of Turkish imports (EURO) to Turkish exports (EURO) for each sector (i) during year (t) and the ratio is unit free. ($Y_{TR,t}$) and ($Y_{GER,t}$) represent Turkish and German income levels in real terms at time (t) respectively.¹⁵ Turkish imports are expected to be positively related with the increases in ($Y_{TR,t}$) so the expected sign of β_i is positive. Likewise Turkish exports are expected to be positively related with the increases in ($Y_{GER,t}$) so the expected sign of γ_i is negative. Our last variable (RER_t) is defined in a way that an increase reflects a real appreciation of the Turkish Lira and a real depreciation of the Euro.¹⁶ So the expected sign of the δ_i is positive.

In the existing empirical literature different methodologies have been used to test this relation. In the previous studies Vector Autoregression (VAR), Impulse-Response Function (IRF) and Vector Error Correction Model (VECM) have been employed whilst Autoregressive Distributed Lag (ARDL) and non-linear (ARDL) are the latest methods used in the contemporary studies. Following the latest trends we also use ARDL bounds

¹⁵ We prefer to use industrial production indices (IPI) for the intermediate and capital goods category but we don't feel the need to write the model again by using (IPI) instead of (Y). Suppose the letter (Y) represents (IPI) for the intermediate and capital goods category.

¹⁶ $RER = \frac{PPI_{TUR} * 1}{PPI_{GER} \quad NER}$; NER is the nominal bilateral exchange rate defined as number of TL per Euro.

testing and ECM (Error Correction Model) that provides some technical advantages. First off all ARDL method allows analyzing the short-run and long-run response of the dependent variable to the changes in the explanatory variables simultaneously. This feature makes the method very suitable to explore the J-curve relation which is about the short-run and long-run dynamics of the trade balance and real exchange rate. Another advantage of the method stems from the fact that it does not require the variables to be stationary at level $I(0)$, integrated of order one $I(1)$ or mutually co-integrated. A simple linear transformation on the ARDL model generates an ECM which set forth the short-run dynamics of the model. In addition it provides adequate lag numbers to investigate the response of the variables in a dynamic structure of a general-to-specific modeling. The method is also very suitable for small sample sized analyses and tells us whether there is a co-integration relationship among the variables with a single F-test. (Oskooee and Hegerty, 2008)

$$\Delta \ln TB_{i,t} = \alpha_i + \sum_{j=1}^{n1} \beta_j \Delta \ln TB_{i,t-j} + \sum_{j=0}^{n2} \gamma_j \Delta \ln Y_{TR,t-j} + \sum_{j=0}^{n3} \delta_j \Delta \ln Y_{GER,t-j} + \sum_{j=0}^{n4} \theta_j \Delta \ln RER_{t-j} + (2)$$

$$\lambda_1 \ln TB_{i,t-1} + \lambda_2 \ln Y_{TR,t-1} + \lambda_3 \ln Y_{GER,t-1} + \lambda_4 \ln RER_{t-1} + v_{it}$$

Following the error-correction modeling (ECM) of Peseran (2001) we extend the long-run relation represented in equation (1) into a model in the equation (2) which indicates the short-run dynamics of the long-run relation. The ECM model allows us to examine the short-run effects of the bilateral real exchange rate changes together with the long-run effects and it allows testing the presence of a long-run cointegration relationship. The j-curve relation is supported if the θ_j is negative at lower lags and positive at higher lags.

We employ monthly data over 2000-2018 to investigate the J-curve phenomenon for the intermediate and capital goods category and quarterly data for the aggregate and consumption goods category. The industrial production indices, real GDP levels and inflation rates were taken from the data source of Eurostat (European Statistical Institute), the data about the trade balances were taken from the database of TSI (Turkish Statistical Institute). The data about the bilateral real exchange rate between Turkey and Germany were constructed by our own calculations based on the data provided by the Eurostat.¹⁷

4. Results

The first table that we present is about the outcomes of the unit root test. In fact the unit root test results will not affect the empirical process that we follow except the fact that the series should be stationary at $I(0)$ and $I(1)$ in order to use ARDL method.

¹⁷ See appendix for the detailed explanation of the data sources, variables and their figures. The difference between our own-constructed real exchange rate series (CPI and PPI based) and the real exchange rate series of the CB of Turkey can be seen in the Figure 4.

Table 1. Unit Root Test Results

Var.	Cap. g. (m)		Int. g. (m)		Cons. g. (q)		Total (q)	
	<u>Level</u>	<u>FD</u>	<u>Level</u>	<u>FD</u>	<u>Level</u>	<u>FD</u>	<u>Level</u>	<u>FD</u>
LTB	-5,57**		-4,38**		-0,22	-6,33**	-3,41*	
LYGER	-4,99**		-4,99**		-4,45**		-4,45**	
LYTR	-3,41*		-3,41*		-3,87*		-3,87*	
LRER	-3,31*		-3,31*		-1,87	-7,77**	-1,87	-7,77**

Note: The optimal lag length was determined based on the AIC Lag Criterion. The values in the table are t-statistics. The statistics are presented in level and first difference form. (g.) is the abbreviation of goods; (m) represents monthly and (q) represents quarterly. (*) indicates that the variable is stationary at the 5% significance level and (**) indicates that the variable is stationary at the 1%. (g.) means goods and (cap, int, cons) means capital, intermediate and consumption respectively.

According to the test results all variables are stationary whether at I(0) or at I(1) in our dataset which makes ARDL model appropriate and technically feasible. The next step is the exploration of the short-run relation between bilateral real exchange rate and trade balance.

Table 2. Short-run coefficient estimates

BEC (1 digit)	Cap.g.(m)	Inter. g. (m)	Cons.g. (q)	Agg. (q)
ΔRER_t	-0.40(0.75)	-0.10(0.54)	0.64(2.91)	0.23(1.63)
ΔRER_{t-1}	1.86(3.25)	0.94(4.58)	-2.31(5.71)	-2.15(5.28)
ΔRER_{t-2}	-0.92(1.56)	0.17(0.83)	-0.92(2.83)	-1.45(4.36)
ΔRER_{t-3}	0.01(0.01)	0.60(2.84)	-0.64(2.61)	-0.90(3.38)
ΔRER_{t-4}	0.11(0.19)	0.26(1.22)		-0.45(2.50)
ΔRER_{t-5}	0.05(0.09)	0.40(1.81)		-0.41(3.18)
ΔRER_{t-6}	-0.82(1.38)	0.20(0.91)		
ΔRER_{t-7}	-0.66(1.13)	0.91(4.12)		
ΔRER_{t-8}	1.54(2.67)	0.67(3.05)		
ΔRER_{t-9}		-0.12(0.53)		
ΔRER_{t-10}		0.88(3.98)		
ΔRER_{t-11}		0.47(2.22)		
ΔRER_{t-12}				

Notes: The numbers inside the parentheses next to each coefficient is the t-ratio in absolute value. (g.) means goods and (cap, int, cons) means capital, intermediate and consumption respectively.

Coefficient estimates for the short-run can be seen in Table 2. Due to our goal-driven approximation we only report the real exchange rate changes in different time lags to decide about the existence of a J-curve relation. The J-Curve relation is supported the

negative estimates at the lower lags followed by the positive ones at higher lags which means TB worsens with the depreciation of the domestic currency first and then improves after a while. Our TB is represented with (M/X) and higher values of our bilateral real exchange rate indicate an appreciation of the domestic currency. According to the definition of the J-curve phenomenon there should be an inverse relationship between the relative real value of the domestic currency (TL) and bilateral trade balance. In other words we are searching for a decrease in the bilateral real exchange rate and an increase in the M/X ratio of the domestic country in the short run. In the ongoing process this negative relation should become positive which means the short-run deterioration of the trade balance should be followed by the long-run improvement. In the last two columns of our table we find some evidence for a J-curve relation. As it can be seen the coefficient of the consumption and aggregate goods category is negative at the lower lags and turns into positive in the higher lags that satisfies the definition of the J-curve relation.

Table 3. Long-run coefficients of the ARDL regression

BEC(1 digit)	ARDL order	Constant	$\ln RER$	$\ln Y_{ger}$	$\ln Y_{tr}$
Cap. g. (m)	(5,9,5,9)	-4.77(0.48)	1.85(1.64)*	0.72(0.29)	-1.24(1.92)*
Int. g. (m)	(12,12,6,7)	9.11(1.89)*	-1.88(1.75)*	-91.88(2.2)**	59.86(2.17)**
Cons. g. (q)	(6,4,8,4)	-5.55(0.79)	1.68(3.17)***	0.54(0.82)	-0.14(0.89)
Total (q)	(5,6,6,4)	-84.77(0.62)	22.53(1.00)	7.79(0.60)	-1.63(0.51)

Note. The table indicates the ARDL regression results based on the Akaike Information Criterion. The dependent variable is the trade balance of the related category. The ARDL order of AIC (5, 9, 5, 9) implies that the optimum of 5 lags were chosen for the trade balance, 9 lag for the variable of real exchange rate, 5 lags for German output level, and 9 lags for the Turkish output. (m) means monthly and (q) means quarterly (*) indicates significance at the 10% level, (**) at the 5% level and (***) 1% level. (g.) means goods and (cap, int, cons) means capital, intermediate and consumption respectively.

In order to be sure about the existence of a J-curve relation we have to look to the long-run relation of these variables. Table 3 represents the relation in the long-run. The bilateral real exchange rate carries a positive and significant coefficient for the capital and consumption goods category. If we combine these results with our short-run results, it can be stated that consumption goods category provides the necessary condition for the J-curve relation both in the short and in the long run.

The other two explanatory variables in our model are the income level of the domestic country (Turkey) and the income of the foreign country (Germany). The long-run coefficients of these variables can be also seen in Table 3. The expected sign of the domestic income coefficient is positive while the opposite is expected for the foreign income coefficient which stems from the expectation that an increase in the domestic income will cause an increase in the imports that increases the (M/X) ratio whilst an increase in the foreign income will affect this ratio in the opposite way. Our results indicate that the expected signs for the domestic and foreign income can be seen only at the intermediate goods category. In other categories the coefficients contradict with the theoretical expectations.

In the next table we provide some statistics that is related with the validity of our research. The long-run relation above will be only accurate if cointegration among the four variables is established. In the second column of the Table 4 the F-statistics for all categories are given which proves the existence of the cointegration. The third column

shows the coefficient for the error correction term (ECM) which gives us an idea not only about the convergence but also about the speed of the adjustment towards the long run trend. A negative sign before the ECM coefficient indicates the short-run relation among variables that adjust towards the long-run equilibrium values. In the columns next to ECM coefficient we provide some statistics which helps us to identify the existence of serial correlation, structural break in order to decide about the stability and goodness of fit of the model. The LM test which is used to diagnose serial correlation is distributed as χ^2 with one degree of freedom. The LM statistics for all categories pass the test which supports residuals without autocorrelation. The Ramsey RESET test results prove that the optimum models are correctly specified. The cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ) tests are applied in order to decide about the stability of the coefficients which is shown with the letter "S" in the table if it is stable. As can be seen from the Table 4 all the regressions are stable according to the two stability tests.¹⁸ The last column of the Table 4 reports $\text{adj } R^2$ which reflects the goodness of fit in each model. As a result the diagnostic statistics in Table 4 support the robustness of our empirical research.

Table 4. Diagnostic Statistic

BEC(1 digit)	F-value opt.lag	ECM_{t-1}	LM	RST	CSM	CSM SQ	$\text{adj } R^2$
Cap. G. (m)	3.43*	-0.25(4.18)	0.36	0.63	S	S	0.70
Inter. g. (m)	7.11**	-0.09(6.03)	0.27	0.40	S	S	0.80
Cons. G. (q)	8.09**	-1.80(6.65)	0.14	1.12	S	S	0.83
Total (q)	5.68**	-0.12(6.07)	0.62	1.00	S	S	0.84

Note: The critical values for the F-test are 3.15-4.08 and 3.65-4.66 at the 2,5% and 1% significance level respectively. *, ** indicate statistical significance at the 2,5% and 1% levels, respectively. The number inside the parenthesis next to the ECM coefficient is absolute value of the t-ratio. LM (Lagrange multiplier) RST (Ramsey's test for functional form). CUSUM (Cumulative Sum of Recursive Residuals). CUSUMQ (Cumulative Sum of Squares Recursive Residuals)

5. Summary and Conclusion

The adjustment lag of the production and delivery due to a devaluation and depreciation in one country's currency may cause worsen the trade balance of this country first and improve it later. This pattern is called as J-curve effect and has been explored in many studies since 1970's. The literature exists from many studies with different results that supports and reject this relation for different countries for different periods. In the last years the usage of new econometric techniques like non-linear ARDL model and disaggregation of the data allows researchers to analyze this relation in more detail. The disaggregation can be seen as a solution for the aggregation problem but there are still some weaknesses of the J-curve analysis. In our paper we offer some solutions which may cause to get more healthy empirical results. The first suggestion is

¹⁸ The graphical representation of the stability tests can be seen in the Appendix.

to decrease the inconsistency between real exchange rate and the related trade balance which exist due to the misuse of CPI-based real exchange rate in many cases. Our claim is to use different real exchange rate series for different cases like using CPI-based real exchange rate to explore consumption goods or using PPI-based real exchange rate to explore intermediate goods. The second point is about the time frequency of the data. The new developments in the technology make international trade easier. The payment and delivery periods are shorter. Hence the short-term before and now may be not the same thing to evaluate the trade balance responses to the real exchange rate changes. This fact led us to construct specific real exchange rates for different cases. Our research aims to explore the J-curve effect between Turkey and Germany for the consumption, intermediate and capital goods categories based on the fourth revision of Broad Economic Categories (BEC). In order to fix the above mentioned inconsistencies we constructed monthly PPI-based bilateral real exchange rate for the analysis of capital and intermediate goods category. On the other hand we constructed CPI-based quarterly bilateral real exchange rate to investigate the J-curve relation for the consumption goods. In addition we explored the bilateral J-curve effect at aggregate level to check to existence of the aggregation bias.

The ARDL bounds testing approach to cointegration and Error Correction Modeling (ECM) has been applied which allows testing the short-run and long-run effects of currency depreciation on the trade balance simultaneously. According to our findings the bilateral J-curve relation is supported for the consumptions good category. In order to explore the validity of research we employed some tests like LM, RESET, CUSUM and CUSUMSQ. Their results support the robustness of our research.

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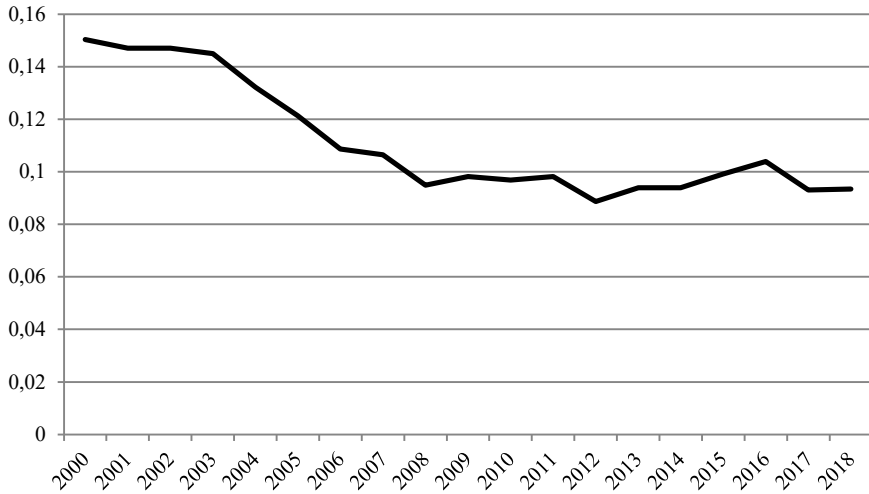
Appendix

Table 1.

Author	Countries	Aggregation	Time period	Methodology	Findings
Rose (1990)	30 developing countries	Aggregate	Annual ;1970-1988	Time series OLS	no J-curve for Turkey
Oskooee and Malixi (1992)	15 developing countries	Aggregate	Quarterly 1973–1985	Time series Almon lag structure imposed on real exchange rate	no-J curve for Turkey
Oskooee and Alse (1992)	19 developed and 22 less developed countries	Aggregate	Quarterly data from 1971 to 1990	Time series Engle-Granger cointegration technique	J-curve for Turkey
Brada et al. (1997)	Turkey	Aggregate	Quarterly data from 1969 to 1993	Johansen cointegration, ECM	no J-curve
Kale (2001)	Turkey	Aggregate	Quarterly data from 1984 to 1962	Johansen cointegration, ECM	Evidence of a delayed J-curve after 3 quarters
Akbostanci (2004)	Turkey	Aggregate	Quarterly data from 1987 to 2000	VAR, VECM	no J-Curve relation
Halicioglu (2007)	Turkey	Bilateral with 9 trading partners	Annual ;1970-1988	VAR,Johansen cointegration	no J-Curve relation
Halicioglu (2008 a)	Turkey	Bilateral with 9 trading partners	Quarterly data from 1985 to 2005	ARDL	no J-Curve relation
Halicioglu (2008 b)	Turkey	Aggregate	Quarterly data from 1985 to 2005	ARDL	J-curve for Turkey
Oskooee and Kutan (2009)	11 transition economies	Aggregate	Monthly 1990-2005	ARDL, Johansen	no J-Curve relation for Turkey
Yazici and Klasra (2010)	Turkey	2 industries	Quarterly data from 1986 to 1998	Almon lag structure, Johansen, IRF	no J-curve for both sectors
Celik and Kaya (2010)	Turkey	Bilateral with 7 trading partners	Quarterly data from 1985 to 2006	Panel cointegration	no J-Curve relation
Yazici and İslam (2011)	Turkey	Aggregate with EU (15)	Quarterly data from 1982 to 2001	ARDL	no J-Curve relation
Durmaz (2015)	Turkey	58 industries	Monthly 1990-2002	ARDL	J-curve in 13 industries
Karamelikli (2016)	Turkey	Bilateral with 4 trading partners	Monthly 2000-2015	Linear and non-linear ARDL	Symmetric J-curve with Germany, asymmetric J-curve with UK

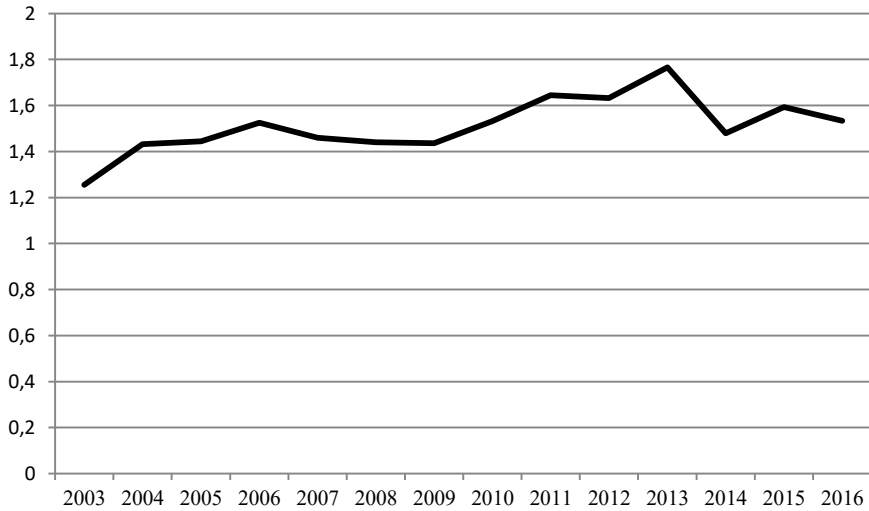
FIGURES

Figure. 1. The importance of Germany as a trade partner of Turkey (%) (Trade volume between Turkey and Germany / Total trade volume between Turkey and the world)



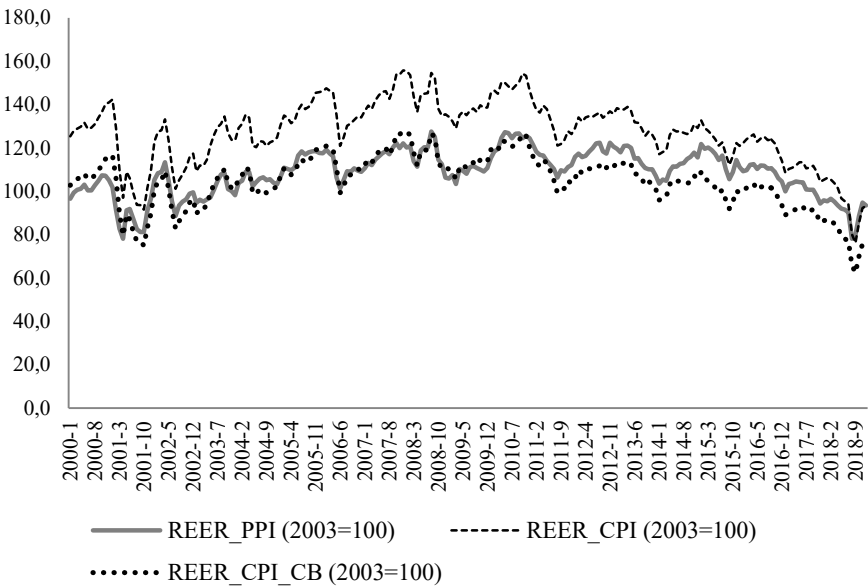
Source: TÜİK (Turkish Statistical Institute)

Figure 2: Import from Germany/Export to Germany



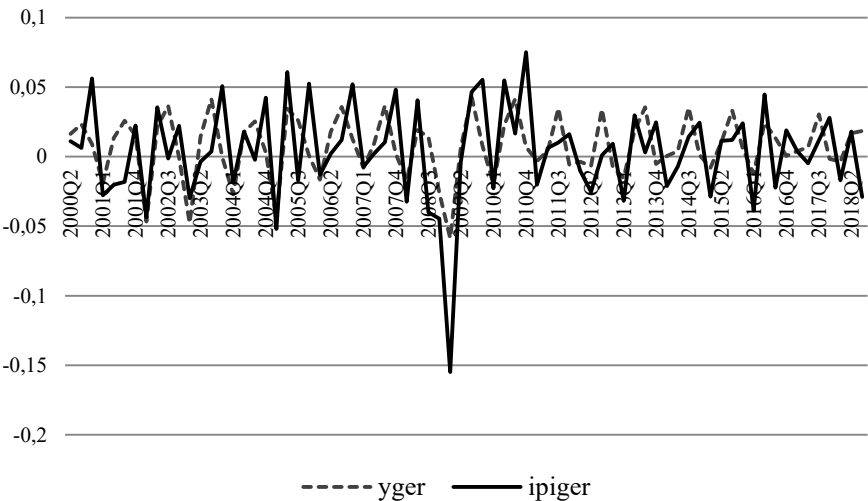
Source: TÜİK (Turkish Statistical Institute)

Figure 3. Real bilateral exchange rate (Turkey-Germany) vs. Real effective exchange rate (Central Bank of Turkey)



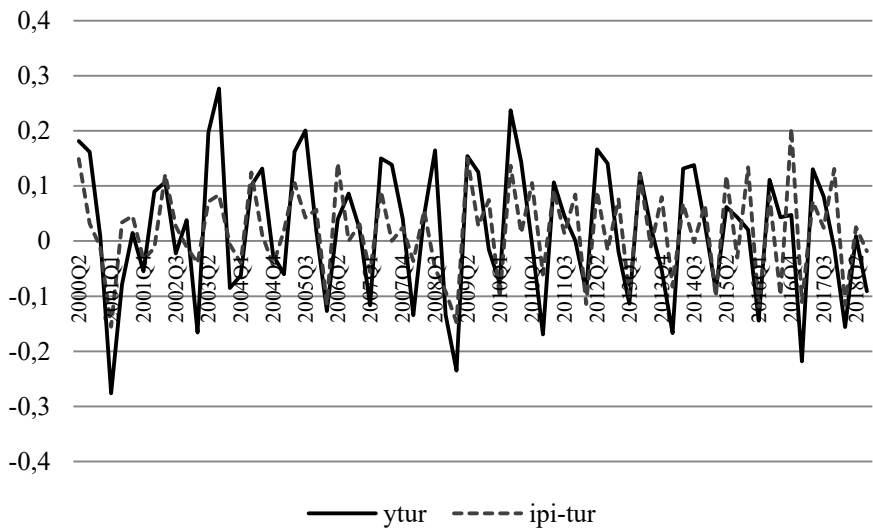
Source: REER_PPI (2003=100) and REER_CPI (2003=100) series were constructed by the author's own calculation; REER_CPI_CB (2003=100) was taken from the Central Bank of Turkey.

Figure 4. Real GDP vs. IPI- Industrial Production Index (Germany)



Source: Eurostat

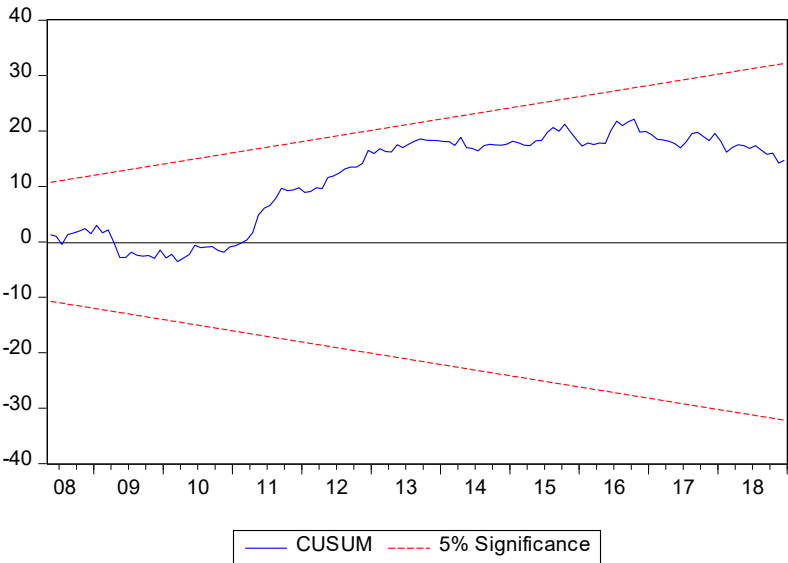
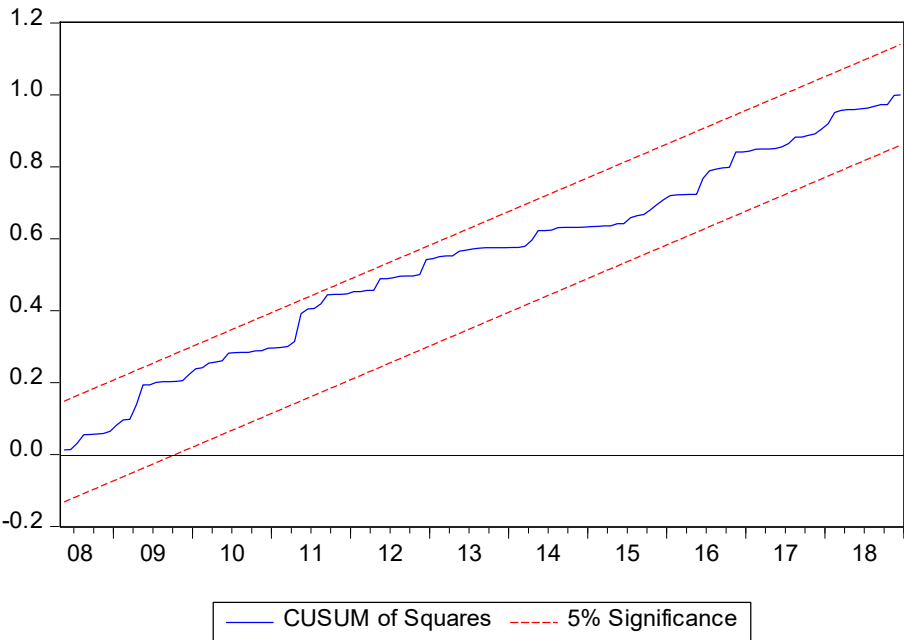
Figure 5. Real GDP vs. IPI- Industrial Production Index (Turkey)



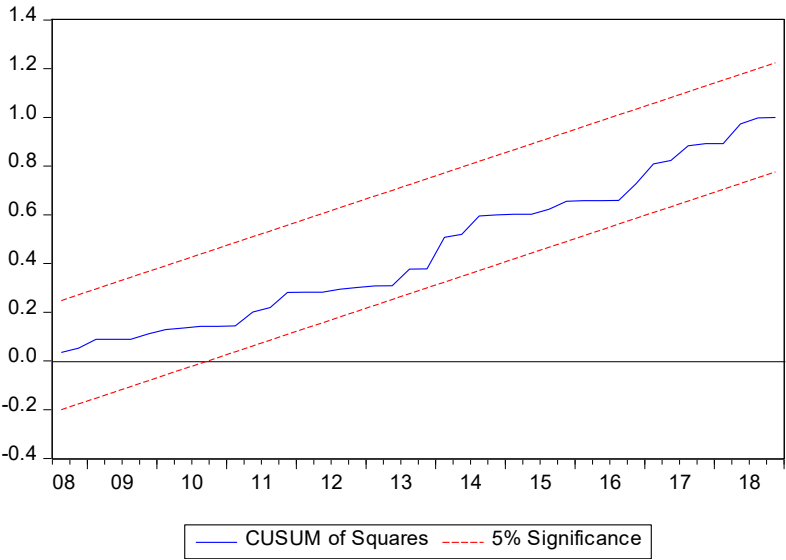
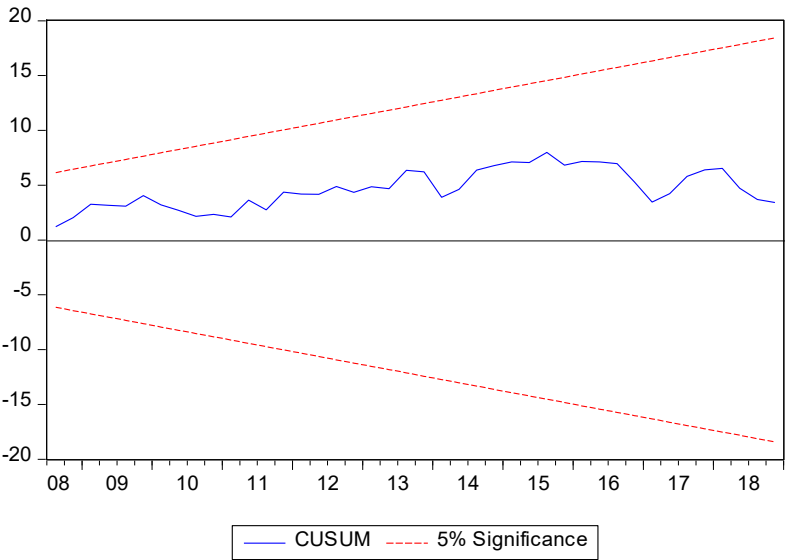
Source: Eurostat

CUSUM and CUSUMSQ TEST RESULTS

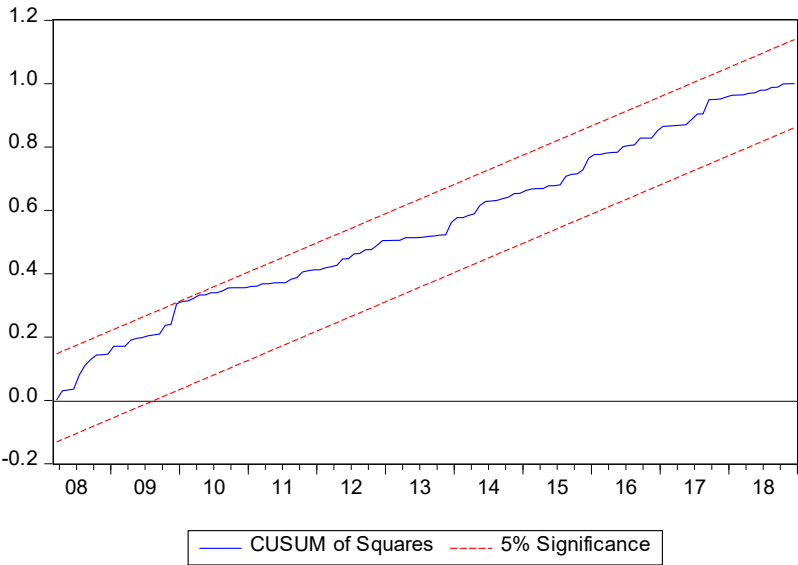
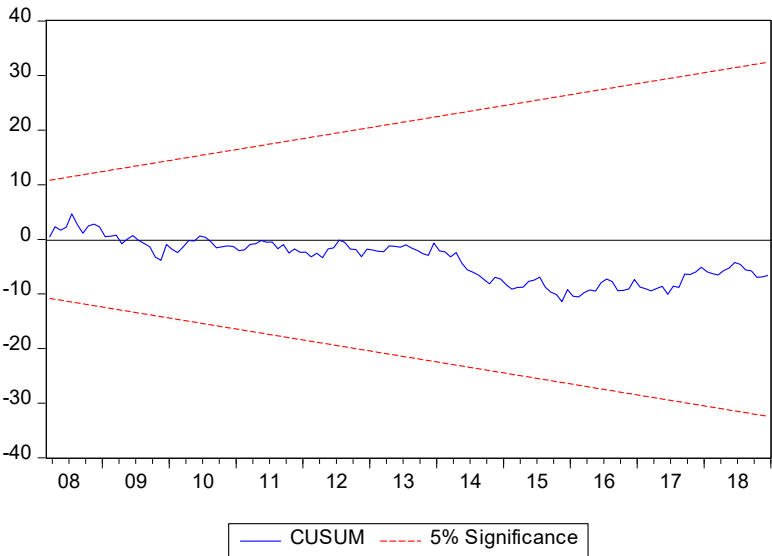
CAPITAL GOODS



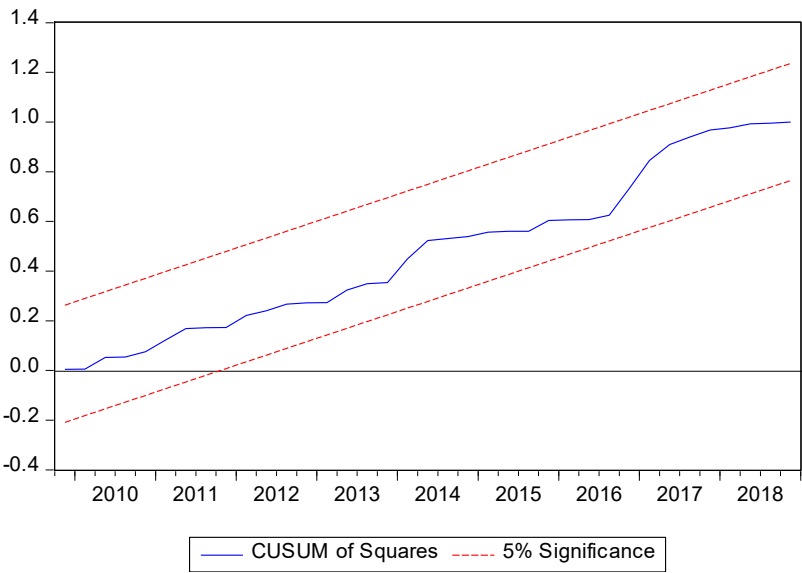
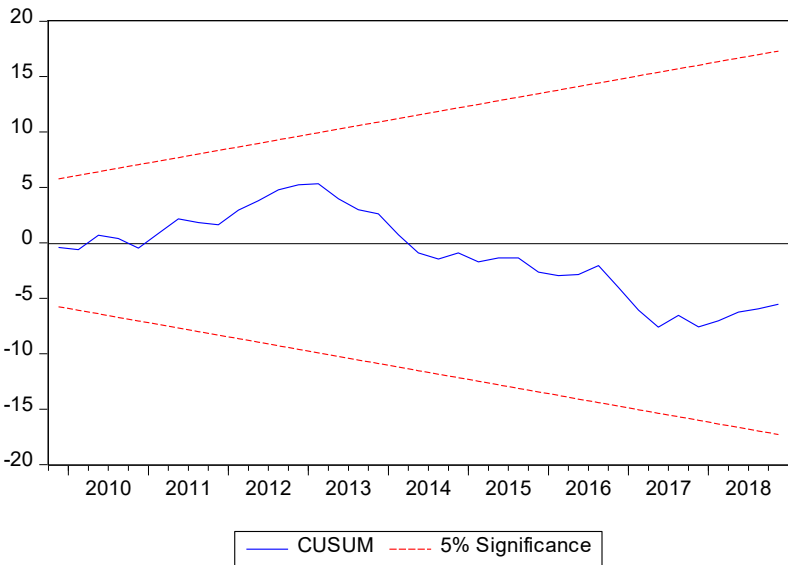
CONSUMPTION GOODS



INTERMEDIATE GOODS



AGGREGATE



Data Sources

Monthly and quarterly data are used for the (2000-2018) period. The data are collected from three sources:

- (1) Eurostat (European Statistical Institute)
- (2) TSI (Turkish Statistical Institute)
- (3) CBT (Central Bank of Turkey)

Variables

TB_i = Trade balance of the Broad Economic Category i and the aggregate trade balance. The trade balance is defined as the ratio of Turkish imports from Germany over Turkish exports to Germany. The ratio is monthly for the intermediate and capital goods category; quarterly for the total trade and consumption goods category. (3)

Y_{TR} = The quarterly real GDP of Turkey for the aggregate and consumption goods category. It also represents the monthly Turkish Industrial Production Index (IPI) for the capital and intermediate goods category. (1)

Y_{GER} = The quarterly real GDP of Germany for the aggregate and consumption goods category. It also represents the monthly Turkish Industrial Production Index (IPI) for the capital and intermediate goods category. (1)

RER = RER is the real bilateral exchange rate between Turkey and Germany. It is defines as $\frac{PPI_{TUR}}{PPI_{GER}} * \frac{1}{NER}$ for the capital and intermediate goods category;

$\frac{CPI_{TUR}}{CPI_{GER}} * \frac{1}{NER}$ for the consumption goods category and for the aggregate level. PPI

is the Production Price Index; CPI is the Consumer Price Index and NER is the nominal bilateral exchange rate defined as number of TL per Euro. (1)

A REVIEW OF DIFFERENT FACETS IN ORGANIZATIONAL CREATIVITY STUDIES

İlge KURT ¹



¹ Asst. Prof. Nişantaşı University, International Trade and Business Administration.

1. INTRODUCTION

Organizations in this era face a dynamic environment, characterized by rapid technological changes. In order to confront with the environmental challenges and to elevate the innovation level, the creative performance of the employees need to be enhanced, because creativity is regarded as the origin of all innovations (Amabile et.al., 1996; Shalley, 1995). Thus, more than ever before, there is a struggle for creativity and innovation in organizations (Woodman et al., 1993).

It can be said that individual creativity which involved the idea generation stage often provided a starting point for organizational innovation. Innovation originates with creative ideas, because successful and effective implementation of new programs, product introductions, and services all depend on people or teams with creative ideas that carry them beyond their initial state. Creativity can lead to new approaches, findings, movements, inventions, and programs.

Organizational creativity studies can be accepted as at their infancy stage (Shalley and Zhou, 2008) and their roots are found in the creativity research. As a research area it has mainly focused on the traits that facilitate or hinder creativity within the context of work. In a knowledge based economy, organizations confront with growing needs to improve the creativity of their employees. They seek ways to increase their innovativeness by triggering creative behaviors and supporting creative processes at individual, group and organizational levels, taking into account the interaction of these levels with external environmental conditions. Therefore, elevating the creativity potential of employees has rapidly become a vital intention of the organizations (Mumford et al., 2002; Atwater & Carmeli, 2009).

Initial creativity research in the work context focused primarily on creativity at individual level, but more recent perspectives have tended to carry it to contextual factors that could affect, and improve creative activity (Amabile et.al., 1996; Smith & Shalley, 2003). Creativity is a topic which can be considered important at both individual and societal levels. There is still ongoing research on how organizations can foster, sustain and harness the creativity in the work context (Tan, 1998). Some researchers (Amabile et.al., 1996; Woodman et al, 1993; Ford, 1996; Csikszentmihalyi, 1996) have put forward that organizational creativity is influenced by both individual and contextual factors. The aim of this study is to provide a review of different conceptual models of creativity in organizational context.

2. CREATIVITY IN ORGANIZATIONS

2.1. Defining Creativity

The definition of creativity is handled through many different perspectives. Majority of the definitions focused on the novelty and appropriateness features of creativity, while others focused on aspects such as defining creativity through its scope, as a characteristic of person or process, as a process and outcome.

“Creativity can be defined as the seed of all innovation and psychological perceptions of innovation (Amabile et al, 1996)”. It involves the composition of “novel and useful ideas” (Amabile, 1988 as cited in Amabile et al, 1996). “Creativity is the ability to produce work that is both novel (original, unexpected) and appropriate (useful, adaptive concerning task constraints)” (Sternberg, 1999).

Mumford and Gustafson (1988) focused on the scope of creativity in defining it. According to them, creativity comprises the manufacturing of useful new ideas or new points of view that can be implemented to work out novel problems.

Runco (2004) in his definition of creativity drew attention to different aspects of the concept. He defined creativity as a useful and effective response to evolutionary changes which consisted of original behavior, flexibility, reaction and contribution to adaptations and solutions.

Ford (1996) handles the concept of creativity through three different perspectives. First, he defines creativity as an attribute of a product. Second, he mentions that it is a "subjective judgment", because it is made by advocates of the field, measured not independent of social processes. Third, it is domain specific and therefore may evolve over time as context changes.

The study of creativity has also promoted a wide scale of definitions, mostly which define it as a characteristic of a person or as a process. However most of the contemporary researchers have preferred a definition that focuses on the product or outcome of a product development process. Oldham and Cummings (1996) claimed that "they defined creative performance as products, ideas or procedures that satisfied two conditions" (p.608), which were being novel or original and being relevant for or useful to the organization. They accepted restructuring of existing materials or an origination of a completely new material as a novel product, idea.

Shalley and Zhou (2008) handle the concept of creativity both as a process and an outcome. From the perspective of process; creativity consists of finding, solving problems, and presenting solutions. From the perspective of outcome; creativity is the production and emergence of fluent, flexible and original outcomes, as well as novel, useful, appropriate products.

Authors who offered introductory definitions of creativity claimed the idea that creativity involves "the creation of an original and useful product" (Sternberg, 1999). In spite of the consensus on that basic definition of creativity, there are also different points of view among different scholars about other dimensions of the definitions of creativity. Those contrasting viewpoints are summarized in Table 1.

Table 1. Contrasting Points of Views in defining Creativity

Different Perspectives for Defining Creativity	Defining Creativity as...	Researchers with different perspectives for defining creativity as cited in Stenberg, 1999
Is creativity a property of people, products or processes?	"A Property of People: involves focusing on individual differences in people's creativity or distinctive characteristics of creative people."	Plucker&Renzulli,1999 Simonton,1999 Feist,1999 PolICASTRO&Gardner,1999
	"A Property of Product: involves focusing on case studies of creative production or on computer simulations of creative production."	Gruber&Wallace,1999 Boden,1999
	"A Property of Process: involves focusing on analyzing the steps involved in creative thinking or in teaching creative cognitive processing."	Runco&Sakamoto,1999 Ward, Smith&Finke,1999 Nickerson,1999
Is creativity a personal or social phenomenon?	"A Personal Phenomenon: involves producing something new and useful with respect to the person doing the creating"	Runco&Sakamoto,1999 Ward, Smith, Finke,1999
	"A Social Phenomenon: involves producing something new and useful with respect to the social or cultural environment."	Csikszentmihalyi,1999 Lubart,1999
Is creativity common or rare?	"Common: involves viewing creative thought as a common aspect of everyday cognition and accepting the view that all humans are capable of creativity."	Runco &Sakamoto,1999 Ward, Smith &Finke,1999 Weisberg,1999
	"Rare: involves viewing creative thought as a rare event that occurs only within a very small group of unique individuals."	Gruber&Wallace,1999 Simonton,1999 Howe,1999
Is creativity domain-general or domain-specific?	Domain-general: involves viewing creativity as a general skill, trait or characteristic that can be applied to a wide variety of situations.	Plucker&Renzulli,1999
	Domain-specific: involves viewing creativity as different kinds of creative ability required in different domains.	Gruber&Wallace,1999 PolICASTRO&Gardner,1999 Weisberg,1999 Gardner,1999
Is creativity quantitative or qualitative?	Quantitative: involves the view that creativity consists of one or more factors of which people may have varying amounts.	Plucker&Renzulli,1999
	Qualitative: involves the view that creativity manifests itself in a unique way in each creative person.	Gruber&Wallace,1999

Source: Adapted from 'Handbook of Creativity' by Sternberg (1999)

2.2. Defining Organizational Creativity

Organizational creativity has its origin in general research related with creativity and psychology (Shalley & Zhou, 2008). In psychology, most of the empirical research is based on individual's creativity at work. Organizational creativity mainly concentrates on variables that have relatedness with work context and creativity in a work or organizational surrounding (Shalley & Zhou, 2008); whereas research on creativity has a

broader, and a more general scope such as creativity in arts, problem solving creativity, children's creativity.

Organizational creativity deals with the factors of creativity that have connections with the work environment, and creativity in a workplace or organization (Shalley & Zhou, 2008). That is why it has been mentioned as ideation portion of innovation in organizational definitions, whereas innovation consists of both the ideation and implementation (Amabile 1988, 1997 as cited in Amabile et al. 2004; Shalley & Zhou, 2008).

Woodman et al. (1993) defines organizational creativity as "the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system" (p.293), and frames the definition of organizational creativity as "a subset of the broader domain of innovation" (p.293).

The literature introduces many interpretations of creativity and innovation. A widely accepted definition claims that "creativity is the production of novel and useful ideas", whereas "innovation is the successful implementation of creative ideas within an organization" (Amabile et al., 1996; West, 2002a). Oldham & Cummings (1996) referred the generation of ideas and products produced at the individual level as creative performance, whereas they referred the successful fulfillment of those products at the organizational context as the innovation.

3. REVIEW OF DIFFERENT CLASSIFICATIONS AND STUDIES OF ORGANIZATIONAL CREATIVITY

3.1. Development of Organizational Creativity Research

The study of creativity is still relatively new as an area in organizational behavior and most of the studies about organizational creativity are after 1980s.

Historically, the organizational creativity literature initially focused on the role of creative people, especially their demographic and personality characteristics.

More recently, the effects of contextual factors on creativity are added to the researches. The combined effects of individual and contextual factors on creativity are also examined in recent researches, and needs further exploration (Shalley & Smith, 2001).

Thus, it can be said that research on creativity had first started with focus on what creativity is, and the components within the mind of the individual. Then, the function of creativity at the interface of the individual and environment were investigated. Finally, a systems approach was made concentrating on the groups of individuals collaborating on creative products in organizations (Williams & Yang, 1999).

3.2. Different Classifications of Organizational Creativity

The literature on creativity is quite diverse, and it can be organized in several ways. Mainly, two approaches of organizational creativity research can be identified; first at the individual level, investigating attributes that facilitate and hinder employee creativity; and the second at the organizational level, pinpointing contextual factors that influence creativity. Some researchers unite and include the interaction of those two approaches.

One classification was found under the topics of individual differences and cognitive processes involved in creativity. Another categorization was under the topic of the studies, focusing on the group and organizational levels. Early research on creativity

concentrated on describing the nature of creative people. Later, the emphasis on individual level of analysis enlarged to more macro level contextual explanations. Thus, the scope was carried from individual level to group level, and eventually to organizational and system level. From the perspective of this scope, Drazin et al. (1999) categorized creativity related studies under the topic of three perspectives. Those were individual level studies, group level studies, and organizational - multilevel studies.

In terms of individual level studies, a number of researchers have focused their interest on searching for personality traits related with creative production (Baron and Harrington, 1981; Zhou & Shalley, 2008). Creativity research at the individual level can be summarized to concentrate on areas such as personality, intellectual or cognitive abilities, creative self efficacy, affective states, and traits, creative role identity, social support, and expectations for creativity, and the role of social networks in the creative process (Atwater & Carmeli, 2009). Creative behavior was perceived as the result of individual characteristics, and propensities, such as personality factors, cognitive skills (Amabile, 1988, Torrance, 1988 as cited in Drazin et al., 1999). It was also claimed that individual creativity was highest when individuals were intrinsically motivated (Amabile et al., 1996).

The perspective was extended to include group and organizational level contextual variables. Settings that triggered or hindered creativity were explored. Leadership style, cohesiveness, group tenure were investigated together with, organizational policies, structures, and climate (Amabile et al., 1996) as contextual factors influencing creativity.

More recently, multilevel models of creativity in organizations have emerged. Woodman et al.(1993) proposed a multilevel model, linking individual, group, and organizational level factors to creative outcomes. Ford (1996) integrated multiple levels of analysis to explain engagement in creative behavior. Oldham & Cummings (1996) discussed that factors at individual, job, and organizational levels of analysis affected creativity. Drazin et al. (1999) also proposed a multilevel model of organizational creativity. Instead of the traditional individual, group, and organizational levels of analysis, they considered three levels. The levels were intra-subjective level, inter-subjective level, which represented shared frames of reference of groups or subunits and, collective level, which represented the progressing change across inter-subjective levels, and a negotiated belief structure.

4. CONCEPTUAL MODELS OF ORGANIZATIONAL CREATIVITY

The following review of studies in organizational creativity pinpoints the most outstanding conceptual models.

4.1. Amabile's (1988) Componential Model of creativity

Amabile's componential theory of creativity (1988) can be stated as one of the most distinguishable conceptual models in Organizational Creativity literature. This theory described the creative process and the various influences on it within and outside the individual.

Amabile (1988 as cited in 1996 and 1998) proposed that there were three key components of creativity within the individual, which were "domain relevant skills, creativity relevant processes and task motivation". She claimed that the area of overlap between those three components conveyed the area of highest creativity. There was also one component outside the individual which was the work environment and it included outside factors which could be considered as obstacles and stimulants for intrinsic motivation and creativity. The theory mentioned that all components were vital

for creativity and creativity would be higher, when the competence of each of those constituents was higher. All of those components facilitated the creative process and thus the creative outcome

This theory could be considered as one of the theories that featured work environment most prominently. Depending on her theory of creativity at the level of the individual, she recognized different environmental models that could promote or inhibit creativity. Some environmental work factors such as conservative and low risk attitude of managers, excessive time pressure, conservative tendency, inhibited creativity. On the other hand, factors such as freedom, positive challenge, stimulated creativity.

4.2. Csikszentmihalyi's (1988, 1996) Systems Approach

Csikszentmihalyi's (1988, 1996) systems approach focused on the interaction of the individual and his or her environment. He initiated a systems perspective of creativity which focused on the social activities through which creative processes are formed. He presented three interrelated subsystems. Creativity was described as a process that could be observed at the interaction of three interrelated subsystems which were individual, domains and fields. The field was interpreted as people who populated and influenced the structure of the domain. The domain was specified as the rules, language, and practices which contributed to the occurrence of a creative act. According to the approach, the environment was composed of domain (cultural, symbolic) and field (social) and those two subsystems represented the situation or context which influenced individual. Variation, selection and retention processes are emphasized within the systems approach. The individual was defined as the origin of variation and change which was introduced to the field. The people, who formed the domain, selected and retained the creative acts which influenced the domain. The domain communicated the appropriate information and actions back to the individual. The process of variation, selection and retention continued as an ongoing cycle.

According to the system's perspective, a set of practices were channeled from the domain to the individual, the individual used that information and transformed or extended it through his or her personal background and personality, and produced a novel distinction in the items of the domain. The field then evaluated and selected from the new ideas presented.

4.3. Sternberg and Lubart's (1991, 1995) Investment Theory of Creativity

Sternberg and Lubart's (1991, 1995) investment theory of creativity proposed that six resources were necessary for creative production. Those resources were intellectual processes, knowledge, intellectual style, personality, motivation and the environmental context. This theory resembled creative thinkers to investors and asserted that creative thinkers generated ideas that were like undervalued stocks. Initially, creative ideas were often rejected. After assuring others that the idea was valuable, the regarded value of investment increased. The implications of investment theory for organizational creativity was claimed to be achieved through a suitable organizational climate (Williams & Yang, 1999). First, the organizations should encourage their employees to generate ideas and reward them. Second, employees should feel secure in their environment to express their new ideas. Third, organizations should try their best to harness adversarial member's ideas for the benefit of the organization. Fourth, employees should be encouraged to have the right attitude for creative performance. Finally, incentives for creative production should be established to motivate employees to share their ideas.

4.4. Woodman et al.'s (1993) Interactionist Perspective of Organizational Creativity

Woodman et al.'s (1993) interactionist perspective of organizational creativity was also based on the interactions between individuals and situations, similar to componential theory of creativity. It was based on the perspective that creative performance was based on an interactional framework, which was composed of individual, group and, organizational characteristics which interacted to affect creativity.

Creativity at the individual level was the complex product of situational and dispositional factors. Woodman et al. (1993) stressed that individual creativity was a consequence of cognitive style and ability, personality factors, relevant knowledge and intrinsic motivation. These individual factors were influenced by social and contextual features. Furthermore, they also focused on group creativity as a function of group composition (diversity), group characteristics (cohesiveness, group size), group processes (problem-solving strategies, social information processes), and contextual influences originating from the organization. Finally, in terms of organizational level creativity, they discussed culture, resources, rewards, strategy, structure and technology. The situational influences which could be creativity enhancing or constraining was accepted to occur at each level. It was also claimed that a domain (situation) based on creative pursuits might enhance creativity, whereas a domain that rejected creativity would constrain creative intentions.

The interactionist perspective of organizational creativity stated that the organizational creative process was comprised of notable and creative situations, which created an interaction of individual, group, and organizational characteristics.

4.5. Ford's (1996) Multiple Social Domains Theory

Ford's (1996) multiple social domains theory argued that individual creative action was a result of sense making, motivation, knowledge and ability. The social domains that influenced creativity in organizations were covered as groups, organizations, institutional environments and markets. The theory claimed that creative actions often were influenced by selection processes presented by multiple social domains.

Ford (1996) integrated psychological and sociological descriptions of creativity and presented a theory of individual creative action within organizational settings which were composed of groups, organizations, institutional environments, and markets. One of his significant contributions was the acknowledgement of the competing options between habitual and creative actions. He discussed that even in circumstances that favored creative action, people could choose the habitual actions based on their past success, relative ease, and certainty.

First, there existed individual processes which influenced creativity in organizational settings, which was a result of sense making, motivation, knowledge, and ability. Second, key levels of domain which influenced creativity in organizations were introduced. Those were groups, organizations, institutional environments, and markets. Third, the processes through which fields and domains could influence individual behavior were discussed. Fields selected variations which were produced through sense making, motivation, knowledge, and ability of individuals. Those selected variations were included in the domain as language and practice. There could be interactions within and among multiple levels of fields and domains, which could influence creative act. Therefore the process was considered as a complex one.

4.6. Drazin et al.'s (1999) Multilevel Model of Organizational Creativity

Multilevel model of organizational creativity (Drazin et al., 1999) proposed a multilevel model as inherited in the name of the model and creativity was defined as a process rather than an outcome. They focused on how creativity unfolds over time. They argued that individuals construct frames of references that act as an intermediary in creative activities. They also included the sense making perspective in their model. Their framework was composed of three concepts. Instead of the traditional individual, group and organizational levels of analysis, they considered three levels, stated as follows. a) an individual (or intra-subjective) level, b) an inter-subjective level, which represented shared frames of reference of groups or subunits c) a collective level, which represented the unfolding change across inter-subjective levels and a negotiated belief structure. In their study, they concentrated on complex, large scale, and long-duration organizational projects.

At intra-subjective or individual level, individuals were claimed to develop cognitive frames about events and obtained a sense of what was going on and how much they should be involved. At inter-subjective level, individuals were claimed to engage in interaction with group, team level to reduce their sense of confusion and to reduce the confusion of others. When interdependence was high, a collective mind could emerge. At the collective level, sense making was claimed to be formed by beliefs that were embedded in the organization itself. Their model included concentrating on the feasibility of approaches to map creative processes and focusing on the selection of creative frame to direct organizational action.

4.7. Unsworth's (2001) matrix of creativity.

Unsworth's (2001) matrix of creativity questioned the definition of creativity as a unitary construct and focused on the processes related with idea generation such as the types of ideas, why and how they were generated. She generated a matrix. The matrix covered mainly two dimensions with four different types of creativity. Those dimensions were driver for engagement (external or internal) and the problem type (closed or open). She identified the following creativity types: 1) responsive (closed, external), 2) expected (open, external), 3) contributory (closed, internal), and 4) proactive (open, internal).

In responsive creativity the individual "responded to the requirements of the situation and to the presented problem" (Unsworth, 2001, p.291), and had the least control over problem solving choices. Focus groups, specifically gathered to solve particular problems were stated as an example of responsive creativity in an organizational setting. Expected creativity was defined as a creativity, which was "brought about via an external expectation, but with a self discovered problem" (Unsworth, 2001, p.292). Quality circles and total quality management practices were given as examples of expected creativity. Contributory creativity was defined as a creativity, which was "self-determined and based upon a clearly formulated problem" (Unsworth, 2001, p.292). Contributory creativity involved employee actions such as choosing to engage in creativity to solve a problem with which the person was not directly related. Proactive creativity was defined as a type of creativity which occurred when "individuals driven by internal motivators, actively searched for problems to solve" (Unsworth, 2001, p.292). Proactive creativity was a previously unaddressed topic. Unprompted proposals for new products or volunteered suggestions were considered as examples for proactive creativity.

When all of the outstanding conceptual models of creativity in organizations are analyzed, it is possible to acknowledge that creativity is achieved through two dominant

features, which are the work environment and the individual him/herself and their interaction at a systems level (Table 2).

Table 2: Main Components of conceptual models of organizational creativity

Conceptual Model	Main components	
Componential Theory of Creativity (Amabile,1988)	Individual	<ul style="list-style-type: none"> • Intrinsic Motivation • Dominant Relevant Skills • Creativity Relevant Processes
	Creative Process	<ul style="list-style-type: none"> • Problem or Task Identification • Preparation • Response Generation • Response Validation and Communication
	External Component	<ul style="list-style-type: none"> • The Work Environment
Systems Approach (Csikszentmihalyi, 1988, 1996)	Individual	<ul style="list-style-type: none"> • Individual (Personal Background)
	Creative Process	<ul style="list-style-type: none"> • Between Individual and Culture: Information transmission • Between Individual and Society: Production and stimulation of novelty • Between Culture and Society: selection of novelty
	External	<ul style="list-style-type: none"> • Culture • Society
Investment Theory of Creativity (Sternberg and Lubart, 1991, 1995)	Individual	<ul style="list-style-type: none"> • Intellectual processes • Knowledge • Intellectual style • Personality • Motivation
	Creative Process	<ul style="list-style-type: none"> • Rewards • Secure climate • Harnessing ideas • Encouragement • Incentives
	External	Environmental context
Interactionist Perspective of Organizational Creativity (Woodman et. al.,1993)	Individual	<ul style="list-style-type: none"> • Cognitive style/ability • Personality Knowledge • Intrinsic motivation
	Group	<ul style="list-style-type: none"> • Group composition (diversity) • group characteristics (cohesiveness, group size), • group processes (problem-solving strategies, social information processes)
	Creative Process	<ul style="list-style-type: none"> • Creative behavior • Creative Situation (enhancers and constraints)
	Organization	<ul style="list-style-type: none"> • Culture, • Resources, • Rewards, • Strategy, • Structure • Technology
Multiple Social Domains Theory (Ford, 1996)	Individual & Group	<ul style="list-style-type: none"> • Sense making • Motivation • Knowledge and ability
	Creative Process	<ul style="list-style-type: none"> • Interactions within and among multiple levels of fields and domains
	Organization	<ul style="list-style-type: none"> • Habitual actions based on past success, relative ease, and certainty
	External	<ul style="list-style-type: none"> • Institutional environments • Markets
Multilevel Model of Organizational Creativity (Drazin et al., 1999)	Individual	<ul style="list-style-type: none"> • Cognitive frames
	Group	<ul style="list-style-type: none"> • Collective mind
	Organization	<ul style="list-style-type: none"> • A negotiated belief structure

Source: Adapted from Amabile (1988), Csikszentmihalyi (1988, 1996), Sternberg and Lubart's (1991, 1995), Woodman et al.'s (1993), Ford's (1996), Drazin et al. (1999)

5. CONCLUSION AND INCREASING IMPORTANCE OF ORGANIZATIONAL CREATIVITY STUDIES IN INDUSTRY 4.0 ERA

Industry has experienced many paradigm shifts owing to the technological changes and innovations. Today's world is characterized by fourth industrial revolution, which includes cyber-physical systems, internet, cloud and cognitive computing. It encompasses a digital transformation, replacing the manual organizational processes by digital computer structures. It will be appropriate to expect the elevating importance of organizational creativity in Industry 4.0 era. However, new era can be expected to bring new facets to main components of organizational creativity studies.

Artificial intelligence, machine learning and deep learning are popular terms in the present era. Deep learning is a subset of machine learning, whereas machine learning is the subset of artificial intelligence (Garbade, 2018). Artificial intelligence mimics the intelligent and cognitive operations of humans based on algorithms. Machine learning focuses on training algorithms so that they can categorize information. Deep learning is referred as "artificial neural network" that can learn and make intelligent decisions on its own (Garbade, 2018). One new facet of organizational creativity is proposed to be deep learning, which brings out the question whether deep learning technologies will replace the human factor in organizations. However, considering the fact that the real force presenting these technologies are human programmers, deep learning technologies are in fact limited to the creativity of the human component. Multi talented human source equipped with autonomy, communication, mindfulness, technical, personal, methodological and social competence still remains as a key component, despite addition of new actors such as artificial intelligence, machine learning and deep learning.

For the group component, virtual and project teams, autonomous work groups may be expected to be important actors in the new era. At the organizational level, virtual organizations, organic organizations equipped by empowerment, learning organizations where leaders function as facilitators can be rising trends. In terms of human resource practices in organizational level, talent management may ease and facilitate the creative processes together with knowledge management. As an external component, uncertain and unstable environment can be expected to elevate the importance of mindfulness.

In this review, creativity in organizations is elaborated from the perspective of different conceptual models. Furthermore, a proposal for expected new components and changes in main facets of organizational creativity has been provided. For the future studies, it is possible to conduct researches by using experimental research design including proposed components of organizational creativity.

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Note

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CLEARANCE PROCESS of WINDOW DRESSING ACTIVITIES for BALANCE SHEET

Orkun BAYRAM ¹



¹ Dr. Öğr. Üyesi., Antalya Bilim Üniversitesi, İİSB Fakültesi, Ekonomi Bölümü, Antalya, Türkiye.

I. Introduction

Due to the nature of business life, many corporations lack enough capital in order to maintain their founding philosophy. Generally, corporations prefer to take loans from financial institutions to cope with capital insufficiency. However, this is not an easy transaction for the counterparties. Banks (the representative financial institutions) have two main aims. First one is to collect money from their customers within the structure of deposit accounts, saving accounts or current accounts, and the second is to allocate these funds to their customers as "loans or credit". They all require intense effort. It is not easy to say that a bank can convince its customers to open a savings account at its branches or can approve to allocate credit line to a customer.

There is fierce competition at the banking sector. In particular, after the 2008 global economic crisis, banks' profit margins began to shrink rapidly. Therefore, banks began to use more rigid financial analysis systems than they used to be when evaluating their customers' credit demands. Since, after the 2008 global economic crisis, instead of increasing the credit volume, the risk-free collection of the loan started to gain importance as a principle. Financial statement analysis is an essential skill in a variety of occupations, including investment management, corporate finance, commercial lending and the extension of credit.²

Financial analysis (credit analysis) requires not only examining the financial statements of a firm, but also the examination of how the firm's market performance, payment morality, past successes affect its present and future.³

Multiple valuation models can be used to measure the credit adequacy of a firm. For example, when evaluating a company's equity, you can use the accrual accounting valuating model and you can take advantage of the " $V_{0=CSE_0}^E + \sum_{t=1}^T P_E^{-1} + (\overline{earn} - (P_E - 1)CSE_{t-1}) + CV_t/P_E^T$ " formulation.⁴ However, on the other hand, financial analysis reports that are based solely on quantitative or financial data will not fully reflect the payment ethics of firms that demand credit. In addition to financial data, the company's market morale is also very important. These are key performance indicators that show whether the firm pays checks and bills, and staff salaries in a timely manner, and whether it has accumulated social insurance and tax debts.

In addition to the market morale, the subjective factors play an important role in the preparation of the financial analysis report of a firm. Subjective factors include; the company's industry experience, whether the production facilities are owned by the company and the technology used is new, the number of personnel working in the company, the social benefits provided to the personnel, the importance given to the environment by the company.

According to the situation of the economy, banks can sometimes form 70% of their judgement based on financial statements and 30% on subjective factors, sometimes 60% on financial statements and 40% on subjective factors in financial analysis reports. In the conjuncture where the economy gives positive signals, the first information source can be used and when the economy gives negative signals and the second source can be used.

² Martin Fridson and Fernando Alvarez, **Financial Statement Analysis – A Practitioner's Guide**, 4th. ed., US: Wiley Finance, 2011, p. 3.

³ Öztin Akgüç, **Kredi Taleplerinin Değerlendirilmesi**, 7. b., İstanbul: Arayış Basım ve Yayıncılık, 2006, s. 1.

⁴ Peter D. Easton and Gregory A. Sommers, **Financial Statement Analysis and Security Valuation**, US: The McGraw-Hill Companies, Inc, 2001, p. 418.

In this book chapter, we will focus on how the balance sheet and income statement, which are among the most important financial statements used in the preparation of financial analysis reports, are prepared for financial analysis. Samples will be provided on how to delete balance sheet and income statement window dressing. Topics and examples will be described according to the Tax Code of Turkey.

II. Financial Statements

The financial statements are the result of a firm's accounting for its economic activities in accordance with legal standards and principles.⁵ Transparent, accurate and lawful preparation of the financial statements is very important in terms of the financial statements prepared by financial institutions. Financial statements prepared with incomplete and inaccurate information may mislead creditors and prevent effective decision-making. The erroneously prepared financial analysis report is the major obstacle to the effective use of resources and the most important factor that causes the credit mechanisms to work incorrectly.

The financial statements used in the preparation of financial analysis reports are listed below. On the other hand, due to the page limit, this book section will focus mainly on the balance sheet.

- a. Balance Sheet
- b. Income Statement
- c. Cash Flow Statement
- d. Fund Flow Statement
- e. Statement of Share Holders' Equity
- f. Changes in Net Working Capital Statement
- g. Statement of Profit Appropriation
- h. Statement of Cost of Goods Sold

These financial statements can be considered as an important way to allocate a credit line and to decide on the use of the allocated credit line. However, they are not considered to have fulfilled all their duties in a timely manner.⁶ Financial tables play an active role in both evaluating the past and directing the future. Among the most important duties of the financial statements are to present the company's asset quality, debt structure, sustainable sales and profit capacity, the effects of changes in net working capital items on the cash flow statement, capital structure and changes in equity. Financial statements are like a map that allows the user to reach his / her purpose in a comfortable way, and it is almost like a maze with the complexities and difficulties it presents when reaching these goals.⁷

III. Balance Sheet

The financial statement that shows the amount, resources and usage areas of the funds in a company with a particular date. Balance sheet is a financial statement showing the equality of assets and liabilities at any time. The balance is a snapshot. The balance sheet consists of two main parts. The first is assets and the second is liabilities. Assets are divided into two sub-sections; current assets and assets. Liabilities are

⁵ Thomas R. Robinson et al, **International Financial Statement Analysis**, 3rd ed., US: Wiley, 2015, p. 7.

⁶ Gokul Sinha, **Financial Statement Analysis**, 2nd ed., New Delhi: PH Learning Private Limited, 2012, p. 2.

⁷ Lyn M. Fraser and Aileen Ormiston, **Understanding Financial Statements**, 11th ed., Essex: Pearson Education Limited, 2016, p. 17.

divided into three parts; short - term liabilities, long - term liabilities and shareholders' equity. If we need to formulate these explanations;

i. *Assets = Liabilities*

ii. *Current Assets + Fixed Assets =*

Shor Term Liabilities + Long Term Liabilities + Share Holder's Equity

The balance sheet must ensure an equality between assets and liabilities at each condition. The main source of reference in preparing the financial statements is the trial balance. One of the most important functions of the balance sheet is that it is the most important tool for measuring the value of a firm. This measure of value is closely linked to accounting concepts.⁸ It is very important that the personnel working in the accounting department keep the company's accounting records accurate. Because, an error in the accounting records will cause the error to be created incorrectly and this will cause the other financial statements to be prepared incorrectly. The slightest mistake in the balance sheet accounts will prevent the correct calculation of the financial ratios and lead to a distortion in the correct interpretation. If the balance sheet does not accurately reflect all of the economic transactions of a firm, the balance sheet rates related to the financial risks of the firm will cause the company's risk position to be disclosed incorrectly.⁹ For example, in 2015, Karen Wong and Mahesh Joshi published in the Australasian Accounting Business and Finance Journal that many firms have not recorded long-term leasing transactions.¹⁰ Such an error will cause the creditors to miscalculate the ratios and net working capital of the company that represent the company's short-term debt repayment power. Due to this, perhaps the company will not receive the credit limit.

The accounts in the liabilities of a balance sheet show the capital that the company has put and debts in order to do the work. We can call them resources. Accounts that are located in the assets show how the resources in the liabilities are used. In short, it shows the assets of the enterprise.

a1. Assets

The assets that can be converted into cash within one year and the assets to be converted into cash for more than one year are in the fixed assets group. Non-current assets with a maturity less than one year are transferred to the current asset group. The provision is made for the assets that fall in value. Short term and long term receivables should be discounted to the value on the balance sheet day. Accumulated depreciation should be shown on the balance sheet. Receivables should be separated according to their characteristics. There should be no accrual for non-performing receivables. The assets group is analyzed in two sub-groups as current assets and fixed assets.

➤ Current Assets

Current assets represent the assets in which a company will be converted into cash in less than one year. Current assets represent the liquid position of the company as well. Liquid assets are assets that can easily be converted into cash in the market.

⁸ Mehmet A. Civelek ve M. Banu Durukan, **Investments**, 1st ed., İzmir: Dokuz Eylül Yayınları, 1998, p. 145.

⁹ John L. Campbell et al. "Do Investors Adjust Financial Statement Ratios when Financial Statements Fail to Reflect Economic Substance? Evidence from Cash Flow Hedges." Evidence from Cash Flow Hedges, April 2019, p. 2.

¹⁰ Karen Wong and Mahesh Joshi, "The Impact of Lease Capitalisation on Financial Statements and Key Ratios: Evidence from Australia, **Australasian Accounting Business and Finance Journal**, 9(3), 2015, p. 35 (27-44), doi:10.14453/aabf.v9i3.3

Liquidity ratios are used to measure the short term debt payment power of the enterprise and working capital adequacy. This ratio also measures the ability of the firm to pay due debts¹¹. The current assets include the following accounts. Liquid structures are important in the ranking of account groups. The most liquid account is at the top of the rankings:

- ❖ Liquid Assests
- ❖ Securities (Stock and Bonds)
- ❖ Trade Receivables
- ❖ Other Receivables
- ❖ Inventories
- ❖ Contract Progress Costs
- ❖ Long-term prepaid expenses and accrued income
- ❖ Other Current Assets

➤ **Fixed Assets**

Fixed assets are assets that the company does not foresee to consume or consume within a year¹². It is difficult to convert fixed assets into cash in less than a year. In particular, the sale of fixed assets in economies dominated by recession is very difficult. The most vital mistake that firms make in financing fixed asset investments is that they want to finance these investments with short term foreign funds. Due to this mistake, all financial ratios of the firm are deteriorated and the credibility of the firm is decreasing. However, long-term liabilities and shareholder's equity should be used in financing fixed asset investments. Fixed assets consist of the following account groups:

- ❖ Trade Receivables (Long Term)
- ❖ Other Receivables (Long Term)
- ❖ Financial Fixed Assets (Long Term)
- ❖ Tangible Fixed Assests
- ❖ Intangible Fixed Assests
- ❖ Assets subject to amortization
- ❖ Long-term prepaid expenses and accrued income
- ❖ Other Fixed Assets

a2. Liabilities

Liability is a group of financial resources that are required to produce goods and services to meet business needs and where the assets are provided. Liability accounts are divided into short-term liabilities, long-term liabilities and equity. Assets can be obtained from two sources, one is capital and the other is debt.

The short and long term distinction should be one year criterion. Payables that are subject to a maturity of less than one year should be transferred to short term liabilities. All debts should be shown. Time debts should be reduced to the value on the balance sheet day. Debts should be separated according to their characteristics.

¹¹ Hasan Kazak, "Comparison of Financial Performances For Bim Chain Stores And Turkey Retail Sector: A Study With Ratio Analysis On Balance Sheet And Income Statements", **Journal of Life Economics**, Vol:5, Issue:3, July 2018, p. 100. (93-120), e-issn: 2148-4139

¹² Filiz Çakır Zeytinoğlu, "İşletmelerin Dönen Varlıklarının Satışlar Üzerindeki Etkileri: En İyi Regresyon Denklemine Seçimi ve Sektörel Karşılaştırma", **Marmara Üniversitesi İ.İ.B.F. Dergisi**, Y:2007, C:XXIII, S:2, s. 332.

➤ **Short Term Liabilities**

It expresses the obligations that a firm has to pay in less than one year. Short-term liabilities contain following accounts:

- ❖ Financial Liabilities
- ❖ Trade (Accounts) Payables
- ❖ Other Liabilities
- ❖ Advances Received
- ❖ Contract Progress Income
- ❖ Taxes Payable and Other Fiscal Liabilities
- ❖ Accounts Payable and Other Current Liabilities
- ❖ Short-term Deferred Income and Accrued Expenses
- ❖ Other Short-term Liabilities

➤ **Long Term Liabilities**

It expresses the obligations that a firm has to pay in more than one year. Long-term liabilities contain following accounts:

- ❖ Financial Liabilities
- ❖ Trade (Accounts) Payable
- ❖ Other Liabilities
- ❖ Advances Received
- ❖ Provisions for Liabilities and Expenses
- ❖ Income Relating to Future Periods and Expense Accruals
- ❖ Other Long-term Liabilities

a3. Share Holder's Equity

In a financial statement, shareholders' equity shows how much of the resources that the firm uses to finance its activity. If a company has a maturity deficit (gap) in the cash conversion cycle, it is a strategic approach for the shareholders of the company to keep their previous years and current year profits in the financial structure for auto financing. Thus, the company will need a lower level of outsourcing (financing). Equity should show the rights of the owners and partners of the enterprise. Capital shares should be shown according to their characteristics. Reduced equity must be specified. Equity should be shown clearly. The loss should be deducted from the equity. Capital reserves should not be included in the income statement as income. Return on Equity (ROE) is the most important financial ratio related to equity. It is an indication of how efficiently the resource is used. This ratio is found by dividing net sales by the average equity¹³.

According to Turkish Tax Procedure Law, shareholder's equity consists of following accounts:

- ❖ Full Paid Capital Stock
- ❖ Capital Reserves
- ❖ Profit Reserves
- ❖ Retained Earnings
- ❖ Retained Losses
- ❖ Net Period Profit or Loss

¹³ Özlem Özer, "Mali Tablolar Analizi: Bir Hastane Örneği", **Gümüşhane Üniversitesi Sosyal Bilimler Elektronik Dergisi**, S.6., Haziran 2012, s. 189. (183-199)

On the other hand, if the company maintains its accounting records in accordance with Turkish Accounting Standards/Turkish Financial Reporting Standards (TAS / TFRS), other comprehensive profit recorded in equity in the current period (loss) items are as follows; changes in the revaluation surplus of tangible and intangible assets, gains or losses arising from the fair value differences of investments in equity instruments, actuarial gains or losses in defined benefit plans, gains or losses arising from the translation of financial statements of subsidiaries in the foreign country, cash flow risk the effective parts of the gains or losses arising from the hedging instruments and the change in the fair value that can be attributed to changes in the credit risk of a financial liability classified as the financial asset at fair value through profit or loss¹⁴.

IV. Financial Analysis: Don't Use the "Window Dressing for Balance Sheet"

Financial statements analysis refers to the relationship between financial decisions and investment decisions. One of the most important goals of the analysis is to determine the firm's value by using the financial statements of the company.¹⁵ In addition to this goal, financial statements analysis is very important for the financial institutions that allocate credit lines and provide credit facilities. Admittedly, the evaluation of the financial statements of a firm applying for a loan is one of the most important tools and elements of the credit decision making process. With the help of financial statements analysis, it can be avoided to take risky and inefficient credit decision.¹⁶

While economic-financial analysis deals with the changes in economic and financial structures, on the other hand, it focuses on the financial activities within the business. There is a need to be consistent between the liquidity of the economic structure and the obligations of the financial structure.¹⁷

In order to ensure that the financial analysis report is prepared in a consistent, accurate and effective manner, the financial statements must be created in a manner consistent with the legal frameworks. The personnel involved in the preparation of the financial statements should be aware of the current laws and practices related to accounting. All activities related to the business must be accounted for correctly. False and incomplete information entry or blacking out in the firm's accounting system will place the company in a difficult position both in the eyes of government agencies and lender institutions. Due to the fact that accounting systems are not fully established in underdeveloped and developing countries, the financial statements of many companies are incorrectly prepared and there are many negative consequences including tax revenue loss by the government.

¹⁴ Hikmet Ulsan, "Kapsamlı Kâr (Zarar): Raporlama Yöntemi Tercihleri Ve Finansal Performansın Raporlanmasına Etkisi Üzerine Bir Araştırma", **Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi**, Cilt 14, Sayı 2, 2013, s. 50.

¹⁵ Jane A. Ou and Stephen H. Penman, "Financial Statement Analysis And The Prediction Of Stock Returns", **Journal of Accounting and Economics**, 11 (1989) 295-329. North-Holland, p. 295.

¹⁶ Edward I. Altman, "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy",

The Journal of Finance, Vol. 23, No. 4 (Sep., 1968), p. 607.(589-609)

¹⁷ Anna Maria Gil-Lafuente, **Fuzzy Logic in Financial Analysis**, 1st ed., Berlin, Heidelberg: Springer 2005, p. 95.

Sample Balance Sheet

The following table shows an example of a balance sheet prepared in accordance with the Turkish Tax Procedure Law. The regulations that are subject to TAS and TFRS are ignored when preparing the balance sheet. The sample balance given below does not include any modifications regarding *window dressing*.

CURRENT ASSETS	560.000	SHORT TERM LIABILITIES	250.000
Cash and Cash Equivalents	10.000	Bank Credits (Short Term)	70.000
Buyers	300.000	Accounts Payable	130.000
Notes Receivable	100.000	Notes Payable (Short Term)	50.000
Finished Goods	100.000	LONG TERM LIABILITIES	180.000
Advances Given For Purchases	50.000	Bank Credits (Long Term)	30.000
FIXED ASSEST	100.000	Due to Share Holders (Long Term)	150.000
Transportation Vehicles	100.000	SHARE HOLDER'S EQUITY	230.000
TOTAL ASSETS	660.00	Capital	200.000
		Period Profit	30.000
		TOTAL LIABILITIES	660.000

The most commonly applied window dressing technique is to show bank loans less than they actually are. In such a case, the person preparing the financial analysis report should be very careful. Well, when you encounter such a balance sheet window dressing, what should you do? The first step is to apply for Central Bank of Turkey in order to access company's credit records.

For example; let us assume that the total bank loans in the balance sheet presented by the company is TL 1,200,000. Whereas, according to central bank records, the total bank credit risk of the company should be TL 2,500,000. In this case, there are two ways for the bank officer to follow in relation to the bank loans account. Either deduct the loan difference directly from the share holder's equity or contact the company officials to try to learn the cause of this discrepancy. If the bank officer chooses the first option, all financial ratios of the firm will be disrupted. This will cause the firm not to take out the loan requested or to get a lower amount than expected. As can be seen in our example, the slightest mistake in the financial statements can lead to difficult losses.

The most important window dressing transactions regarding the names and the numbers of the accounts that affect the balance sheet and proposed solutions are given below:

100-Cash:

A standard formula application cannot be made because of the different aspects of the activities of the companies in determining the reasonable amount of the balance of the cash balances. Therefore, considering the statements of the company, the company officer can determine a reasonable amount as a result of a subjective evaluation. However, due to the fact that the accounting is kept out of the structure or the official records are delayed by the accountants, the amount to be considered as reasonable should be based on the average weekly turnover. In cases where there is a capital

increase in the relevant period and capital inflows except for the capital reserves and the reserves of the company are ensured, it is added to the outstanding capital in the equity.

102-Banks:

It is the account of the deposit movements in domestic and foreign banks and similar financial institutions. If it is determined that there are blockage amounts in this account, the related amount should be monitored in 248-Other Financial Non-Current Assets account according to the maturity of the blockage.

120-Buyers:

If it is determined that there are non-commercial receivables in the relevant account, such amounts are evaluated in the Other Receivables account.

In the account in question, the amounts that are continuous since the previous period / periods or the receivables with a maturity of more than 1 year are transferred to the long term (220-buyers).

In case the receivables are taken from the shareholders or the group companies in the relevant account, the mentioned amounts are transferred to the related accounts according to their content.

In case of both the debt and the receivable to the same person / company, the relevant amounts should be deducted.

121-Notes Receivables:

In case the continuity amounts are found in the relevant account since the previous periods and in the presence of checks / bills from the partners / group companies, the applications for the 120-Receivables account are valid. Receivables notes whose maturity is determined to be longer than one year are evaluated in the long term (221 accounts).

126-Deposits and Guarantees Given

The content area is learned and transferred to 226 accounts in the long term according to its maturity.

131-Due from Share Holder's:

In relation to the said account, the debts to the short-term shareholders (331 accounts) and the debts to the long-term shareholders (431 accounts) are mutually deducted from the related accounts if there is a balance of the same company partner. In cases other than that, it is considered as the relevant account cash account and if there is a capital increase in the relevant period and in case of cash inflows other than the previous year's profits and capital reserves, capital reserves are added to the unpaid capital account. In cases where we can only certify that the funds of the shareholders have been repaid, or if it is determined that they are paid from the financial statements of the following period, the account must be used. In other cases, it must be followed at 231 Account. (If it is confirmed that the non-prepaid expenses are followed by the company account in the construction companies with the work in progress, this amount will be transferred to the General Construction and Repair Costs account for 170- years). Also in the individual companies, the amount in the said account is deducted from equity.

132-Due from Affiliates:

If the receivable from the group companies is commercial, it will be evaluated in payables / receivables account.

If the group has a financial support to the subsidiaries, it should be evaluated in the payables / receivables Account

15-Stock (Inventory) Accounts:

As in the cash account, there is no definite application to determine the amount that can be considered reasonable in the relevant account. Therefore, the reasonable amount can be found as a result of the subjective evaluations of the company's activity (production, trade, etc.) depending on the product and the sector. If an amount is considered to be higher than the reasonable amount in the related accounts, this amount is considered among the fixed assets. Stock accounts should be examined in terms of content as well as quantity. If there are products that are outdated, defective, or otherwise have low sales ability in stock, they should also be evaluated in fixed assets.

In construction companies, it is observed that the expenses related to the ongoing works are followed up in these items and if this situation is determined, the related amounts should be transferred to 170-Construction and Repair Costs Spread Over Years Account. In addition, private construction work is completed and ready for sale apartments are tracked in the account of products. If it is determined that the apartments followed in this account are not ready for sale, the related amount is transferred to 160-Special Construction Expenditures Account.

180-Short-term Prepaid Expenses and Accrued Income:

Interest in the relevant account for more than one-year maturity, etc. If they are found to be expenses, these amounts are transferred to long term (280 accounts).

193-Prepaid Taxes and Funds:

If there are withholding and funds related to the ongoing works in the account, they are transferred to 295-Prepaid Taxes and Funds account.

242-Affiliates:

This account shows the capital share of the company in another company. If the amount in this account is higher than the amount in the other company's capital account, the shares of the group company will be acquired above the nominal value in order to transfer funds to the said company. In this case, the difference between the amount in the company's 242 account and the group of 500 (capital) accounts of the group company is considered as the share of the company.

280-Long-term Prepaid Expenses and Accrued Income:

Interest on less than one-year maturity, etc. If the expenses are determined, the mentioned amounts are transferred to the short term (180 accounts).

300-Bank Loans:

Loans with a maturity of less than one year are traced in this account. The amounts determined to be longer than one year must be taken to the long term (400 account).

Comparison of Cash Loan Risk Amount and Balance Sheet Records in CBRT (Central Bank of Republic Turkey) Risk Centralization Records (Combined -Mixed Records): If the cash loan amount in the combined records is higher than the cash loan amount (total of 300 and 400 accounts) in the balance sheet, the difference between the amounts included in the bank loans account is primarily provided by the partners. Support (431 Acc.), if any, should be deducted from the joint support, or should be added to the Receivables from Long Term (231 Acc.). If there is a cash capital increase in the relevant period, the difference in the difference is also evaluated as the receivables from the shareholders and the capital payment should be added to the unpaid capital (501 Acc.) Assuming that it is made by the bank's resources. In case of individual companies, the differences are deducted from equity.

It should be kept in mind that the cash credit risk difference is transferred to the bank loans account on the liabilities side of the balance sheet and on the other hand it can be added to the asset account if it is determined that the asset is used in the financing of the asset. In addition, rediscount and / or accrual amounts determined in the balance sheet must be included in the bank loans in the balance sheet.

301-Financial Lease Payables:

Leasing credits with a maturity of less than one year are followed in this account. The amounts determined to be longer than one year must be taken to the long term (401 account).

In the event that the amount of the leasing loan is higher than the total of leasing credits (sum of 301 and 401 accounts) in the balance sheet, the difference amount added to the passive portion of the balance sheet should be added to the 260-rights account in the asset. In addition, rediscount and / or accrual amounts determined in the off-balance sheet should be included in the leasing credits in the balance sheet.

309-Other Financial Liabilities:

Other financial liabilities with a maturity of less than one year (factoring, etc.) are followed in this account. The amounts determined to be longer than one year must be taken to the long term (409 accounts).

In the event that the factoring credit amount in the combined records of CBRT is higher than the total of factoring loans (total of 309 account and 409 account) in the balance sheet, the difference amount added to the liability portion of the balance sheet should be actively added to 126- Deposits and Guarantees given.

320-Sellers (Suppliers):

If the non-commercial debt amount is determined in the relevant account, this amount is transferred to the other payables account.

In case of debts with a maturity of more than one year, the related amount is taken to the long term (420 account). If the accounts of the relevant account and the group companies appear debts, the applications in the 120-Buyers account apply.

321-Notes Payable:

Debt securities whose maturity is determined to be longer than one year are evaluated in the long term (421 account). In case the checks / bills given to the partners / group companies are found, the applications made for the 320-Sellers account apply.

331-Due to Share Holder's:

Such account shall be considered as long-term (431 Acc.) if the account contains the source inflow provided in the form of the cash conversion of the personal assets of the partners or the acquisition of the resources obtained from the personal activities of the partners. In the case of individual companies, the amount in the account in question is added to the special funds account in equity.

However, the transactions that cannot be made out of stocks in some sectors and that are not reflected in the sales are reflected to the shareholders through the Accounts Payables Account. In case of detecting such transactions, the capital increase is also realized by the accounts of the shareholders; the increased capital amount must be deducted from the inventories.

500-Capital Accounts:

In the event that a capital increase is made in the company's records (capital increase is not met with capital correction positive differences, capital reserves, profit reserves and retained earnings), the surplus seen in the cash account, the accounts receivable account from the shareholders, the accounts account, the accounts receivable account and the invisible amounts in the inventory accounts should be examined carefully and the amounts required should be considered as unpaid capital.

Conclusion

In this study, the importance of financial analysis report, balance sheet items and a few window dressing types for balance sheet are emphasized.

Nowadays, the importance of financial statements analysis is increasing. In particular, banks and investors carefully examine the financial analysis reports of companies before making strategic decisions. Therefore, the financial statements used in forming the financial analysis report should be prepared in a correct, consistent and transparent manner.

If any manipulative transactions are carried out in the financial statements, the prepared rating report will never give the correct results. Notably, if the ratio analysis is used, the rating score of the company will deviate from what it is supposed to be. Thus, underwriters should be very careful about *window dressing*. There are many window dressing approaches used in financial statements. Above, only a few are given for the balance sheet.

In order for the financial statements to be ready for the financial analysis report, all window dressing types must be eliminated. Currently, all transactions related to this are executed manually by bank officers. For future research, studies to develop an automated computer system to complete these processes could be helpful.

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THE IMPACT OF EXTERNAL DEBT AND ECONOMIC GROWTH ON BRICST COUNTRIES INFLATION RATES ¹

Hüseyin ÇETİN ²



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² Dr. Öğr. Üyesi., Bursa Teknik Üniversitesi.

1. INTRODUCTION

According to **Evgin(2000)**, a state accepts external debt to a point where its marginal social utility is equal to its marginal social cost and according to **Evgin(2000)**, state is like individuals. There are two different views with regard to the impacts of external borrowing on inflation levels. While one view supports that external borrowing leads prices to increase, the other supports that it causes a deflationary impact via having a restrictive function in an economy (**Adıyaman, 2006**). Higher inflation diminishes competition in the goods sector with trading partners, diminishes trade and for that reason, leading an current account deficit problem in the balance of payments (**Ambler, 2003**). Although economic growth can measure the performance of economy, due to scarce resources, fast economic growth can have inflationary influence on economies. In the literature, there are different views about the relationship between inflation and economic growth. In the literature, there are many studies that focus on the impact of inflation rates on economic growth. Nevertheless, there are limited studies about the impact of economic growth on inflation rates. For that reason, in that research, the impact of economic growth on inflation rates for BRICST countries will be found.

In that research paper, the impact external debt and economic growth on BRICST countries inflation rates will be found for the periods between 1970-2016. In the second section, related literature review about the topic will be done. In the third section, related theories and equations will be used and new model will be developed. In the fourth section, GMM-panel data analysis and panel quantile regression analysis will be done. In the fifth section, conclusions and recommendations will be given.

2.LITERATURE REVIEW

Metin(1998)implemented a cointegration technique to analyse the relationship between budget deficit and inflation in Turkey and unearthed that inflation in Turkey is significantly influenced by budget deficits.

Boschen and Weise(2003) analysed different components that are related with inflation. They analysed the beginnings of inflationary periods using a pooled data set by adding 73 inflation episodes in OECD countries since 1960. They found that national elections and high real growth targets are the most significant factors that causes inflation episodes.

Aisen and Veiga (2008) analysed the components of the inflation volatility utilizing a linear dynamic panel data models and GMM technique. They unearthed that higher political instability and lack of central bank independence led more volatile inflation rates.

Reinhart et al.(2010) found that there were no sustainable relationships between inflation and high debt levels in advanced economies. Nevertheless, higher debt levels in developing economies were related with high inflation.

According to **Ogunmuyiwa(2011)**, government debt-to-GDP ratios can deteriorate economic growth and have immediate impacts on inflation and national solvency.

In a research paper by **Karakaplan(2009)**, the following two hypotheses were implemented: The first hypothesis indicated that the external debt would have less inflationary influence if developed financial markets exist; the second is that the impacts of the components of inflation are not homogenous across countries in their extent and signs. An unbalanced panel data set were used in the research and that 121 countries were included in different groups within the time period between 1960-2004.

Aisen and Veiga(2006) found that there was a significant relationship between a country domestic and international borrowings, interest rates, budget deficits, and inflation. They mentioned that the external finance deficit increased interest rates and inflation.

Ulusoy and Küçükkale(1996) indicated that external debt rose the cash capital accumulation of a debtor country in terms of foreign exchange. If this surplus cash is used in unproductive areas due to an inadequacy of investment incentives and with a intense consumption, it leads domestics prices to increase.

Evgin(2000) mentioned that one of the impact of external debt increases is increased interest rates. A state can increase the interest rates of its bonds to reduce budget deficit. The rise in interest rates leads to adverse influence on consumption and investment expenses.

Evgin(2000) mentioned that an expansionary monetary and budgeting policy may lead economic crises. Similar crisis were happened in Germany in 1920s and in the USA in the 1930s. It was indicated that sustainable economic growth can be achieved through application of a steady monetary policy and sustainable budget discipline. With these policies, interest rates can be declined and public debt problem can be solved.

Ekinci(2016) researched about the impact of external debts on inflation in Turkey within the period of 2003 to 2015. In this context, the impact of external debt was analysed via implementation of a simple linear regression analysis by using both CPI and the PPI. It was mentioned that both consumers and producers were adversely influenced by external debt.

Neyapti(2003) utilized a panel data set by adding developed and less developed countries in the analysis and unearthed that the financial market development and central banks independence is effective on the influences of budget deficit on inflation.

Dewan and Hussein(2001) found that inflation was negatively correlated to growth for 41 middle-income developing countries dataset.

According to Du Plessis(2005), inflation does not stimulate rapid economic growth. It was mentioned that many central banks around the world, including the South African Reserve Bank have endeavoured to reduce inflation rates and the target is to reach price stability.

According to **Munyeka(2014)**, the structuralists asserts that up to certain critical inflation rate, there is a positive relation between inflation and growth.

Fischer(1993) also supported that inflation would have adverse influence on investment. He asserted that inflation would have negative influence price mechanism, and then negatively influence price level that will have impact on the effective allocation of resources. That impact will have negative relation with economic growth.

Khan and Senhadji(2000) implemented economic estimation tool to observe the threshold of inflation. They observed the break points of 1-3% for developed countries; 7-11% for developing countries; and they mentioned that above break points, inflation negatively relates with economic growth.

Tobin(1965) asserted that inflation was positively related with economic growth.

According to **Mundell(1963)**, inflation can permanently augment output growth rate by increasing capital accumulation.

Ghosh and Phillips(1998) unearthed that within the boundaries of very low inflation rates, inflation and growth were positively related.

Mubarik(2005) also endeavoured to calculate threshold level of inflation for Pakistan. He unearthed that 9 percent threshold level of inflation and inflation above that influenced economic growth adversely.

By implemeting VAR Granger causality test, **Chimobi(2010)** researched about the relationship between inflation and economic growth in Nigeria and unearthed that unidirectional causality existed from inflation to growth.

3.THEORETICAL FRAMEWORK

Karakaplan(2009) used **Neyapti (2003)**' budget constraint equation of the government. Same theory will be used in the research. That model will also be expanded and new model will be generated. **Neyapti(2003)** indicated that the account deficits are financed by debt generation or issuing money. In the model, G indicates government expenditures, T indicates revenues from tax, r indicates nominal interest rate, B is government debt, ΔM =Money supply change, μ indicates the lack of financial market development

$$\Delta M_t = \mu(G_t T_t + rB_{t-1}) = \mu \cdot Def_t \dots\dots\dots 1$$

And Def indicates financing requirements of the government. If financial markets are fully developed, $\mu=0$. That means external debt is not inflationary. If financial market development is not adequate, $\mu=1$. That means external debt is inflationary(**Neyapti 2003**). In that research, it is assumed that BRICST countries' financial markets are not well developed compare to developed nations. The equation(1) can be converted as

$$\Delta M - \Delta T = \mu^*(G_t T_t + rB_{t-1}) = \mu^* \cdot Def_t \dots\dots\dots 2$$

T denotes technological change. μ^* is assumed to be between 0 and 1. Model 2 indicates that μ can be diminished by increased technological impact.

Assuming that developed nations also enhance their technologies. The model is derived as follows for developed nations.

$$\Delta M - \Delta T^* = \mu(G_t T_t + rB_{t-1}) = \mu \cdot Def_t \dots\dots\dots 3$$

When developed nations advance their technologies, market share for export of developing nations diminishes. So in order solve that problem, technological change of developing nations has to jump to catch the developed nations. That can be shown as follow.

$$\Delta T > \Delta T^* \dots\dots\dots 4$$

For BRICST countries the model equation is generated as follow.

$$\Delta M - \Delta T + \Delta T^* = \mu^{**}(G_t T_t + rB_{t-1}) = \mu^{**} \cdot Def_t \dots\dots 5$$

Finally μ^* becomes μ^{**} . Since developing nations can lose market share with degree of technological jump of developed nations and μ is expected to diverge from 1 if they advance their technologies more than developed nations. In addition, financial market development parameter will be added to model. Financial market development can also achieved by creating Technology Stock Exchange Market. Assuming one developing nation state creates new Technology Stock Exchange market. It is also assumed that prices are not allowed to over-priced for bubble and market is efficient. ΔC is defined as capital change due to the new Technology Stock Exchange Market. The new model is generated as follow.

$$\Delta M - \Delta T + \Delta T^* - \Delta C = \mu^{***}(G_t T_t + rB_{t-1}) = \mu^{***} \cdot Def_t \dots\dots 6$$

μ^{***} is less than μ^{**} . Lastly, it is also assumed that developed nations have rolled out new Technology Stock Exchange Market like Newyork NASDAQ. It is highly probable that they will use their financial markets and attract more capital compare to BRICST countries. ΔC^* is defined as capital change due to the new Technology Stock Exchange market in developed nations. It was assumed that ΔC^* were more than ΔC . The new model is generated as follow. μ^{****} is more than μ^{***} .

$$\Delta M - \Delta T + \Delta T^* - \Delta C + \Delta C^* = \mu^{****}(G_t T_t + rB_{t-1}) = \mu^{****} \cdot \text{Def}_t \dots\dots\dots 7$$

Lastly cartesian impact of techology and financial market development with Technology Stock exchange market will be added to model. New Cetin Techno Capital Model(2019) (CTCM) is generated as follow.

$$\Delta M - \Delta T + \Delta T^* - \Delta C + \Delta C^* + (\Delta C^* - \Delta C)(\Delta T^* - \Delta T) = \mu^{*****}(G_t T_t + rB_{t-1}) = \mu^{*****} \cdot \text{Def}_t \dots\dots\dots 8$$

In the the previous models, technological capital change of advance nations is more than the technological capital change of BRICST countries. In order to decrease μ^{*****} , technogical impact of developing nations should surpass the capital change from New Technology Stock Exchange Market of developed nations and technological impact of developed nations. In the long term, with new technological changes more capital can reach to technology stock markets of BRICST countries.

In addition, **Munyeka(2014)** mentioned about how economic growth lead to inflation. In **Munyeka(2014)**' research paper, it was mentioned that when SRAS is elastic, higher level of AD can by met by rise in economic growth, but when SRAS becomes inelastic, the trade-off between growth and inflation deteriorates. An increase in AD tends to cause inflation rates to increase rather than augmented employment and output. The tradeoff between growth and inflation can be removed if an economy is able to improve supply side performance. LRAS can augmented by having sustainable improvements in productivity, rise in technology levels and the benefits that derives from product and process innovations. Potential output is also augmented by increasing the stock of capital goods via intense investments and through an increase in labour supply. An outward shift in LRAS indicates that a higher level of aggregate demand can exist without increased general price level (**Gillman, Harris and Matya, 2004**).

3. Data Description

ΔGDP : ΔGDP means change of gross domestic product. Gross domestic product change indicates economic growth. Economic growth is used to measure the economic performance of countries.

ΔCPI : ΔCPI means change of consumer price index. It is a index that is mostly used in inflation calculations.

ΔED : ΔED means change of external debts. That variable represent the aggregate amount of external debt change for each BRICST countries.

Data were secondary and data were retrieved from Global Financial Development database.

4.METHODOLOGY

In that research, dynamic panel GMM method and quantile regression analysis was applied for the period between 1970-2016. Since unbalanced data was used for Brazil, Russia, India, South Africa, Turkey, dynamic panel GMM method was applied.

4.1. Panel GMM Test

In Panel GMM Test, following equation is implemented. In order to remove fixed country specific effect, data were first differenced. First difference removes u_{it} .

$$CPI_{it} = C + \beta_1 CPI_{i,t-1} + \beta_2 ED_{i,t} + \beta_3 CPI_{i,t} + v_{it} \dots \dots \dots 9$$

$$v_{it} = u_{it} + \varepsilon_{it} \dots \dots \dots 10$$

$$\Delta CPI_{it} = \beta_1 \Delta CPI_{i,t-1} + \beta_2 \Delta ED_{i,t} + \beta_3 \Delta CPI_{i,t} + \Delta v_{it} \dots \dots 11$$

$$v_{it} = \varepsilon_{it} \dots \dots \dots 12$$

Table 1. Panel GMM Test(1970-2016)

Dependent Variable: CPI1
Method: Panel GMM EGLS (Cross-section SUR)
Date: 10/20/18 Time: 22:14
Sample (adjusted): 1973 2016
Periods included: 44
Cross-sections included: 6
Total panel (unbalanced) observations: 191
Cross-section SUR instrument weighting matrix
Iterate coefficients after one-step weighting matrix
Cross-section SUR (PCSE) standard errors & covariance (d.f. corrected)
Convergence not achieved after 831 total coef iterations
Instrument specification: C
Constant added to instrument list
Lagged dependent variable & regressors added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.818173	0.654066	-1.250903	0.2125
CPI1(-1)	0.939376	0.015464	60.74524	0.0000
ED1	0.213676	0.071116	3.004592	0.0030
GDP1	-0.160347	0.064158	-2.499267	0.0133
AR(1)	0.823186	0.105826	7.778708	0.0000
AR(2)	-0.120069	0.078947	-1.520883	0.1300

Weighted Statistics

R-squared	0.998961	Mean dependent var	9.000820
Adjusted R-squared	0.998933	S.D. dependent var	8.910150
S.E. of regression	0.289324	Sum squared resid	15.48609
Durbin-Watson stat	1.992250	J-statistic	0.152681
Instrument rank	8	Prob(J-statistic)	0.926501

Unweighted Statistics

R-squared	0.996843	Mean dependent var	2.267036
Sum squared resid	11.20825	Durbin-Watson stat	1.867541

Inverted AR Roots .63 .19

Panel GMM test was applied with Cross-section SUR. Durbin-Watson statistic was found as 1.86. Since 1.86 is close to 2, there is no autocorrelation problem in the model. Moreover, the model R Square is %99,8. That means that first lagged of consumer price index, external debt and economic growth can together explain the change of BRICS countries inflation rates. Since J-statistic is 0.92, there is no overidentification problem in the model. For validity of Panel GMM test, AR(1) p value should be less than 0.05 and AR(2) p value should be more than 0.05. In the Panel GMM model(Table 1), it has been found that AR(1) p value is 0.00 and AR(2) p value is 0.13. Serial correlation requirement was also validated.

For BRICST countries panel data set, it has been found that external debt had significant positive impact on inflation rates between the period of 1970-2016. In

addition, it has been unearthed that economic growth had significant negative impact on inflation between the period of 1970-2016.

4.2. Quantile Regression

In addition, time series analysis was used with quantile regression for India, Brazil, China and Turkey. Panel data quantile regression analysis was implemented. For quantile regression analysis, following equations were applied.

$F(y)=\text{Prob}(Y\leq y)$13

$0<\tau<1$14

$Q(\tau)=\inf\{y:F(y)\geq \tau\}$15

is called the τ (Koenker,2000).

In that research, τ was choosen as 0.80. The equation 15 becomes

$Q(0.80)=\inf\{y:F(y)\geq 0.80\}$16

The τ -sample quantile function can be indicated as

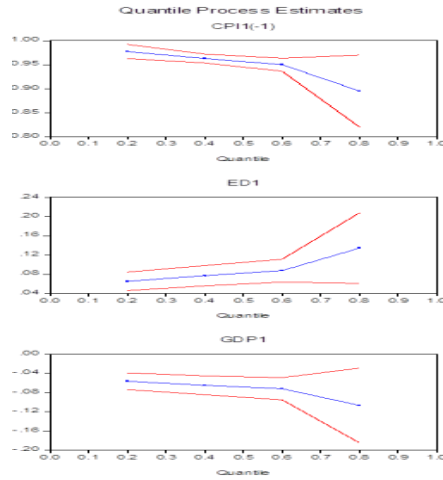
$$\underset{\theta \in \mathbb{R}}{\operatorname{argmin}} \sum_{i=1}^n \rho_{\tau}(y_i - \theta),$$
.....17

It was found that external debt had positive significant influence for BRICT countries inflation rates and economic growth was found to have significant negative impact for inflation between the period of 1970-2016. Since Russia data was not available, Russia was not included in quantile regression analysis.

Table 2. Quantile Regression Result with tau=0.8

Quantile Process Estimates
Equation: UNTITLED
Specification: CPI1 CPI1(-1) ED1 GDP1
Estimated equation quantile tau = 0.8
Number of process quantiles: 5
Display all coefficients

	Quantile	Coefficient	Std. Error	t-Statistic	Prob.
CPI1(-1)	0.200	0.977364	0.007506	130.2174	0.0000
	0.400	0.962868	0.004729	203.6021	0.0000
	0.600	0.949944	0.006931	137.0482	0.0000
	0.800	0.895132	0.038216	23.42302	0.0000
ED1	0.200	0.065217	0.009798	6.655868	0.0000
	0.400	0.076962	0.010748	7.160310	0.0000
	0.600	0.087503	0.012151	7.201026	0.0000
	0.800	0.134463	0.037519	3.583892	0.0004
GDP1	0.200	-0.056581	0.008897	-6.359792	0.0000
	0.400	-0.064976	0.009986	-6.506692	0.0000
	0.600	-0.072165	0.011769	-6.131776	0.0000
	0.800	-0.106991	0.039733	-2.692733	0.0077

Figure 1. Quantile Process Estimates

Quantile Process Estimates(Figure 1) indicates that when quantile increases up to $\tau=0.8$ external debt influence increases in panel data set. On the other hand, when quantile increases up to $\tau=0.8$ first lagged of CPI and GDP influence diminishes.

5. Comparative Analysis of BRICST Countries CPI Change

In addition, in that research, comparative analysis of BRICST countries was done in terms of CPI change. Data was separated into two periods. First period is before global financial crisis (2000-2008); second period is after global financial crisis(2008-2016). The results are based upon GMM Panel Cross Section SUR.

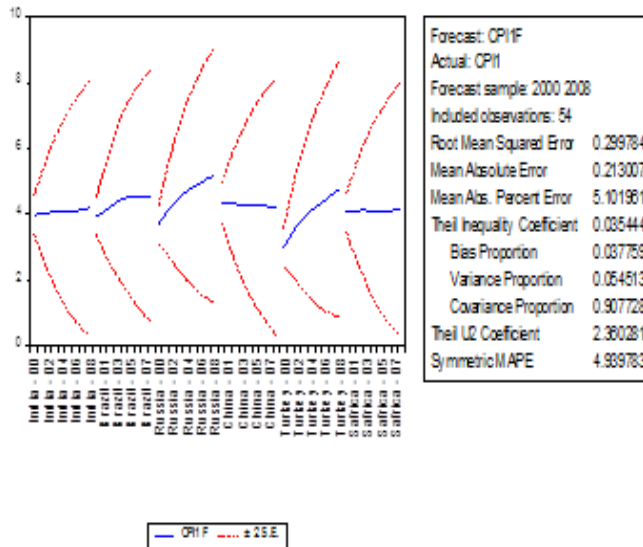
Figure 2. Comparative Analysis of BRICST Countries Before Global Financial Crisis

Figure 2 indicates that the slope changes of CPI curves is not high. It has been found that before global financial crisis of 2008, Russia and Turkey has similar CPI change.

Figure 3. Comparative Analysis of BRICST Countries After Global Financial Crisis

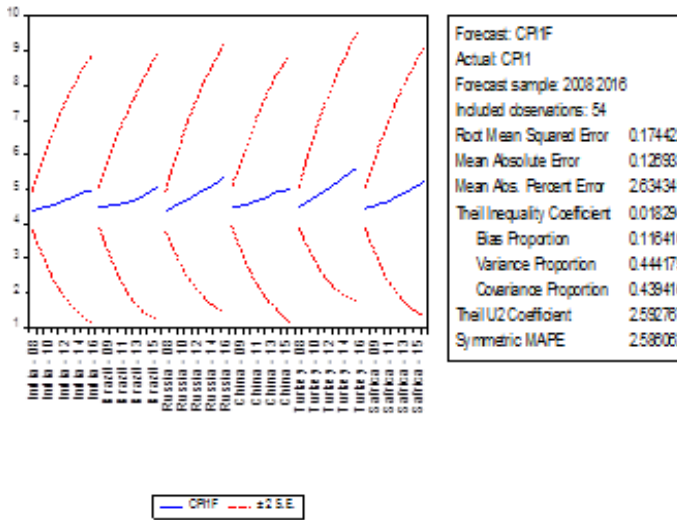


Figure 3 indicates that slopes of CPI curves increased sharply with respect to before global financial crisis. It has again been found that Russia and Turkey inflation change is similar.

CONCLUSION

In that research, panel data analysis was implemented. Since unbalanced data were used, Panel GMM EGLS method with Cross Section SUR was applied for the period between 1970-2016. It was found that external debt had positive significant impact and economic growth had negative significant influence on the inflation rates of BRICST countries panel data. In addition, two forecasting sample periods were used to find the inflationary trends of BRICST countries in Panel GMM EGLS method. First sample period is 2000-2008 and second sample period is 2008-2016. When external debt and economic growth is used as independent variables, Russia and Turkey has same inflationary trend in two forecasting periods. Moreover, quantile regression analysis was applied for same panel data. Up to 0.80 quantiles were used. It was again found that external debt had positive significant impact on inflation and economic growth had significant negative impact on inflation between 1970-2016. When quantiles increase, external debt influence increases and economic growth influence decreases.

BRICST countries should increase research and development budgets more. By implementing advance technology for exports, they can increase economic growth and transfer surplus funds to financial markets to diminish the external debt adverse influence. In addition, in order to diminish the negative impact of external debt, Turkey has to develop new financial markets. New financial market can be Technology Stock Exchange Market. In that market, high tech and medium and basic tech companies shares can trade. Turkish State can also create new technological start ups and those companies can also participate in Technology Stock Exchange Market. In order to increase competition, foreign high tech and medium tech companies can also participate

in that market. But their participations should be limited to minimize the systematic risk of local high tech, medium tech and basic tech companies. Moreover, big firms in Turkey can roll out subsidiaries for technological firms and they can also participate in that market. Tax incentives should be given for technological companies. By efficient technology stock exchange market, Turkish firms can export more and current account deficit can be reduced. With decreased current deficit, Turkish State can use external debt for productive investments. According to CTCM model, constructing Technology Stock Exchange market alone is not adequate; technology jump is also necessary to reduce budget deficits. With technology jumps, Technology Stock Exchange market can work more efficiently and more capital can reach to Technology Stock Exchange Market.

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Argmin Function [13.05.2019]

WHO IS THIS WOMAN IN THE BYZANTINE EMPIRE?: MARIA SKLERAİNA

Dilek MAKTAL CANKO¹



¹ Res. Assit. Dr. Dilek Maktal Canko, Ege University, Faculty of Letters, Department of Art History.

Maria Skleraina was the mistress of Constantine IX. Monomachos, who ascended the throne as the third husband of Empress Zoe at the end of the Macedonian Dynasty of the Byzantine Empire. When the Empress married Monomachos, she invited Maria to Constantinople and then allowed the mistress to live in the palace. In the palace she lived with the Empress Zoe and Theodora, the legal heirs of the Macedonian Dynasty, and, with the title of "*sebaste*"², she was given a share of the imperial guards and imperial proceeds. So why did Zoe grant her husband's mistress so many privileges and even protect her against the people who didn't want to? In order to answer this question, it is necessary to look at the life of the Empress Zoe. It is very important that Psellos, the author of this period, told us about this subject.

Empress Zoe

Byzantine Empire lived its second golden age³ with the emperor Basil's II (born 958/976-1025) brother Constantine who married the beautiful Helena, the daughter of Alypius, who was of a noble family, and had three daughters (Zonaras 2008, 46). Constantine VIII (born 960/1025 - 1028) as the second daughter of the emperor, who will later emerge from the throne Zoe, was a beautiful girl and would have aroused respect around (Psellos 1992, 26). Zoe, who spent her whole life in the palace, was the leader woman in the palace due to the absence of her uncle's wife and because her younger sister was closed the monastery.

The clues about Zoe's personality came from the Chronographia which was made by the palace philosopher and historian Michael Psellos, who lived at the same time as her. Psellos's reviles and in places praises about Zoe suggests to us that it describes with an objective point of view.

In the lines where he talks about her personality characteristics, Psellos states that Zoe is not very interested in what job women are doing and is surprised. It is normal for Psellos to be surprised that Empress Zoe rejected spending most of her time to weaving, given that the work most imposed on women in Byzantium was to do spinning and weaving. According to Psellos, Zoe's hands were not very inclined to handwork. Zoe had no interest in beautiful dresses and stylish looks. Her only curiosity and energy was to develop new kinds of perfumes and make new ointments. She invented some of them herself. Her bedroom was similar to the blacksmith shops; mangals and burners were burned on all sides. Every servant had a special duty; one perfumed bottles, the other would mix. Zoe wouldn't be bothered by these angry fires. Zoe who was a scientist, was also very religious. For a moment, she did not remove the name of God from her lips. She spoke with the icon of Jesus, whom she had never left by her side, and prophesied when the statue changed color. If the color of the statue faded, she would be sad; but if the sculpture was red, and the bright lights shed, it would bring goodness to the future (Psellos 1992, 113-114). One day she would be very soft, compassionate, and the other day she would be overly nervous and tense. She frequently used the punishment of eye carving which her father often used. She was open handed as well as she was so cruel to her people. While giving money with one hand, she extended the other hand to God and prayed to give favor to those that she had rewarded (Psellos 1992, 146-147). Being a member of the Macedonian dynasty, carrying the blood of her uncle Basil II. and her father Constantine VIII may be a major responsibility, it must have created confusion in

² It is an empress title given in exchange for Augustan, in position ranking it is lower than Augustan.

³ When the Empress Zoe's uncle Basil II died in 1025, the Byzantine Empire had reached its largest limit since Iustinianos and his wife Theodora period. For the writers who named the Iustinianos period the golden age, the period of Basil II was described as the second golden age due to the expansion of the imperial borders and the pride of successful conquests.

her psychology (Hill 1997, 79). However, the reason for the tides in the personality will be better understood from what she lived after her first marriage.

When Constantine VIII approached death, he had only three daughters.⁴ The most suitable candidate for marriage was her fifty-year-old daughter, Zoe. When she was a young girl, she was asked to marry the son of the Roman Empire Emperor and the Byzantine Princess Theophano's son Otto III (born 980) but Due to Otto's III sudden death, this marriage could not have happened (Garland 1999, 137; Lawler 2001, 308). In the mid-twenties after having an experience like this, Zoe refused to marry for years. Until the moment the emperor felt that death was near, Zoe, now in her fifties; had to marry his father's choice for the continuation of his dynasty⁵. Father Constantine made his choice: the candidate for the groom was *eparkhos*⁶ Romanos Argyros, who was an important figure in the senate. Romanos, who was sixty-year-old, was unable to prevent the plan even though he was married. The emperor threatened to blind his wife if Romanos did not divorce her husband in order not to oppose the marriage (Lawler, 2001, 308). In the face of this threat his wife went to the monastery; and Romanos was preparing to sit in the emperor's seat. Just a few days after Zoe and Romanos got married, Constantine died. Romanos, on November 12 1028, he was crowned as Romanos III Argyros (Psellos 1992, 28; Zonaras 2008, 48).

The emperor Romanos was embraced by the belief that the new dynasty would be from his own descendants. But there was something he didn't count on: Zoe fifty; he was sixty years old (Psellos 1992, 32). Zoe, though she knew she would not have children, she submitted to her husband's absurd wishes for a while But the emperor lost hope. He moved away from his wife (Zonaras 2008, 53), and began to be with other women (Psellos 1992, 39). Zoe was an empress that was rejected and disgraced at every turn by her husband, and no longer welcome to see her husband's face.

According to Psellos, the empress; she regarded Romanos' attitude as an insult to her noble blood, and sought anger and revenge against Romanos (Psellos 1992, 39). The court officer who took advantage of this situation eunuch Ioannes Orphanotrophos, introduced the empress with his brother. Zoe was impressed as soon as she saw this young man. The lovers were very comfortable even in the palace, they seemed to be lying in the same bed by many. Although Michael is afraid of this relationship; Zoe hugged her in front of everyone, kissing him and not hiding her relationship (Anastos 1993, 24-25).

One day, Romanos went to one of the baths near the palace and entered the pool and started swimming. But after a while, he could not breathe, he was immediately taken out of the water. After a while, he closed his eyes and breathed his last breath (Psellos 1992, 43-44)⁷. Fifty-six-year-old Zoe, who was widowed a few hours ago, married her lover

⁴ In the Byzantine Empire, when an emperor did not have a son who would rise to the throne after his death, he could lead the girl to a throne, choose to rule or choose a suitable husband to take over. However, a woman ruling the government isn't a regime wanted in Byzantium. It was preferable for a woman to marry a man and it was preferable for a man to lead the country, by marriage.

⁵ According to Byzantine historian John Julius Norwich, Zoe was looking forward to getting married to get rid of the gynaekeion, with whom she lived with her sister Theodora who she had never loved. (Norwich 2013, 215-216.) If this discourse is true; The question of why Zoe waited for her fifties to get married remains unanswered. For this reason, the thesis that Zoe's marriage was not to his own will is more realistic.

⁶ He was the '*Father of the city*', the most important civilian spot in Constantinople after the emperor. His mission was to ensure peace in the city, to maintain order among the circus parties, to control industry guilds, and in particular to control corn stock.

⁷ Psellos said Zoe slowly poisoned her husband; However, many writers acknowledge when the death was delayed he was killed by Ioannes Orphanotrophos, his brother Michael, and his

Michael, a young man of almost forty years younger. The reluctance of the Patriarch to do the ceremony was also eliminated by fifty pounds of gold given as bribes (Kalavrezou 1994, 248). The crowning of Michael IV Paphlagon (1034-1041) was brought to an end; Michael quickly established himself (Hill 2003, 47-48), or Zoe's request was accepted by the Byzantine palace or the Byzantines without being questioned. Neither the patriarch, nor the clergy, objected to Michael's ascension to the throne (Anastos 1993, 30).

Despite the positive evaluations of historians; Michael IV changed his attitude to Zoe shortly after their marriage. The reason for his bad attitude to the Empress who did him a favor could be fear: the fear of sharing the same fate as Romanos (Psellos 1992, 49). Perhaps because of this fear, Zoe had been imprisoned in the palace and forbidden her to leave the palace and prevented her from talking to anyone unless she was given special permission, he didn't want to see his wife even at his last breath (Zonaras 2008, 57). In this way, he and Ioannes who took over the administration of the whole state planned to keep the empress under strict control (Ostrogorsky, 1986, 300). Maybe; The good-naturedly wounded Michael was guilty of conscience as Zoe and his brother Ioannes had been instrumental in their evil ambitions and killed Romanos. Whatever the reason was, the result was the same: Zoe was once again humiliated and despised. She had also once more accepted and bowed down.

Realizing that his brother's health was not good, Ioannes persuaded Michael to identify the person who would take the throne after him to keep his imperial crown in his family. Of course he himself had a proposal: his nephews Michael Kalaphates. When Ioannes announced his plan to the emperor, he didn't doubt that Zoe would accept it. "Zoe does what we want. She has not been able to resist us in any way at all." The adoption ceremony took place in the Blakhernai Church in 1040 (Psellos 1992, 57).

In 1041, Michael IV retreated to a monastery and died the same day. Kalaphates by the name of Michael V was now the Byzantine Emperor. The early times of his ascension to the throne, his uncles and the emperor Michael V, who acted modestly, began to change as time passed. To his uncle Ioannes, who had brought him to the throne, he sent his thanks by exiling him to the monastery (Psellos 1992, 73). Michael V, soon threw up his hatred at Empress Zoe who was the second person who helped him to rise to the throne. He had insulted the empress every chance he had, and banished her rights to use the palace treasure, banished her from the palace by accusing her of trying to poison him. Zoe set out for Prinkipo on the evening of April 18, 1042, with her hair cut as monk women (Attaleiates 2008, 29; Psellos 1992, 132-133). "The noble Zoe worthy of wearing purple clothing" (Zonaras 2008, 71), lived in frustration after two marriages. Moreover, she had never been subjected to such great humiliation.

The fall of the empress into this situation has led many to be restless, especially in the senate. Michael V accused Zoe of attempting to poison him and sent her into exile, after saying this there was a great rebellion. Voices rose saying "We do not want to continue with Kalaphates, our protector and our mother Zoe". The rebellion, which included women and children, was all around (Garland 1999, 142). Psellos describes this confusion as divine justice because of what was done to the empress, and in this rebellion, he states that there are women who are suspected to have even left their homes (Psellos 1992, 82).

In the meantime, the Emperor did not care much about what was happening at first, but he was horrified when the insurgency broke out. The other heir of the throne

accomplices with their bare hands (Psellos 1992, footnote 43). The reason for Zoe to commit this ugly crime was perhaps to take power again, or to put an end to Romanos, who did not care much about her. nobody blamed Zoe at the time, and of course there wasn't a person in a position to blame Zoe.

Theodora, who was exiled to the Petrion Monastery during the Roman period, was brought to the city (Psellos 1992, 83-84). Meanwhile, the Emperor, who sensed fate, took shelter in the Monastery of Studios. The eyes of the emperor were carved in front of everyone with the order of empress Theodora and sent to exile by wearing the monk clothes (Attaleiates 2008, 31-32).

For seven weeks Zoe and Theodora ruled the state as the common emperor. As a rare example in history of two women in the Byzantine Empire, Zoe once again decided to marry, as the state jobs were urgently needed to be ruled by men (Garland 1999, 144). She choosed to marry Constantine Monomachos.⁸ In 1042 Monomachos was crowned as Constantine IX.⁹ The sixty-four year old Empress undressed herself to a peaceful and quite life she always wanted.

The existence of the empress Zoe (born ca.978/with her sister Theodora April-June 1042), who is a member of the Macedonian dynasty, starts with her marriages also reveals the life of the empress who is famous for the most explicit and scandalous conduct of Byzantine history (Diehl 1963, 138). It was inevitable that a childless woman who took over the throne in a big empire, such as the Byzantine Empire, would bring important responsibilities and conflicts as well as very important rights and powers (Connor 2011, 298). That's what happened for Zoe. With three marriages and one adoption, she made four men emperors. Zoe's marriages, which ended with interesting events, were unusual in terms of presenting all possible illegal and out of rule forms (Kalavrezou 1994, 245).

Maria Skleraina

Shortly after becoming emperor, Monomachos asked the Empress to allow his mistress Maria Skleraina, who had not exiled for seven years in Lesbos, to come to Constantinople. Soon after, Skleraina received two letters from the Emperor and one from the Empress, who promised her friendship and encouraged her to return. Skleraina came to Constantinople (Garland 1999, 147). Monomachos, who went out of the palace often to see his mistress, asked for a room in the palace for his mistress. Skleraina moved to the palace and to the room next to Monomachos' room. Constantine and Skleraina no longer conceal their love, they live publicly. The Empress seemed to accept this. Zoe was careful to visit the Emperor when she was convinced that Skleraina was absent (Bury 1889, 262-263).

In the foreground Zoe, Constantine and Skleraina are sitting, and in the back, in this extraordinary situation, their faces were flushed and most were whispering in a low voice. The senators called the agreement a "*love cup*". After signing the treaty, Skleraina was no longer referred to as a 'mistress' but as her empress. Gifts and stakes were shared among three women. Skleraina was there just after, Zoe and Theodora, and was behind them in official ceremonies. Psellos says everyone is surprised; many felt sorry for the omission and cheating of Zoe; Zoe didn't show any signs of sorrow in person. Zoe, smiling, seemed to be satisfied with the agreement (Psellos 1992, 111-112). The happiness and joy of Zoe in the face of this situation, which is the first and only in the history of Byzantine, suprised Psellos (Psellos 1992, 112). Maybe Zoe's happy for the first time in her life.

⁸ During the marriage of Zoe and Michael IV, the emperor did not like the rumor of love among the Zoe and Monomachos in the palace and exiled him to Lesbos. Monomachos, after staying in exile for seven years in Lesbos, this time the empress was calling him back to Constantinople to be the emperor.

⁹ For details on the marriage of Constantine Monomachos-Empress Zoe and the 11th century imperial marriages and love life in the palace, see Laiou 1992, 165-176.

Skleraina was the first woman to receive the title "*sebaste*". This title was given in 1042 by Constantine to his mistress Maria Skleraina with the consent of the two empresses (Zonaras 2008, 79). On Dumbarton Oaks Paper, an unpublished seal gives information on the entrance of Skleraina around the palace with the title *sebaste*. This seal was dated to the period between 1042 and 1045, since it was proved to belong to the *sebaste* Skleraina. Skleraina was given the imperial guards (Oikonomides 1980, 240). There were three Empress in the palace. Although Byzantine ideology only recognized the emperor's wife as empress, the conditions throughout Byzantine history often created more than one empress, which led to the development of competition in terms of both power and title (Herrin 2013, 82). But for the first time (and for the last time) the Byzantines met an empress who lived in the palace with her mistress and named her *sebaste*. Although the Empress seemed pleased with the situation, the people of Constantinople found this situation to be immoral (Psellos 1992, 112-114).

On March 9, 1044, the public clearly showed unrest. An armed suit attacked Constantine. The emperor hardly saved his life. The people rejected Skleraina. They cried out to Zoe and Theodora as "mother". Zoe didn't mind the public being agitated. But Skleraina suffered from a disease that doctors could not cure despite all their efforts. She was suffering tremendously from the pains of her chest and of asthma (Psellos 1992, 115). Maria, who Psellos found very intelligent, cultured and clever wrote a poem about her death, she passed away in 1045 (Kazhdan 1991, 1911). Constantine IX was buried beside her, not Zoe.

Discussion and a theory

Maria Skleraina is the daughter of Basil Skleros's brother which name is unknown of the Skleros family. The family of the Scleros is also the family of Theophano, the mother of Zoe's teenage fiancé, the heir of the Holy Roman-Germanic Emperor Otto III. Due to the unfortunate death of Otto III, she returned to Constantinople and refused to marry until her fifties. Maria Skleraina must have been born during Otto's death due to her age.¹⁰

In 1042, Zoe chose the exiled Monomachos as the emperor, and after Monomachos became emperor, he told Zoe about Maria as follows: "she is a woman who has lived a lot of difficulties with ruler family." Zoe sending a letter to Maria for her to come to Constantinople and to give her privileges which has never been seen in the Byzantine Empire after her arrival and most importantly showing that Monomachos and Maria's love is known¹¹ by herself will prove how important Maria is for Zoe.

¹⁰ Maria Skleraina is the daughter of her uncle and it is commonlt mixed up with the second wife of Constantine IX Monmachos, Maria (Helena) Skleros. However, Maria (Helena) was born in the first decade of the 11th century so it might be thought Maria was born then as well.

¹¹ After Maria's death in 1045, Monomachos had another mistress. The daughter of the Alan king. But Psellos described this relationship as follows: "As long as the Empress was alive, their relationship was very secretive. The emperor was going to the girl mysteriously, without been seen." (Psellos 1992, 145). If Zoe approved the relations of Monomachos, she would have to approve this relationship as well. In fact Psellos mentioned that, when he had an affair with Maria, Constantine treated Maria as his wife rather than a mistress (Psellos 1992, 111). But Monomachos lived a secret relationship until Zoe's death. This suggests that there is a special situation in accepting Monomachos relationship with Maria. In fact, this proves that Maria is an important person for Zoe as she had invited her to Constantinople, accepted her in the palace, gave her a seat of *sebaste* and shared her income from the empire, took a place behind the Empress. So who was Maria? As mentioned above, if she is the illegitimate daughter of Otto III and Zoe, this child must be the heir of the Byzantine Empire and the Holy Roman Empire. When the Macedonian Dynasty ended, an heir from the Holy Roman Empire could endanger the future

Zoe undoubtedly cared about Constantine Monomachos. In the Empress Zoe mosaic, in the middle sitting on the throne is Jesus, on one side is Empress Zoe on the other side emperor Constantine IX Monomachos is depicted (Figure 1). The emperor and the empress has turned their shoulders towards Jesus and bent their heads as a sign of their respect (Maguire 1989, 228). When we look at the mosaic carefully, it is understood that the traces of both the emperor and the early empress were due to the renewal of the portraits. The Empress is portrayed as a small-looking, thin-faced and highly youthful looking woman. However, she was over sixty years old when she married Constantine IX Monomachos. Although Psellos says that she has maintained her youth until she was seventeen, it is difficult to believe that the portrait here belongs to a woman in her sixties. Whittemore argues that the Empress revised the panel during the Monomachos period and had also portrayed herself much younger. If we look closely at Zoe's portrait, it seems that the crown on her head doesn't fit her portrait. In addition, although the writings on the heads of the Emperor and the Empress were extremely smooth, it was noted that the section where the name of the Emperor was written was bad and was with mixed letters. Also, it is seen on the scroll which is in Zoe's hand that the name of the emperor has been changed and at the head of the emperor's portrait, there are some enforcements. This situation is the clear indication that the emperor's head and name have been changed (Oikonomides 1978, 220-228). Thomas Whittemore, who opened the mosaics which were closed by the Ottomans on behalf of the Byzantine Institute in 1931, in the inscription, on the top where the name of the emperor Constantine IX. was squeezed he claimed that it suits to the name of Romanos III and therefore he has dated the original mosaic between 1028-1034 (Whittemore 1942, 18).¹²

No matter if the Mosaic was originally made during Romanos III or Michael IV period, Zoe and Monomachos had the right to change the depictions of the existing mosaic instead of making a new mosaic. Constantine Monomachos was loved and appreciated by Zoe. In the period of Romanos III, the rumors of love that came out of the secret meetings of Zoe and Constantinople caused Monomachos to be exiled and he took Maria mistress, daughter of his uncle's second wife Maria Sklereina with himself. While they spent seven years away from Constantinople and the machinations of the palace, Zoe had been; humiliated, lived a prison life in the palace (Psellos 1992, 53) and was sent into exile (Psellos 1992, 78-79). According to Psellos, who himself stated that he wrote the truth in many places (Psellos 1992, 100-102), Zoe had not objected and subjugated to all the bad behavior against her. Why was Zoe acting like this although she was a passionate and powerful woman? (Psellos 1992, 94) Actually, her destiny had changed with the eunuch Ioannes Orphanotrophos. Although the palace worker expressed his hatred for Ioannes (Psellos 1992, 40), after a period of time, he didn't go beyond what he said. In the poisoning of Romanos III (Psellos 1992, 43), despite the opposition of all high-ranking officials, hastily marrying Michael IV without the funeral leaving the palace (Psellos 1992, 47-48), adopting Michael and immediately following the death of the emperor declaring the emperor as Michael V without difficulty was because of the influence of Ioannes (Psellos 1992, 72). While the empire belonged to Zoe through the custody, and while the whole of the people were bound to Zoe, the true heir of the throne

of the Byzantine Empire. Which when Zoe goes into exile tells her uncle how much she wants to be worthy for her uncle: "You were the one who trained and educated me carefully. Because you saw the future of this empire in my hands." (Psellos 1992, 80.)

¹² He also proposed many dissertations on the reason for the changes of the figures in this mosaic. The first is that Zoe wants to immortalize him after her marriage to Monomachos, while the second one is that Zoe repaired the figures that were destroyed in the period of Michael V (Whittemore 1948, 223). However, in the following years, different scenarios have been proposed: It was proposed that the mosaic might have been made during the period of Michael IV, where the economy has undergone significant changes based on a new meaning in the mosaic coin bag and parchment scroll. (Pollick 2012, 53).

(Psellos 1992, 56-57), the reason for Zoe's subjugation to all bullying was perhaps because she had a secret that Ioannes learned in some way. Maybe the secret was Maria Skleraina. Doing what eunuch Ioannes wants without a doubt, doing all the demands of his husbands and his adopted son and not protesting was it to keep the secret safe? Was it all just to protect Maria? Was Maria Zoe's daughter in the secret pages of history? Was she a mother who instead of Zoe in her sixties portrayed her forty-year-old daughter by honoring her with being an empress in the eyes of God, as she deserves it? Or was it only a joke that was made by the clown Bolias who had entered the palace and was close to the emperor and the empress: *"I swear, Zoe gave birth to a child."*

Pictures



Figure 1: Zoe Mosaic, Ayasofya, İstanbul.

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THE EFFECT OF CORPORATE BRAND AUTHENTICITY ON BRAND LOYALTY: AN EMPIRICAL RESEARCH

Murat AKIRKAYA¹, Kazım KARABOA²



¹ Dr. ğr. Üyesi, Necmettin Erbakan Üniversitesi, Uygulamalı Bilimler Fakültesi, Ulaştırma ve Lojistik Bölümü.

² Dr. ğr. Üyesi, Necmettin Erbakan Üniversitesi, Uygulamalı Bilimler Fakültesi, Yönetim Bilişim Sistemleri Bölümü.

1. INTRODUCTION

Brand authenticity means a brand that is perceived as honest, genuine and original (Alexander, 2009: 560). Authentic brands can connect consumers with their symbolic quality at an emotional level (Morhart et al., 2015: 201). An authentic brand differentiates itself with its sincerity, commitment to quality and its connection to heritage. According to a new approach to brands' perceptions of authenticity, it is stated that an authentic brand is reliable, cares about its consumers, helps identify and create their identities and reflects continuity from past to future (Morhart et al., 2015). Authenticity can contribute to brand status and brand equity as it can create a unique brand identity. For this reason, it is very important that marketing professionals consider brand authenticity. In fact, "the essence of the brand" creates a largely authenticity. Authenticity consists of brand elements that the consumer perceives as unique. The main reason why brand authenticity is vital for brands is that being unique is an important dimension of brand identity (Brown et al., 2003: 21).

To date, the most comprehensive examination of authenticity in marketing has been carried out by Grayson. Grayson emphasized what consumers evaluate and under what conditions they evaluate and ultimately, consumers consider differences with authenticity (Leigh, 2006: 482). Grayson and Martinec (2004: 298) talk about two types of authenticity in marketing. When an object has a real spatial connection to history (ie, a context in which people and objects interact), it is called an indexical authenticity. On the other hand, if an object is reproduced precisely in the physical appearance of the original, there will be iconic authenticity. Such authenticities have no advantage over each other, nor are they specific to specific objects. As with all symbols, there is also a consumer perception in the authenticity that results from the filter of personal experiences. The fulfillment of brand authenticity requirements will contribute to the formation of trust on the customers. This will turn into customer loyalty over time (Kiyat and Simsek, 2017: 48). On the other hand, brand authenticity will create a multiplier effect that increases the impact of other brand concepts and promotional efforts. This effect will also contribute to increase the performance of the company (Lynch, 2000: 39).

Marketing practice is generally; inheritance, origin, production methods, reliability, self-validation or moral values etc. motivations. In fact, all these elements also add authenticity to a brand and distinguish the brand from its competitors. Brand authenticity is an area that has been studied on conceptual point and there are various applications in operational terms. However, in addition to the underlying factors of brand authenticity and limitations; There are more studies on measurement, management and evaluation of results (Morhart et al., 2015: 200-201). Brand loyalty is a psychological commitment that the consumer develops against the brand. This commitment is manifested by the purchase of a certain brand. Consumers may exhibit loyalty behavior against a particular brand, a product family brand, or a product distributor (Yılmaz, 2005: 260). This loyalty to the brand can manifest itself as a re-purchase behavior, but also as a commitment that can bear additional costs (Demirel and Stars, 2015: 86).

It has been mentioned by many authors that loyalty to both brand and products reduces marketing costs. The main reasons for adopting this view are; positive loyalty through loyalty is the contribution of communication to the reduction of costs and loyal customers are less sensitive to the price. The loyalty that constitutes the intention of repurchasing contributes by reducing the time that consumers spend between product options. For consumers with a high level of loyalty, the purchase decision is simpler and purchases become habit by time (Thiele and Mackay, 2001: 529). To create brand loyalty and resonance (the relational level and psychological intensity that the brand

creates in the consumer), marketers must ensure that consumers' expectations about the product are met. Numerous studies have shown that high-quality brands tend to perform better financial performance and yield higher returns on investment (Keller 2008: 84). As the perceived authenticity of a brand increases, consumers will be willing to pay more for the brand's products, start defending the brand and develop loyalty to the brand (Arikan and Telci, 2014: 525).

In this study, whether there is a relationship between brand authenticity and brand loyalty and the direction of this relationship has been researched and suggestions have been developed for both academic and marketing professionals.

2. LITERATURE AND CONCEPTUAL FRAMEWORK

2.1. Perceived Brand Authenticity

The concept of authenticity is derived from the words "authenticus" in Latin and "authentikos" in Greek. It is worthy of approval, authoritarian, imaginary, non-counterfeit, original etc. meaning (Bruhn et al., 2012: 567). Because the concept of authenticity is a suitable area for social sciences and humanities, it has brought with it broad conceptual association. However, in marketing research, there are few definitions for the concept of authenticity. It is explained with different concepts due to the fact that authenticity association of many different concepts (Grayson and Martinec 2004: 297).

In order to evaluate the brand authenticity, different scales have been developed. Since brand authenticity is not a one-dimensional concept, multi-dimensional measurement is required (Yaşın et al., 2017: 129). In this study, Bruhn et al. (2012: 569). These:

Continuity; to be in time. Concept of continuity; In the context of relationships between individuals, customers and companies, it has always been the subject of debate. Research has shown that continuity of relations can be defined and measured (Anderson and Weitz 1989: 317). Continuity also can be an important contribution to bring meaning to life. Indeed, it is possible to come across companies that create authenticity by adding meaning to life. Companies that can add meaning to their lives, serve a good purpose, in other words, they are more environmentally friendly, who are tasked to help others can also be perceived as authentic in the eyes of consumers (Pine, 2010).

Originality; to be creative, unique and innovative. For originality, brand image, customer and advertising research should be studied (Netemeyer et al., 2004: 218) and a brand of originality should be determined to evaluate how a brand looks (Im, Bayus and Mason 2003: 61). On the other hand, being first is another important feature that shows that the brand is original. The brands that succeeded to be the first in an area can easily create the perception of originality in the eyes of consumers. Because it is originality and authenticity created by being first. To do what has not been done before, is actually to be original (Pine, 2010). Another important feature of the institutions perceived as authentic is that they can make a difference. If an institution is doing the same job as its competitors, it can come forward if it performs its job with many different applications than others (Pine, 2010).

Reliability; to fulfill promises and/or be trusted. For reliability, branding studies, customers and advertising research literature should be reviewed and appropriate scales should be determined. (Goldsmith, Lafferty and Newell 2000: 43). The related literature has been reviewed and the brand reliability scale (Erdem and Swait 2004: 193), the brand trust scale (Delgado et al., 2003: 44-45) and the advertising credibility scale (Beltramini 1988:26), etc. scales were found.

Naturalness; products and brands are real and subject to. There are a limited number of literature on the naturalness of products or brands. However, the naturalness of the products has come to the forefront especially in the food sector. Demand for organic foods has increased (Verhoog et al., 2003: 29). The elements from the natural will pave the way for a brand to be perceived as authentic. The fact that the product itself is natural will already give this branding to the brand and company (Pine, 2010). However, if there is no mention of naturalness about the product, it is much more difficult to form this perception and it will take time to create an authentic brand perception.

2.2. Effects of Brand Authenticity on Consumer Perceptions

Although it is not possible to clearly categorize the contributions of brand authenticity to the brand, studies indicate that there is an important relationship between the two concepts. As a result of our study, it is determined that there is a positive relationship between brand authenticity and brand loyalty. Therefore, experimental studies should be carried out on the effects of brand authenticity on the decision making process and purchasing behavior of consumers. In this way, it will be possible to develop strategies on brand authenticity in the promotion and positioning works of the institutions. Although authenticity cannot find enough place in today's consumer culture, consumer research at the point of authenticity is a cornerstone of modern marketing (Brown et al., 2003: 21).

In previous researches on authenticity, the view of consumers at the point of brand authenticity was also taken into consideration and the following issues were focused on: For example, Arnould and Price, (2003: 145) focused on the studies on brand authenticity and how these performances are evaluated by consumers, while Beverland et al. (2008: 5) emphasized the clues used to attribute authenticity to objects. Indeed, there are three types of authenticity: pure (literal) authenticity, approximate authenticity, and moral authenticity. In each case, consumers draw on either indexical or iconic cues to form judgments of authenticity, In the study, it was concluded that the relationship between symbolic and directional clues was more than that thought. According to Rose and Wood (2005: 284), consumers' perception of the authenticity of a brand is realized as follows: Consumers mix the indexed elements with the fantastic elements programmed with their own experiences. According to Brown et al. (2003: 29), the meaning of retro brands is based on a utopian social element and may evoke seemingly paradoxical. For this reason, retro-brand management is an annoying alliance that requires uneasiness for producers and consumers and requires them to form something together. Eggers et al., (2013: 346) emphasized the effects of the consumer's perceptions of authenticity towards brands on the brand's trust and the growth of small and medium-sized enterprises. The authors discussed brand authenticity in three dimensions. These are: brand consistency, brand customer orientation, and brand congruency. Alexander (2009: 558) focused on the role of authenticity in the establishment and preservation of the brand atmosphere. Authentic brands provide numerous benefits compared to their non-authentic counterparts. These brands are perceived more commercially successful (Beverland, 2005: 1024) and are consumed at a higher rate than non-original brands (Kates, 2004: 462).

Brand authenticity also has a positive effect on brand attitudes and evaluations. Researches have shown that as a brand's perceived authenticity increases, consumers have agreed to pay more for the brand's products, started to defend the brand and develop loyalty to the brand (Chalmers, 2007: 442). Confidence and satisfaction in the brand are also important factors that affect the brand's attitudes and behaviors towards the brand. Brand trust is conceptualized as a belief that the brand will meet the expectations of the brand in situations that constitute a risk to them and, if an

unexpected problem arises, the brand will strive to solve the problem (Delgado-Ballester, 2004: 574). Recent studies show that the authenticity of the brand; attitude towards brand (Ilicic & Webster, 2014: 342); intention to purchase (Ilicic & Webster, 2014: 342); it has been positively associated with Word of mouth marketing communication, emotional brand loyalty, and brand choice decision (Morhart et al., 2015: 200).

The literature has also shown that authentic brands are a significant source of identity creation, and have been effective in consumers' self-authentication behaviors (Beverland and Farrelly 2010: 839).

2.3. Brand Loyalty

In the literature it is not possible to reach a definition of a common brand loyalty. Different definitions are made. A comprehensive description was made by Jacoby and Kyner (1973: 2). According to the authors, "Brand loyalty is (1) the biased (i.e., nonrandom), (2) behavioral response (i.e., purchase), (3) expressed over time, (4) by some decision-making unit, (5) with respect to one or more alternative brands out of a set of such brands, and (6) is a function of psychological (decisionmaking, evaluative) processes".

Brand loyalty can occur at different levels on consumers. The brand loyalty level was classified as pyramid in the classification made by Aaker and it was discussed at 5 different levels. The top of the pyramid consists of "dedicated consumer". Brand loyalty is at the highest level in this section. According to these people who are proud and proud of using the brand, the brand expresses themselves. At the bottom of the pyramid, there are consumers who do not have brand loyalty and are price-sensitive. These consumers do not see a difference between brands and are sensitive to price and promotion. "The consumers who cannot see the reason for changing the brand" in the second stage of the pyramid do not consider changing the brand as long as they are satisfied with the brand they purchase. It is important to focus on strengthening the brand to keep this consumer profile. "Consumers who are satisfied with the changing prices" form the third stage of the pyramid and they can benefit from the different cost suggestions offered by different brands because they think about cost-oriented. In the fourth stage of the pyramid there are consumers who see the brand as friends. These people who really like the brand establish an emotional bond with the brand (Aaker, 1991: 46).

There are many factors that allow consumers to feel loyalty to the brand over time. The first is the "perceived value". The price and quality of a commodity are the two basic elements that attract consumers and create loyalty (Cronin et al., 2000: 195). Another important factor in the formation of loyalty is "brand image". The brand's image makes it possible to recognize and purchase the brand (Sweeney et al., 1999: 84). "Comfort and availability" are another important elements of brand loyalty. Because today's consumer profile to be able to access the product easily and as soon as possible to receive a significant performance indicator and accept it as a signatory to the institutions that provide it (Erdil and Uzun, 2010: 187). Another important aspect of brand loyalty is satisfaction. Because an unsatisfied consumer cannot be loyal to a brand. Value, image, conformity, service and guarantee elements etc. all elements contribute to the formation of satisfaction and loyalty will not occur without this satisfaction (Swan et al., 1981: 357). Trust, perceived by consumers as a sense of security, is another element of loyalty. Consumers expect the brand to meet their expectations. If the brands can provide this, the confidence of consumers in these brands increases. This will bring the feeling of loyalty (Lau and Lee, 1999: 343). Finally, the scope of warranty can contribute to the formation of loyalty. Namely; information within the scope of the warranty ensures the

recognition of the consumer and the feedbacks from the consumer help solve the problem. This will contribute to the formation of loyalty (Erdil and Uzun, 2010: 193).

When the literature is examined, it will be seen that there are two dimensions generally affecting brand loyalty. These are logical and emotional dimensions. In the logical dimension, there are characteristics related to the brand, the appropriateness of physical qualities and sufficient financial power headings. In the emotional dimension, life style and social identity are expressed (Yılmaz, 2005: 260). Keller stated that there are four levels of brand loyalty:

Behavioral Loyalty: At this level, buyers buy the brand but they do not have a special commitment. They attribute an important value to the brand and purchase products and services of the brand for a long time and in large quantities (Keller, 2008: 92). There are 4 types of loyalty profile in behavioral approach. The first of these is "captivities". The captivities continue to use the product and service. Because they have no other options. The rate of purchasing "convenience-seekers" is low. Because they are in constant search and they can move away from the brand at any moment. Those who are "contented" with the group are a group where the brand managers can easily develop their relationship and they are also suitable for management. The group that has "committed" itself to the last group is the ones with high loyalty, who are not interested in other brands and who add extra value to the brand by using mouth-to-mouth communication (Rowley, 2005: 576).

Attitudinal Loyalty: This level does not only involve the systematic purchase of the brand. At the same time, the loyalty of the buyer is also necessary. Customers feel a high level of satisfaction and enjoy this brand (Keller, 2008: 92). There are also 4 types of loyalty profiles in the attitudinal loyalty. The "captivities" are neutral against the brand. "Convenience-seekers" do not have specific attitudes towards the brand. They prefer brands only if they are appropriate. Attitudes of "contented" towards the brand are positive. If desired, they can share their brand experience with other consumers. "Committed" group are fully committed to the brand. They communicate with potential consumers through mouth-to-mouth communication. They bring customers to the brand (Rowley, 2005: 576).

Sense of Community; The brand may also take on broader meaning to the customer by conveying a sense of community. Identification with a brand community may reflect an important social phenomenon in which customers feel a kinship or affiliation with other people associated with the brand, whether fellow brand users or customers, or employees or representatives of the company. A brand community can exist online or off-line (Keller, 2008:93). A stronger sense of community among loyal users can engender favorable brand attitudes and intentions (Algesheimer and Dholakia, 2005:20).

Active Engagement; Finally, perhaps the strongest affirmation of brand loyalty occurs when customers are engaged, or willing to invest time, energy, money, or other resources in the brand beyond those expended during purchase or consumption of the brand (Keller 2008:93). Customers who are strictly committed to the brand become members of the brand's fan clubs, are proud of the brand and promote the brand to outsiders. Harley Davidson or Mustang clubs are excellent examples of this kind of behavior. This is the highest brand loyalty that contributes extraordinary value to brand equity.

Aaker (1991:46-48) listed the methods to be used in the formation of brand loyalty as follows:

- Proper behavior towards the consumer (Respectful, relevant and positive)
- Being close to the consumer (A behavior to be close to the customers shows the sincerity of that brand and makes them feel cared for and valued.)
- Measure and manage consumer satisfaction (Customer satisfaction is the main determinant of loyalty). For this reason, regular surveys should be conducted to measure the level of customer satisfaction in order to understand how customers feel about the brand and how they feel. In this way, customers' satisfaction about the brand and their problems can be identified and necessary initiatives can be made.
- Create replacement costs (the costs to be incurred if customers are directed to a new brand). Such costs should be tried to be created and the customer should not be lost.)
- Provide extra services. Due to the differences in consumer behaviors, ensuring satisfaction of these consumers may require different applications and offer services that are not offered by competitors. As a matter of fact, these services offered may contribute to the formation of a loyal customer base (Cronin and Taylor, 1992: 58).

Brand loyalty makes significant contributions to institutions. For example, the cost of holding a current customer is much less expensive than the cost of acquiring potential customers, resulting in a reduction in marketing costs. On the other hand, in the case of brand loyalty, consumers who want to insist on the respective product groups will also influence the store owners and ensure that these brands are displayed in larger areas. This will provide commercial power and expansion for brands. Loyal customers will be able to mobilize new consumers as they will create the perception that the brand provides a successful and good service (Pappu et al., 2005: 145). When a new product enters the market, loyal customers will not react immediately to this product. Therefore, in the event of exposure to the attacks of competitors, it will be timely to respond and there will be no victimization for the institution (Aaker, 1991: 48). Brand loyalty also provides predictability and demand security for the company and creates entry barriers that make it difficult for other firms to enter the market (Keller 2008: 7).

2.4. Brand Authenticity & Brand Loyalty Relationship

Brand loyalty can be defined as the tendency of consumers to continue to purchase a brand they previously bought (Yilmaz, 2005: 260). Nowadays, experiences are becoming more and more important. People are shared with others as their experiences turn into habits. In the business world, consumers are in search of original products and services. The key to being original for the brand is to be honest with yourself first. This is all about the identity of the company and the critical point where the company offers and its tradition and heritage match. In addition, in the eyes of others, what the brand looks like, how the company promotes itself, what it says in its marketing advertising, campaigns, packaging, what messages it gives, and finally the extent to which their aggregation matches the experience of consumers, are the other important points (Pine, 2010). If the company's messages and the consumer's perceived experiences and experiences do not match, the brand will suffer. Consumers tend to prefer brands that can distinguish themselves from their competitors and offer an original experience. Consumers who install a high degree of authenticity to a brand will most likely be satisfied with this brand (Bruhn et al., 2012: 568).

Consumers rely on authentic brands more than other brands. One of the main reasons for this is that the authentic brands take care of their values as a result of their establishment, and their efforts are made in their sectors in order to maintain their quality standards (Arikan and Telci, 2014: 525). Providing an authentic brand

experience is extremely important in the long term to create brand trust and achieve stable growth. (Eggers et al., 2013: 346). Because the loyalty of the brand to its own values and products enables consumers to trust the brand and mediate the development of brand loyalty (Arikan and Telci, 2014: 525).

Brand loyalty means a psychological commitment similar to friendship developed by the consumer against the brand. Loyalty is a commitment to the brand with the purchase of a certain brand again. Consumers can develop loyalty against the brand of a particular product, against the brand of the product family or against the product distributor (Yılmaz, 2005: 260). In case of brand loyalty, it is possible to create a mass that can bear additional costs in the purchases. As the perceived authenticity of a brand increased, consumers agreed to pay more for brand products, started to defend the brand and developed loyalty to the brand (Arikan and Telci, 2014: 525).

There are also specific studies on the effect of brand authenticity on consumer behavior. For example, a study examining the relationship between customer satisfaction and perceptions of brand authenticity given as an example. Carbonaro and Votava (2005: 83), in their study, emphasized that a consumeristic understanding of authenticity is equivalent to seizing power. Similar trends are observed in products and services in an increasingly complex world. It is among the authors' statements that there are pros, such as orientation, confidence and meaningfulness. It should not be forgotten that authenticity offers a significant added value and creates confidence in the future. In addition, consumers' satisfaction with the brand increases their tendency to buy again and enables them to pay more for the brand's products (Arikan and Telci, 2014: 525).

3. RESEARCH METHOD

3.1. Scale and Hypotheses

3.1.1. Scale Design, Data Collection and Sampling Calculation

Data were collected via online-face-to-face survey method. The questionnaire consists of three main dimensions to determine the effect of perceived brand autonomy on perceived brand loyalty. In the first part, there are three multiple choice questions besides the questions about the demographic variables. In the second chapter, the main dimension (continuity, originality, reliability / naturalness and authenticity (General)) questions of perceived brand authenticity are included. These questions, which are formed on the Likert scale, (1: Strongly Disagree; 5: Strongly Agree) consist of 20 questions and four dimensions. In the third part, the main dimension questions of perceived brand loyalty, which consists of 11 items and one dimension, are formed based on the likert scale (1: Strongly Disagree; 5: Strongly Agree). This scale is the customer satisfaction scale used by Hausman (2004: 415); Oliver (1980: 462); Bruhn 2012: 567).

In the study, consumers who purchased Torku branded products were reached with face-to-face survey method. This survey was conducted between 01.09.2018-15.09.2018. The target group of the survey is consumers who prefer the Torku brand. In the study, the margin of error was accepted as 0.05 as opposed to similar studies. In order to determine the number of samples, a calculation was made on the formulas used in this field, and it was aimed to reach at least 384 people in total. In the data collection phase, 420 questionnaires were reached. The questionnaire of 49 participants who answered 'no' to the question 'Would you prefer the Torque brand and products' was left out of the research. For this reason, the survey was continued with the current 370

survey data. This number is considered to be sufficient because it corresponds to 96 % of the number determined by sample calculation.

3.1.2. Research Model

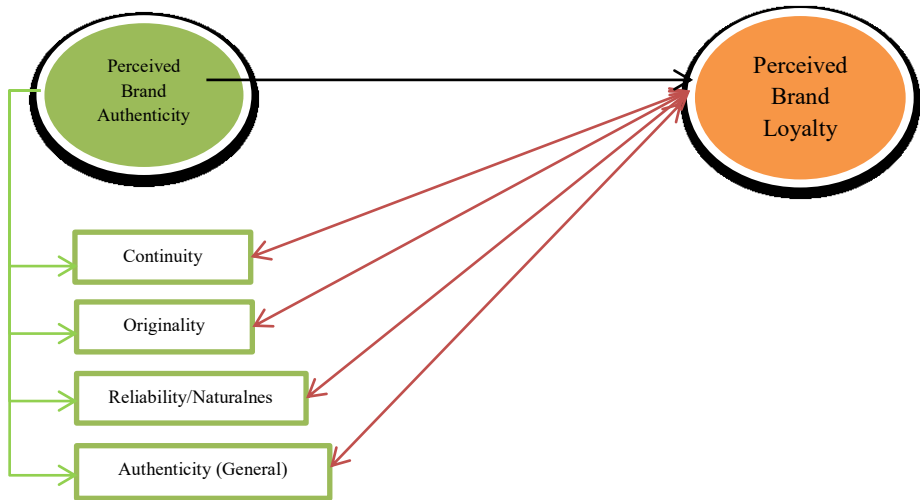


Figure 1: The Relationship Between Perceived Brand Authenticity and Perceived Customer Loyalty Concepts

3.1.3. Research Hypotheses

The hypotheses developed within the framework of the model are:

- H₁** = Continuity variable from the sub-dimensions of the perceived brand authenticity in the customers who prefer the Torque brand is statistically significant in predicting the Perceived Brand Loyalty variable.
- H₂** = The originality variable from the sub-dimensions of the perceived brand authenticity in the customers who prefer the Torque brand is statistically significant in predicting the Perceived Brand Loyalty variable.
- H₃** = Reliability/Naturalnes variable from the sub-dimensions of the perceived brand authenticity in the customers who prefer the Torque brand is statistically significant in predicting the Perceived Brand Loyalty variable.
- H₄** = Authenticity (General) variable from the sub-dimensions of the perceived brand authenticity in the customers who prefer the Torque brand is statistically significant in predicting the Perceived Brand Loyalty variable.
- H₅** = The Perceived Brand Authenticity variable is statistically significant in predicting the Perceived Brand Loyalty variable.

- H₆** = There is a positive relationship between Perceived Continuity and Perceived Brand Loyalty.
- H₇** = There is a positive relationship between Perceived Originality and Perceived Brand Loyalty.
- H₈** = There is a positive relationship between Perceived Reliability/Naturalnes and Perceived Brand Loyalty.
- H₉** = There is a positive relationship between Perceived Authenticity (General) and Perceived Brand Loyalty.
- H₁₀** = There is a positive relationship between the Perceived Brand Authenticity and the Perceived Brand Loyalty variable.

3.2. Analysis and Findings

SPSS computer program was used to analyze the data. Cronbach's Alpha value, which is an internal consistency indicator, was calculated to test the reliability of the scales used in the study before the analyzes. Afterwards, frequency, correlation and multiple regression analysis were used to analyze the data.

3.2.1. General Statistics (Frequency Analysis)

Demographic characteristics of the 370 people participating in the research are shown in Table 1 below.

Table 1. Frequency Distribution of Demographic Characteristics of Participants

Demographic Variable		Number	Percent
Gender	Female	182	49,20
	Male	188	50,80
	Total	370	100,00
Marital status	Married	181	48,90
	Single	189	51,10
	Total	370	100,00
Age	Under 18 years	3	0,80
	18-24 years	131	35,40
	25-35 years	96	25,90
	36-49 years	96	25,90
	50-65 years	41	11,10
	65 years and over	3	0,80
	Total	370	100,00
Education	Elementary school	27	7,30
	Secondary school	30	8,10
	High school	78	21,10
	Associate Degree	42	11,40
	University	162	43,80
	Graduate	31	8,40
	Total	370	100,00
Job	Housewife	33	8,90
	Worker	66	17,80
	Officer-Teacher	56	15,10
	Specialized Professions	41	11,10
	Artisan	63	17,00
	Instructor	14	3,80
	Student	85	23,00
	Unemployed	2	0,50
	Retired	10	2,70
	Total	370	100,00

According to Table 1, it is seen that there is an equal distribution when the gender and marital status distribution of the participants are examined. According to the age variable, the majority of the people are active in the age range of 18-50. The percentage of participants with a higher education level is high. (52%) According to occupational groups, it can be said that there is appropriate participation in social distribution. (students, artisan and specialized professions are majority.)

Table 2. Frequency Distribution of Multiple Choice Questions

Multiple Choice Questions		Number	Percentage
6. How many times per month do you shop at a store?	I never do	2	0,50
	1-2 times	81	21,90
	3-4 times	155	40,90
	5 times and above	132	35,70
	Total	370	100,00
7. How do you usually do food shopping?	Planned do	211	57,00
	I made the sudden decision	159	43,00
	Total	370	100,00
8. Would you prefer Torque brand and products?	Yes	370	88,10
	No	50	11,90
	Total	420	100,00

According to Table 2, only 40,90% of respondents say that they do grocery shopping every week, while 57% have planned food purchases.

3.2.2. Dimensions and Importance Levels

The dimensions related to the scales used in the study and their severity related to the items are summarized in Tables 3, 4, 5, 6, 7 and 8.

Table 3. The Degree of Importance Related to the Items Related to the Perceived Continuity Dimension

Continuity	Mean	Standard Deviation
Torku brand has a stable posture from past to present.	3.98	0.91
Torku brand remains true to its principles.	3.83	0.91
Torku brand is a brand with continuity.	4.18	0.81
Torku brand has a long-standing concept.	4.04	0.92
Notes: (i) 370; (ii) 1: I strongly disagree - 5: Strongly Agree; (iii) Friedman Two-way Anova Test Chi-Square: 62,535, sd: 3, p:0,00		

Table 3 shows the participation values of the perceived continuity dimensions of the participants. Accordingly, the average participation level of the participants “**Torku brand is a brand with continuity**” is 4.18. The average participation level of the participants “**Torku brand has a long-standing concept**” is 4.04. The average level of participation of participants “**Torku brand has a stable posture from past to present**” is 3.98. According to these levels of participation, it can be said that Torku brand is able to create a brand perception that is permanent in the eyes of consumers.

Table 4. The Degree of Importance Related to the Items Related to the Perceived Originality Dimension

Originality	Mean	Standard Deviation
Torku brand is different from all other brands in the same sector.	3.77	1.05
Torku brand can be easily recognized from all brands.	3.78	0.99
Torku brand is unique to its competitors.	3.46	1.10
Torku brand clearly distinguishes itself from other brands.	3.68	1.03
Notes: (i) 370; (ii) 1: I strongly disagree - 5: Strongly Agree; (iii) Friedman Two-way Anova Test Chi-Square: 60,316, sd: 3, p:0,036		

Table 4 shows the participation values of the perceived originality dimensions of the participants. Accordingly, the average participation level of the participants “Torku brand can be easily recognized from all brands” is 3.78. The average participation level of the participants “Torku brand is different from all other brands in the same sector” is 3.77. The average level of participation of participants “Torku brand clearly distinguishes itself from other brands” is 3.68. According to these levels of participation, it can be said that the Torku brand can easily be distinguished from other brands in the same sector and create an original brand perception.

Table 5. The Degree of Importance Related to the Items Related to the Perceived Reliability/Naturalnes Dimension

Reliability/Naturalnes	Mean	Standard Deviation
Torku brand keeps its promises according to my general experience.	3.84	0.86
Torku brand is able to accomplish what it promises to its customers.	3.84	0.87
The promise of Torku brand to the customer is convincing.	3.90	0.88
The promise of Torku brand to the customer is reliable.	3.98	0.87
Torku brand does not appear to be a contrived brand.	4.19	0.88
Torku brand gives the impression that it is a friendly brand.	4.16	0.86
Torku brand gives the impression of a natural brand.	3.84	0.86
Notes: (i) 370; (ii) 1: I strongly disagree - 5: Strongly Agree; (iii) Friedman Two-way Anova Test Chi-Square: 184,775, sd: 6, p:0,000		

Table 5 shows the participation levels of the perceived reliability/naturalness dimensions of the participants. Accordingly, the average participation level of the participants “Torku brand does not appear to be a contrived brand.” is 4.19. The average participation level of the participants “Torku brand gives the impression that it is a friendly brand” is 4.16. The average level of participation of participants “The promise of Torku brand to the customer is reliable” is 3.98. According to these participation levels, it can be said that Torku brand is perceived as a reliable and natural brand in the eyes of customers.

Table 6. The Degree of Importance Related to the Items Related to the Perceived Authenticity (General) Dimension

Authenticity (General)	Mean	Standard Deviation
Torku brand has a clear philosophy that guides its promises.	3,67	0,86
Torku brand knows exactly what it represents, and does nothing against its essence and character.	3,83	0,87
Considering the activities of Torku brand, it is seen that it imitates another brand.	2,64	1,32
Torku brand acts in accordance with its own self-esteem and the expectations of its target audience.	3,84	0,81
Torku brand does not compromise its originality in order to adapt to current changes.	3,85	0,90
Notes: (i) 370; (ii) 1: I strongly disagree - 5: Strongly Agree; (iii) Friedman Two-way Anova Test		Chi-Square: 301,049, sd: 4, p:0,000

Table 6 shows the participation values of the perceived Authenticity (General) dimensions of the participants. Accordingly, the average participation level of the participants “**Torku brand does not compromise its originality in order to adapt to current changes**” is 3.85. The average participation level of the participants “**Torku brand acts in accordance with its own self-esteem and the expectations of its target audience.**” is 3.84. The average level of participation of participants “**Torku brand knows exactly what it represents, and does nothing against its essence and character**” is 3.83. The average level of participation of participants “**Tor Considering the activities of Torku brand, it is seen that it imitates another brand**” is 2.64. In response to this question, it is clear that respondents do not perceive the Torku brand as an imitating brand. Considering all questions regarding the Authenticity (General) dimension, it can be said that the participants formed an emotional tie with the Torku brand and perceived the Torku brand as an authentic brand.

Table 7. The Degree of Importance Related to the Items Related to the Perceived Brand Loyalty

Brand Loyalty	Mean	Standard Deviation
Before I make a purchase about my ready-made food needs, I first look for the prices of Torku.	3.40	1.25
I would like to continue to be a customer of the Torku brand.	3.98	0.86
I prefer the Torku brand when it comes to take-home foods needs.	3.91	0.88
I recommend the Torku brand and its products to the people I know.	3.95	0.97
I prefer Torku brand even if the prices of competing brands are more appropriate.	3.27	1.21
I think that being a Torku brand customer is a difference.	3.45	1.13
The Torque brand is always my first choice for me.	3.46	1.09
I prefer the Torku brand on my travel and holidays.	3.42	1.05
I think Torku is a leading brand in its sector.	3.73	1.02
I think it is a privilege to be a Torku brand customer.	3.56	1.11
I can identify myself as a loyal customer of the Torku brand.	3.44	1.17
Notes: (i) 370; (ii) 1: I strongly disagree - 5: Strongly Agree; (iii) Friedman Two-way Anova Test		Chi-Square: 102,881, sd: 6, p:0,000

Table 7 shows the participation levels of the perceived brand loyalty of the participants. Accordingly, the average participation level of the participants "I would like to continue to be a customer of the Torku brand." is 3.98. The average participation level of the participants "I recommend the Torku brand and its products to the people I know." is 3.95. The average level of participation of participants "I prefer the Torku brand when it comes to take-home foods needs." is 3.91. According to these participation levels, it can be said that the customers of Torku brand are generally loyal. However, within the perceived brand loyalty dimensions; "I prefer Torku brand even if the prices of competing brands are more appropriate." The average value for the expression is quite low. (3.27). Accordingly, participants are undecided when it comes to price activities for rival companies. For this reason, it is revealed that Torku should carry out activities which increase the loyalty with the institutional efforts.

3.2.3. Correlation and Regression Analysis

Before the analysis, Cronbach alpha coefficient was used to evaluate the reliability (internal consistency) of the scales in the questionnaire form and these coefficients are presented in Table 8.

Table 8. Reliability Coefficients of Scales Used in Research

Scale Sizes	Number of Questions	Standard (Cronbach) Alpha	Mean	Standard Deviation
Perceived Brand Authenticity	20	0.98	3.82	0.60
Perceived Brand Loyalty	11	0.72	3.60	0.79
Perceived Continuity	4	0.69	4.01	0.69
Perceived Originality	4	0.77	3.67	0.87
Perceived Reliability/Naturalness	7	0.78	4.02	0.68
Perceived Authenticity (General)	5	0.70	3.57	0.63

Criteria for reliability coefficient are as follows (Akgül & Çevik, 2003: 435):

- $0,00 \leq \alpha \leq 0,40$: The scale is not reliable.
- $0,40 \leq \alpha \leq 0,60$: The scale is low reliability.
- $0,60 \leq \alpha \leq 0,80$: The scale is very reliable.
- $0,80 \leq \alpha \leq 1,00$: The scale is highly reliable.

Considering the above mentioned criteria values, the reliability coefficient of the perceived brand authenticity scale ($\alpha = 0.98$) and the perceived brand loyalty scale ($\alpha = 0.72$) is highly reliable.

After looking at the reliability of the scales used in the study, Pearson Correlation analysis was used in order to see the relationships between the sub-factors of the scales used in the questionnaire form and the results are shown in Table 9.

Table 9. Correlation Analysis Results of Scales Used in the Research Model

Correlation Coefficients						
	Perceived Brand Authenticity	Perceived Brand Loyalty	Perceived Continuity	Perceived Originality	Perceived Reliability/Naturalness	Perceived General Brand Authenticity
Perceived Brand Authenticity	1					
Perceived Brand Loyalty	0,722**	1				
Perceived Continuity	0,819**	0,472**	1			
Algılanan Orijinallik	0,853**	0,681**	0,560**	1		
Perceived Reliability/Naturalness	0,868**	0,589**	0,693**	0,625**	1	
Perceived General Brand Authenticity	0,776**	0,640**	0,485**	0,560**	0,589**	1

** Correlation coefficients were statistically significant at 0.01 reliability level.

As seen in Table 9;

- There was a significant positive correlation between perceived brand authenticity and perceived brand loyalty ($r = 0.722$, $p < 0.01$). According to these findings, H_{10} hypothesis was accepted.
- When the relationship is examined in terms of sub-dimensions; There is a

positive correlation between perceived continuity and perceived brand loyalty ($r = 0.472$, $p < 0.01$). According to these findings, H_6 hypothesis was accepted.

- When the relationship is examined in terms of sub-dimensions; There is a positive relationship between perceived originality and perceived brand loyalty ($r = 0.681$, $p < 0.01$). According to these findings, H_7 hypothesis was accepted.
- When the relationship is examined in terms of sub-dimensions; There is a positive correlation between perceived reliability / naturalness and perceived brand loyalty ($r = 0.589$, $p < 0.01$). According to these findings, H_8 hypothesis was accepted.
- When the relationship is examined in terms of sub-dimensions; There is a positive correlation between perceived general brand authenticity and perceived brand loyalty ($r = 0.640$, $p < 0.01$). According to these findings, H_9 hypothesis was accepted.
- In a general evaluation, it is possible to say that there is a moderate, positive and meaningful relationship between brand authenticity sub-dimensions and brand loyalty.

After the correlation analysis, multiple regression analysis was performed to determine how perceived brand authenticity affects the perceived brand loyalty variable and the results of the analysis are given in Table 10.

Table 10. Impact of Perceived Brand Authenticity for Torku Brand on Perceived Brand Loyalty

Dependent Variable	R2/ Adjusted R2	Independent Variable	B	Standard Error	t	p	F	p
Perceived Brand Loyalty	0,722/0,522	Fixed Variate	-	0,185	-0,324	0,746	402,207	0,000
		Perceived Brand Authenticity	0,959	0,048	20,055	0,000		

When examined in Table 10, the concept of perceived brand authenticity for Torku customers is statistically significant in explaining perceived brand loyalty. H_5 hypothesis was accepted. The model was found to be quite significant ($F = 402,207$ $p = 0,000$, $R^2 = 0,522$). According to these results, approximately 52,2% of the concept of brand loyalty can be explained alone with the brand authenticity perception variable.

Table 11. The Effects of Perceived Brand Authenticity Dimensions for the Torku Brand on Perceived Brand Loyalty

Dependent Variable	R2/ Adjusted R2	Independent Variable	B	Standard Error	t	p	F	p
Perceived Brand Loyalty	0,757/ 0,572	Fixed Variate	0.13	0.19	0.72	0.47	122,446	0,00
		Perceived Continuity	-0.03	0.06	-0.55	0.58		
		Perceived Originality	0.38	0.04	8.85	0.00		
		Perceived Reliability/Naturalness	0.18	0.06	2.86	0.00		
		Perceived General Brand Authenticity	0.41	0.06	7.42	0.00		

Table 11 shows that the model is generally significant ($F = 122.446$; $p = 0.00$; $R^2 = 0.572$). Only the perceived continuity variable ($\beta = -0,030$ $p < 0.01$) of the independent variables in the model does not have a positive relationship on the perceived brand loyalty. According to this finding, hypothesis H_1 was rejected ($P > 0.01$). However, it was determined that other perceived brand authenticity sub-dimensions (Authenticity, Reliability / Naturalness and Specificity) had a significant effect on perceived brand loyalty. According to these findings; H_2 , H_3 , H_4 hypotheses were accepted ($P < 0.01$).

The evaluation of hypotheses in the context of the research model is summarized in Table 12 and the results are consistent with the findings in the literature.

Table 12. Hypothesis Results in the Context of Research Model

Hypotheses	Result	Analysis
H_1 =In the customers who prefer the Torku brand, the continuity variable from the sub-dimensions of the perceived brand authenticity is statistically significant in predicting the brand loyalty variable.	H_1 Rejected	Regression
H_2 = In customers who prefer the Torku brand, the originality variable from the sub-dimensions of the perceived brand authenticity is statistically significant in predicting the brand loyalty variable.	H_2 Accept	Regression
H_3 = In customers who prefer the Torku brand, reliability / naturalness variable from the sub-dimensions of the perceived brand authenticity is statistically significant in predicting the brand loyalty variable.	H_3 Accept	Regression
H_4 = In customers who prefer the Torku brand, the general brand authenticity variable from the sub-dimensions of the perceived brand authenticity is statistically significant in predicting the brand loyalty variable.	H_4 Accept	Regression
H_5= Perceived brand authenticity variable is statistically significant in predicting perceived brand loyalty.	H_5 Accept	Regression
H_6 = There is a positive relationship between perceived continuity and perceived brand loyalty.	H_6 Accept	Correlation
H_7 = There is a positive relationship between perceived originality and perceived brand loyalty.	H_7 Accept	Correlation
H_8 = There is a positive relationship between perceived reliability / naturalness and perceived brand loyalty.	H_8 Accept	Correlation
H_9 = There is a positive relationship between perceived general brand authenticity and perceived brand loyalty.	H_9 Accept	Correlation
H_{10}= There is a positive correlation between perceived brand authenticity and perceived brand loyalty variable.	H_{10} Accept	Correlation

4. RESULTS AND DISCUSSION

Today, the concept of authenticity has been used frequently in marketing as well as in other disciplines. The conceptual studies on the subject have been replaced by empirical research. Although the number of these studies is still insufficient, they are increasing day by day. For this reason, it does not seem possible to explain exactly what brand authenticity will bring to businesses and what effects it will have on consumers (Kiyat and Simsek, 2017: 50). In today's business world, authentic brands that are able to be faithful to the original have a competitive advantage. This allows them to be valued in the eyes of the consumer. This is mainly due to the extreme similarities in the products and services offered by companies. In the literature, the interaction of brand authenticity with different variables has been investigated and positive results have been reached. In this study, the effect of brand authenticity on brand loyalty has been examined and positive results have been achieved similar to previous studies. The results found with some important variables whose interaction with brand authenticity are investigated are as follows:

Bruhn et al. (2012: 566) conducted a literature review on different consumer and brand groups and developed a scale to measure the power of consumers' perceived brand authenticity. According to this scale, the brand handles its authenticity in 4 dimensions. (continuity, originality, reliability and naturalness). In addition, the relationship between brand authenticity, brand awareness, brand image and brand satisfaction has been questioned and positive results have been reached. Lunardo and Guerinet (2007: 69) concluded that the label in bottled wines influenced young consumers' wine selection. Other results are that authenticity and design influence the performance risk, perceived price and purchase intentions of young consumers. As a result of the study by Kolar and Zebkar (2010: 652); It is seen that cultural motivation is an important pioneer of both tourist-based and existential authenticity, which affects tourist loyalty. Choi et al., (2014: 233) stated that brand authenticity is composed of 7 elements in their study in the fashion industry. Accordingly, a brand; have determined that their authority, fashionability, consistency, innovativeness, sustainability, origin, and finally heritage have a significant impact on consumers' sense of brand loyalty. Arikan and Telci, (2014: 523) have reached the following results in their study: The degree of authenticity of the brands has a positive effect on the brand's confidence, brand satisfaction levels and consumer behavior to purchase the brand again. Napoli et al. (2014: 1090) developed 14 items for brand authenticity. In order to provide a more advanced brand authenticity, quality commitment, sincerity and inheritance are three factors related to each other. As a result of the study conducted by Demirel and Yıldız (2015: 83), it has been observed that brands that offer different experiences to consumers, make promising promises and realize them significantly affect their preferences. Morhart et al. (2015: 200) find that brand authenticity perceptions are influenced by indexical, existential, and iconic cues, whereby some of the latter's influence is moderated by consumers' level of marketing skepticism. Results also suggest that perceived brand authenticity increases emotional brand attachment and word-of-mouth, and that it drives brand choice likelihood through self-congruence for consumers high in self-authenticity. Grayson and Martinec (2004:296) examined whether the perception of authenticity in customers differs between these two hotels based on the data they collected from two tourist sites, and they concluded that different effects have occurred. Yaşın et al. (2017: 127) concluded that the originality and reliability/naturalness dimensions had a significant effect on the measurement of brand authenticity and that the effect of brand authenticity on the overall brand equity was high.

Studies have shown that authenticity is an important source of competitive advantage. In situations where problems and confidence crises are experienced, the contribution of authenticity to the company will be much more (Demirel and Yıldız, 2015: 83). All these studies show that brands that can distinguish themselves from other brands, provide original experiences to consumers, make executable promises and make them come true, can significantly affect their preferences. Brand authenticity, which contains important elements of marketing, should be considered as an integral part of future strategic decisions by brand managers. This requires brand authenticity not only as a concept related to product or service but also as an important weapon for companies (Kiyat and Simsek, 2017: 48).

The findings of the study to determine the impact of "Perceived Brand Authenticity" on "Perceived Brand Loyalty" can be summarized as follows:

- In order to measure the reliability of the research scale and its success in measuring the concepts, reliability analysis was performed on the main and sub-dimensions. As a result of the analysis, it was observed that there is a high level of reliability in general. The reliability coefficients of the scale

dimensions were found to be in the range of 0.69 to 0: 0.98. According to these results, it can be said that the main and sub-dimensions forming the scale are reliable.

- In order to determine the participants' level of participation in the judgments of the scale, the level of participation was compared (For this, the friedman test was used.) In general, mean values were found to vary between μ : 3,46 and μ : 4,19. According to these results, participants generally accept the Torku brand as authentic. In addition, they are generally satisfied with the Torku brand and its products. These results are very important for a brand with a history of about 10 years. Because the concept of brand authenticity for a brand, a long period of time is required. Because brand authenticity can occur as a result of the bond formed between the brand and the customers.
- According to the results of the correlation analysis, a significant positive correlation was found between perceived brand authenticity and perceived brand loyalty. When the correlation coefficient values were examined, it was determined that there was a high level of relationship ($r = 0.472$ to $r = 0.868$).
- In particular, the relationship between perceived brand authenticity and perceived brand loyalty indicates the existence of a high-level positive relationship ($r = 0.722$).
- As a result of the regression analysis performed to determine the effect of perceived brand authenticity on perceived brand loyalty; The multiple regression model established for the Torku brand was found to be generally significant (Except for the perceived continuity variable). In other words, the other sub-dimensions (Originality, reliability / naturalness and general brand authenticity) of the perceived authenticity were found to have a positive effect on the perceived brand loyalty.

As a result, brand loyalty is the result of a long-term relationship between brands and customers. Therefore, Torku needs to develop integrated efforts to gain brand loyalty from a strategic point of view, beyond winning customers. In this context, it should primarily increase its availability in the national market and should be as visible as rival firms in retail stores. Because Torku has a positive perception with its customers on a healthy ground. For this perception to be permanent, it is important to work on 'availability competition'.

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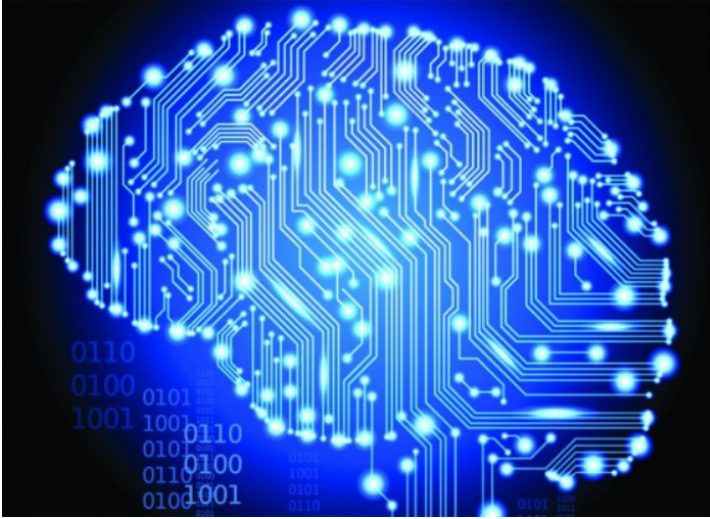
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ARTIFICIAL INTELLIGENCE APPLICATIONS IN ACCOUNTING AND AUDITING

Hülya BOYDAŞ HAZAR ¹



¹ Asst. Prof. Dr., Istanbul Aydın University, Department of Business Administration, Istanbul, Turkey, hulyahazar@aydin.edu.tr, ORCID: <https://orcid.org/0000-0002-7115-1899>.



Source: www.comparethecloud.net

Developments in computer technologies, like Artificial Intelligence and machine learning, affected accounting applications and accounting profession in general. Extensive research in Artificial Intelligence, which is a branch of computer science, changed and will continue to change accounting activities.

1. The Concept of Artificial Intelligence

The aim of Artificial Intelligence is to develop computer systems to perform certain tasks, like visual perception, speech recognition and decision-making, which are achieved by human intelligence only (Irizarry-Nones, Palepu and Wallace, 2019). The main objective is to create a machine, which can think, learn from experiences and act just like a human.

Artificial Intelligence is divided into two categories: general and specialized (Sanlam Investments, 2017). General Artificial Intelligence is developing computer intelligence similar to humans. This is not achieved yet. Specialized Artificial Intelligence is developing computer software that performs certain tasks. Present research and achievements are more specialized in nature.

These specialized tasks, which are done by computers, are performed more efficiently and accurately for less cost (CPA, 2019). The Artificial Intelligence software should be able to identify relationships, learn from historical data, store and retrieve information, understand complex ideas, make decisions, use natural language, generalize and adapt to new situations while performing these specialized tasks (Tutorials Point Ltd., 2015).

Accountants have been using Artificial Intelligence technology to improve the quality of business tasks (Icaew IT Faculty, 2018). This enables the professionals to focus on the business problems and solve complex decisions.

2. History of Artificial Intelligence

Thomas Hobbes proposed the initial idea of Artificial Intelligence in 17th century. He said that human behavior could be understood in mechanical terms, and symbols could be used as synonymous substitutes for longer expressions to solve problems (Issa, Sun and Vasarhelyi, 2016).

McCarthy, Minsky, Rochester, and Shannon initiated one of the first Artificial Intelligence research projects in 1955 (Issa, Sun and Vasarhelyi, 2016). The objective was to enable machines to learn abstract concepts of language to solve problems and improve itself.

In 1956, John McCarthy put forth the idea of “Artificial Intelligence” at a seminar in the Dartmouth University, USA. This date is considered the birth of this technology (Luo, Meng and Cai, 2018).

Many research and approaches followed this initial study. However, Artificial Intelligence studies did not achieve solid results due to technological limitations.

The main improvements over the past sixty years have been developments in search algorithms, machine learning algorithms, and integrating statistical analysis into understanding the world in general (Smith, 2006).

Recent developments in computer technology have helped Artificial Intelligence studies. There are substantial improvements in all of the research areas.

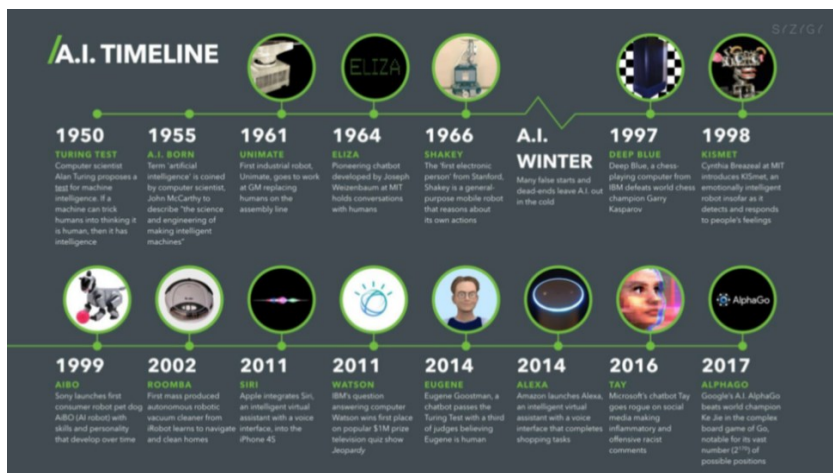


Figure 1: A.I. Timeline

Source: Yaninen (2017)

3. Research Areas of Artificial Intelligence

Artificial Intelligence has a vast range of applicability. It can be applied to all functions and activities of human beings. However, current focus on some of the research areas is as follows:

- Large-scale machine learning
- Deep learning
- Reinforcement learning

- Robotics
- Computer vision
- Natural Language Processing
- Collaborative systems
- Crowdsourcing and human computation
- Algorithmic game theory and computational social choice
- Internet of Things (IoT)
- Neuromorphic computing

3.1. Large-scale Machine Learning

Machine learning is “the ability of a computer to learn from experience” (Simon, 2018). The computer program accesses large sets of data and improves its algorithms on the basis of newly acquired information. An algorithm is a set of rules which the computer should follow.

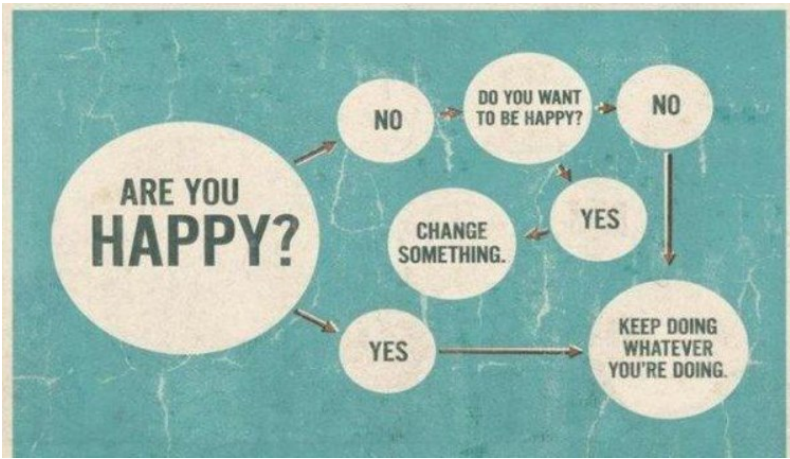


Figure 2: Algorithms

Source: Yaninen (2017)

Usually, the initial set of data given to the computer to form its basic knowledge contains a series of examples and near misses. In this way, the computer learns what is correct and what is not.

An example of machine learning would be image recognition. The aim is to identify the image without a human being telling it. For instance, if the computer is given an image of an invoice and asked to identify it, it would access to files where similar forms are stored. In those files, it would find correct and incorrect attributes related to invoices. As a result, it can decide what that image is and whether or not the invoice has the correct form and information.

Large-scale machine learning is attainable when there is a large set of data available to the computer. The computer program runs algorithms, more than once, using the same data, to draw inferences during the training phase. If the data set is not large

enough, the computer program cannot refine its algorithms. In that case, the program will return wrong answers when used in real life.

A range of legal issues poses problems to accounting applications, which use machine learning technology. Laws and policies related to data protection, consumer protection, anti-discrimination and liability issues, and cross-border issues make it difficult for computers retrieve and learn from any data (FSB, 2017).

3.2. Deep Learning

Deep learning is a sub-area of learning procedures. It is used for object identification in images, video or activity. It recognizes features of an image in a given photograph or video. Learning utilizes a deep neural network with numbers of parameters and deep hidden layers. Face recognition is an example of deep learning.

Deep learning not only classifies the objects, but also finds relations of all objects in the image. For each frame in the picture or video stream, various objects are categorized and their relations are detected. For instance, in an image of a person who is working in an office, the computer program recognizes who the person is, where he is and what activity he is performing.

Deep learning is a useful tool in accounting and auditing. However, a large size of training data is required to ensure accuracy. Unfortunately, accountants and auditors do not have “an ocean of data like those provided by Google or Facebook” (Issa, Sun, and Vasarhelyi, 2016). For accounting professionals, it is an ethical obligation not to disclose other companies’ records.

A program which uses deep learning may effectively and efficiently locate an image with a specific content along with related images. For example, a deep neural network which learns from existing product images, may analyze inventory images captured by automated drones, eliminating the need to go and check physical inventory (Issa, Sun, and Vasarhelyi, 2016).

3.3. Reinforcement Learning

Reinforcement learning is an area of machine learning, which focuses on decision making. Its aim is to find the best possible behavior or path it should take in a specific situation. It is used when there is a goal which can only be reached over many steps.

Reinforcement learning uses motivational algorithms. These algorithms are faced with a penalty when they make the wrong decisions and are given a reward when they make the right ones – this is reinforcement. The aim is to take actions, which maximizes reward in a particular situation.

There is no training data set to teach the correct answer like in the other machine learning types. The program has to learn from its own experiences. This technology is useful to perform actions in the real world.

3.4. Robotics

A machine which senses its environment with its sensors, interprets what it perceives, makes a decision as a result of that interpretation, and produces an output or an action is called a robot. Robots are autonomous in their decision making and acting accordingly.

Robotics is the science, which is related to the design, construction, operation, and application of robots. Robotics is an interdisciplinary branch of engineering and computer science.

Robotics research has made encouraging developments on how robots interact with the world in a predictable way. The developments in computer vision and machine learning enabled robots to sense its environment, make decisions and act based on those decisions.



Source: www.pixabay.com

3.5. Computer Vision

Computer vision is a sub-area of Artificial Intelligence which deals with how computers can “see”. The purpose is to make the computer understand its surroundings from digital images or video feeds.

The difficulty in computer vision has been to train the computer to recognize objects on the image where the image is partially obstructed. Due to the refinements of algorithms in recent years, computers are able to perform visual classification activities better than people (Stanford University, 2016).

3.6. Natural Language Processing

Natural Language Processing is a sub-area of Artificial Intelligence. The research in this field is focused on enabling computers to understand and process human languages.

In this way, computers may engage in conversations with human beings. This enables “person-to-person” dialogues. Google informed that 20 % of mobile queries are done by voice (Stanford University, 2016).

3.7. Collaborative Systems

Artificial Intelligence systems provide results that are highly accurate in a short time. In this aspect, they supersede human efforts. However, they have limitations and cannot

replicate human intelligence yet. Therefore, it is more efficient if humans and computers work together (Icaew IT Faculty, 2018). This is achieved by collaborative systems.

A collaborative system is one where multiple users engage in a shared activity. Collaborative systems in Artificial Intelligence examine models and algorithms to help develop autonomous computer systems that can work collaboratively with other computer systems and with humans.

A collaborative system may involve different organizations, persons and computers from remote locations. This allows individuals and computer systems to work together and share ideas so that the task can be finished both efficiently and effectively.

3.8. Crowdsourcing and Human Computation

Crowdsourcing is the practice of engaging a group to overcome a common goal. It is mostly used for efficiently completing a task that is related to innovation and problem solving. Crowdsourcing usually involves taking a large job and breaking it into many smaller jobs where groups with different skills and expertise can work on separately.

Crowdsourcing and human computation research searches for methods to develop computer systems where the system makes automated calls to people with expertise to solve problems that computers alone cannot solve well. Current research investigates ideal division of tasks between humans and machines based on their capabilities.

3.9. Algorithmic Game Theory and Computational Social Choice

Social choice theory is the field of study of how individual preferences lead towards a collective choice in a group. Computational social choice is related to devise algorithms to match preferences between two groups of people.

Researchers try to find the application of social choice theory to computational environments. They seek to find computational algorithms and techniques to provide a better analysis of social choice mechanisms. Moreover, they use game theory techniques to design algorithms for making decisions for multi-agent computer systems. These are software agents with different outcome preferences and possibly selfish.

The studies in this area concentrate how computer systems can handle potentially misleading information from self-interested individuals, firms and other automated agents.

3.10. Internet of Things (IoT)

Most devices that are used today have sensors which collect data from surroundings. However, these devices use different protocols, which make it hard for them to “talk” to each other.

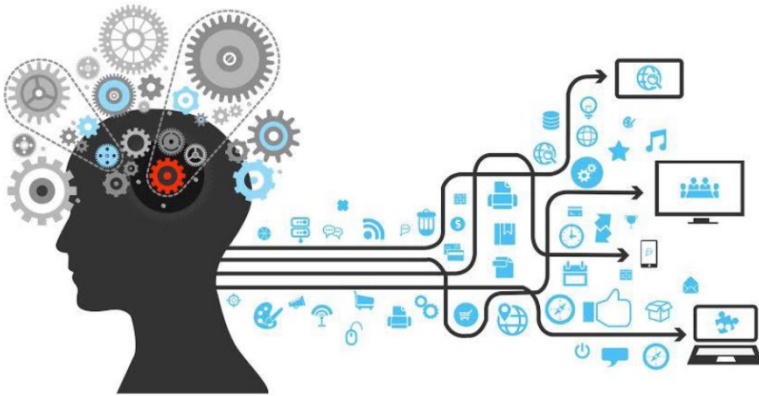
Internet is the backbone for worldwide information sharing. The Internet infrastructure is used in communicating such devices. It interconnects physical objects with computing and communication capabilities (Miorandi et al. 2012, p. 1497).

Artificial Intelligence research may help to connect these devices and share data. When these devices share data, the data sample from which the computer can learn enlarges exponentially. This in return, will help machine learning.

3.11. Neuromorphic Computing

Neuromorphic computing is the next generation of Artificial Intelligence. They are just beginning to become commercially viable.

The aim is to mimic biological neural networks to achieve human cognition, such as interpretation and autonomous adaptation.



Source: Yaninen (2017)

4. Artificial Intelligence Applications in Accounting

Artificial Intelligence tools are a part of everyday life, both professional and personal level. Accounting is a business area which benefitted from the studies and developments of Artificial Intelligence research. There is software that has automated many accounting, tax and bookkeeping processes (Greenman, C., 2017).

4.1. Areas of Accounting Where Artificial Intelligence Is Useful

Manual and routine tasks of accounting are the areas where automation would benefit the most. Bookkeeping, payroll, AR/AP management, and entry-level tax services can be done more efficiently by computer systems. Artificial Intelligence tools will be able to perform simple and routine tasks faster and more accurately (Sheedy, 2017).

Accounting professionals will have more time to work on complex analytics related to decision making. Financial planning and reporting will focus on supporting complex business decisions which would require higher-skilled accounting professionals.

4.2. Examples of Artificial Intelligence Tools Used in Accounting

Artificial Intelligence tools are successfully used for automating routine tasks of accounting. Some of those applications are explained in this section.

4.2.1. Machine Learning

Accountants use historical data to model and make assumptions to forecast financial outcomes when they are performing financial planning and analysis tasks. Machine learning algorithms of Artificial Intelligence helped to advance business analytics. "Predictive analytics uses data, algorithms, and machine-learning techniques to anticipate future outcomes" (CPA, 2019).

Predictive analytics technique is used by a type of software which is called a “digital assistant. Digital assistants are useful in predictable accounting tasks. For instance, responding to common queries around billing and cash flow management, searching accounting policies and procedures can easily and effectively be done by digital assistants.

Some Enterprise Resource Planning (ERP) software have their own digital assistants. To name a few, “Co-Pilot” is developed by SAP and “Pegg” by Sage. Oracle Cloud created a platform for businesses to create their own chatbots and virtual assistants. Microsoft has a digital assistant named “Cortana” and is trying to integrate it with its Dynamics 365 solution. Businesses can also use independent software platforms such as Smartly.ai and Kore.ai to develop their own digital assistants, and customize them (CPA, 2019).

4.2.2. Robotics

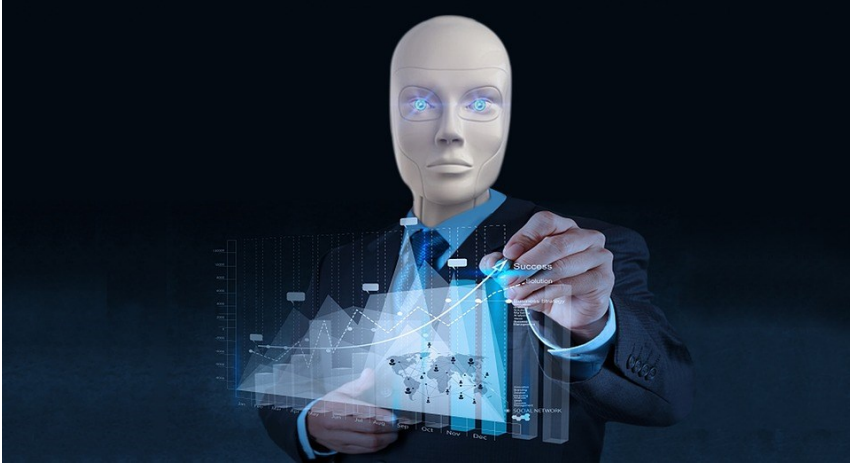
Robotics Process Automation (RPA) is a tool which enables users to create their own robots. These robots are faster and more accurate when processing high-volume, low complexity, and repeatable tasks. It is also a cost saving solution. “Typical RPA solutions can provide cost savings ranging from 20%-60%” (CPA, 2019).

RPA Example (CPA, 2019):

An organization receives 2,000 daily invoices for processing that require data validation from legacy systems before being posted into the organization’s ERP. RPA bot validates invoices by cross-checking invoices against records in legacy systems. Pre-set business rules instruct the RPA bot either to post, park, or block the invoice automatically. The company saves around 70% with 95% accuracy rate. The process is faster and allows employees to focus on more value-added activities.

The software equivalents of robots are bots. Bots can automate transactions. The Deloitte’s 2015 survey, which was done on business executives, state that the following transactions will be automated (Appelbaum and Nehmer, 2017):

- accounts payable (91%)
- travel and expense (55%)
- fixed assets (36%)
- general ledger (27%)
- financial reporting (18%)
- payroll and payment cards (9%)



Source: www.dnaindia.com

5. Artificial Intelligence Applications in Auditing

Audit is another area which benefits from Artificial Intelligence research. Many audit companies have started using this technology.

The top international audit companies, Deloitte, EY (former Ernst & Young), PricewaterhouseCoopers (PwC) and KPMG which are called Big Four, are investing into research to develop their own software.

EY has launched its Mumbai-based AI Center to “accelerate innovation and workforce transformation for corporate India” (EY, 2017).

KPMG has been using Artificial Intelligence software which is developed by McLaren Applied Technologies (MAT) since 2015 (O'Neill, 2016).

Deloitte is using an Artificial Intelligence platform called Kira Systems for its audit work (O'Neill, 2016).

PricewaterhouseCoopers (PwC) is using software called GL.ai since October 2017 to analyze documents and prepare reports. “Using AI approaches like reinforcement learning, PwC claims that GL.ai learns and becomes more capable with every audit” (Faggella, 2019).

5.1. Areas of Audit Where Artificial Intelligence Is Useful

Most of the time auditors are asked to give assurance on company data which has thousands of transactions. Auditors need to be efficient and effective with Big Data. Audit evidence may be dispersed in many computer systems and may contain incomplete or erroneous data. “On average 47% of newly created data records have at least one critical error” (CPA, 2019). Therefore, utilization of Artificial Intelligence tools “would add tremendous man-machine synergy to the audit” (Rozario and Vasarhelyi, 2018).

Using Artificial Intelligence tools is helpful to auditors in following areas (Moudud-Ul-Huq, 2014):

- **Audit planning:** Computer systems help to evaluate risks. Risk assessment helps auditors to establish audit objectives and plan audit steps and procedures. Moreover, such systems are helpful in decision making during the audit planning phase.
- **Analytical review procedures:** The use of artificial neural network improves the analytical review procedures because the system provides tools for finding patterns, which are complex or voluminous for human beings to extract.
- **Materiality assessment:** The computer systems are able to identify misstatements in the financial statements and in other company data.
- **Materiality judgments:** The computer systems can be used during the materiality judgements to assist the auditor during the formulation of audit opinions.
- **Internal control evaluation:** The computer systems are able to increase effectiveness and efficiency during the evaluation of the internal controls.
- **Risk assessment:** Auditors use risk assessment procedures to give an opinion on the level of misstatements in the company data. This is an important step because the main objective of a financial statement audit is finding out if the financial statements are materially correct. The computer systems inform the auditor when audit tests are unnecessary to perform on firms free of misstatement. The computer system is able to provide several benefits during this phase: advisory, consistency of the decisions and increase in productivity.
- **Going-concern decisions:** The computer system helps the auditor to form an opinion about a client's going concern. The software may be helpful in forming unbiased decisions on activities and profitability of the business.

5.2. Examples of Artificial Intelligence Tools Used in Auditing

Artificial Intelligence tools are useful to auditors in many ways. Some examples of such tools are stated in the following sections.



Source: Yaninen (2017)

5.2.1. Deep Learning

Some large CPA firms have developed software using Big Data and deep learning technologies.

Deep learning technology consists of hierarchical artificial neural networks which is capable of identifying abstract data features from raw data. In auditing, deep learning can be applied to extract and examine patterns from audit evidence.

In addition, this technology can be helpful to auditors in verification of contract terms and the completion of audit reports (Rozario and Vasarhelyi, 2018).

Another application of deep learning technology is the development of loan default prediction software (Rozario and Vasarhelyi, 2018). It uses the history of loans and defaults to create a predictive equation to evaluate bad loans.

5.2.2. Cognitive Decision Aids

Cognitive assistants can retrieve information from computer systems of audit clients, other companies, public records and social media. The software can make recommendations based on this information for audit planning and risk assessments.

Since Artificial Intelligence algorithms are capable of learning from increased information, the risk assessment recommendations would improve as more information is fed to them (Rozario and Vasarhelyi, 2018).

6. Conclusion

Artificial Intelligence is a technology which enables computer systems fulfill the tasks done by human beings. The goal is "to make existing and future technologies more similar to our way of relating to the world" (Agency for Digital Italy, 2018).

Artificial Intelligence has not yet achieved the complex functioning of the human mind. However, recent studies provided effective algorithms in some specific areas.

Accounting and auditing are areas which benefitted from the Artificial Intelligence research. Surveys show that more and more professionals are willing to employ this technology in their organizations.

At present, routine tasks of accounting and auditing can be successfully automated using Artificial Intelligence software. It is cost effective with a high accuracy rate.

All businesses want to incorporate this cutting edge technology to be competitive in today's business world. Large companies make big investments in Artificial Intelligence research. However, there are platforms where smaller firms can customize their own bots without paying as much.

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A COMPUTATIONAL INVESTIGATION OF THE NEOCLASSICAL GROWTH MODEL VIA VALUE FUNCTION ITERATION

Orhan TORUL ¹



¹ Assistant Professor, Department of Economics, Bogazici University, Bebek, Istanbul, Turkey.

Introduction

The study of macroeconomics has evolved radically over the last five decades. In response to the well-acknowledged Lucas Critique (Lucas, 1976), Kydland and Prescott (1982) pioneered the “Real Business Cycle” (RBC) theory for the study of economic fluctuations. Later on, the representative-agent RBC economy fell short in understanding economic distributions and economic policies, and the first and second generation heterogeneous-agent general equilibrium incomplete-market models by Bewley (1986), Huggett (1993), and Aiyagari (1994) became the workhorse models for the study of optimal income taxation (Conesa, Kitao, and Krueger, 2009), optimal public versus private risk sharing (Krueger and Perri, 2011), propagation of household heterogeneity in response to macroeconomic shocks (Krueger, Mitman, and Perri, 2016), the amplification of recessions in response to changes in wealth dispersion (Heathcote and Perri, 2017), the magnitude of fiscal multipliers (Brinca et al., 2016; Hagedorn, Manovskii, and Mitman, 2016), and for the joint study of income and wealth distributions (Castañeda, Díaz-Giménez, and Rios-Rull, 2003; Torul and Öztunalı, 2018).

Throughout this evolution, computational dynamic programming methods became the central tool of modern macroeconomics, and the frontiers of research increasingly required computed (as opposed to analytical) solutions under the presence of externalities, non-convexities and discrete choices. Regarding the choice of global approximation methods, Chebyshev polynomials has not received much support in the literature since optimal decision rules under most macroeconomic settings are characterized by discontinuities or kinks, along with potentially non-concave value functions. To deal with these kinds of problems, the value function iteration methodology has been overwhelmingly preferred as a result of its robust and accommodating structure. Its weakness, however, is the curse of dimensionality: as the state space grows, the size of the problem becomes intractable for most computers, and a satisfactory solution is unattainable.²

In this study, I study the numerical properties of the value function iteration methodology using a classic stochastic dynamic programming problem. In particular, I investigate the quantitative properties of value function iteration for the canonical neoclassical growth model. In doing so, I rely on the standard value function iteration methodology, along with its variants via Howard (1960)’s improvement algorithm, value function iteration with MacQueen (1965) and Porteus (1979) error bounds, and local search. I find that Howard (1960)’s improvement algorithm and value function iteration with MacQueen (1965) and Porteus (1979) error bounds are the fastest methods, and are equally as reliable as the regular value function iteration. Regular value function iteration is easy to code, but slows down considerably as the size of the state space is increased. Local search in its linear form occasionally generates convergence problems, and offers less reliability than the other competing methods. Overall, I recommend the use of Howard’s Improvement Algorithm or the MacQueen (1965) and Porteus (1979) approach to attain a reliable starting guess for any dynamic decision problem, then, if desired, using these results for attempting local search or more advanced methods.

The rest of the paper is organized as follows: in section 2, I describe the model environment; in section 3, I describe the computational methodology; in section 4, I present my findings; and section 4 concludes.

² For an elaborate discussion on Chebyshev approximations and value function iteration methodology, see Judd (1998).

Model

In order to investigate the value function iteration methodology, I study a standard dynamic programming environment: the plain-vanilla neoclassical growth model.

In the model economy, there is a single representative agent choosing a sequence of consumption $\{c_t\}_{t=0}^{\infty}$ so as to maximize his discounted expected utility:

$$\mathbb{E}_0 \left[\sum_{t=0}^{\infty} \beta^t u(c_t) \right]$$

subject to his dynamic budget constraint:

$$c_t + k_{t+1} = k_t^\alpha + (1 - \delta)k_t$$

Uncertainty shows in the model through the production side of the economy:

$$y_t = z_t k_t^\alpha n_t^{1-\alpha}$$

where k_t is the current level of capital, z_t is the current value of the shock, and the amount of labor supplied n_t . As it is standard in this environment, I normalize n_t to unity (1) and assume that the representative agent has no value for leisure time, and supplies labor inelastically. Further, output is produced under a standard Cobb-Douglas production technology. The stochasticity in the model is due to the total factor productivity shock (z_t), the stochastic process of which evolves according to an autoregressive of order one AR(1) law of motion:

$$\log(z_t) = \rho \log(z_{t-1}) + \epsilon_t$$

where $\epsilon_t \sim N(0, \sigma_\epsilon)$ and $\log(\cdot)$ stands for the natural logarithm function.

The perfectly-competitive neoclassical firm, which is owned by the representative household maximizes its profits, and transfers its profit to the household. Accordingly, under the normalized (to unity) inelastic labor assumption, this model can be constructed as the competitive equilibrium of a model in which a single representative consumer maximizes his discounted expected utility of consumption:

$$\mathbb{E}_0 \left[\sum_{t=0}^{\infty} \beta^t u(c_t) \right]$$

subject to the dynamic budget constraint:

$$c_t + a_{t+1} = r_t a_t + (1 - \delta)a_t + \pi_t$$

where a_t stands for accumulated assets and r_t stands for the real interest rate. A single firm maximizes profits

$$\pi_t = y_t - r_t K_t$$

subject to

$$y_t = z_t K_t^\alpha$$

Firm profit maximization generates the optimization condition that:

$$r_t = z_t \alpha K_t^{\alpha-1}$$

Accordingly, profit function follows:

$$\pi_t = z_t(1 - \alpha)K_t^\alpha = (1 - \alpha)y_t$$

The household problem then solves the standard Bellman equation:

$$V(a_t, z_t) = \max_{a_{t+1}} u[(1 + r_t - \delta)a_t - a_{t+1} + \pi_t] + \beta \mathbb{E}_t[V(a_{t+1}, z_{t+1})]$$

and generates his optimality conditions.

A recursive competitive equilibrium is a sequence of allocations $\{c_t, k_t\}$ and a sequence of prices $\{r_t\}$ so that firms maximize profits, households maximize their expected discount utility of consumption, and markets clear with $K_t = k_t$ and $y_t = c_t$. From the optimization conditions and market-clearing, one can calculate that consumption follows: $c_t = z_t k_t^\alpha + (1 - \delta)k_t - k_{t+1}$.

These are the same conditions generated by solving the Bellman equation for the single-agent problem, providing a specific example of the "Second Fundamental Theorem of Welfare Economics": any Pareto efficient allocation can be supported as the decentralized equilibrium of a perfectly competitive economy. This justifies focusing on simply solving the single-agent, social planner's problem, and then using the equilibrium allocations to find prices that support that allocation.

Computational Methodology

Since $\{\epsilon_t\}$ is a normally-distributed random variable, it can either be approximately integrated using Gauss-Hermite integration or discretized and turned into a Markov chain, as in Tauchen (1986). I use the second method, Tauchen (1986) approximation, which proceeds by breaking up the range of z_t into a grid $Z = \{z_1, z_2, \dots, z_N\}$ and creating a Markov-chain transition matrix that "accumulates" the probability $\Pi[z_{t+1}|z_t]$ based on the underlying distribution.

Similarly, I restrict physical capital to take values in a grid $K = \{k_1, k_2, \dots, k_{nk}\}$ in all of my solution methods, except for local search, which uses linear interpolation to consider values off the grid. With the exception of local search, this framework creates a standard dynamic decision problem over a finite state space, for which standard results on stochastic dynamic programming guarantee a solution exists. In addition, the Bellman operator is a contraction mapping, so value function iteration is guaranteed to converge to the solution. Computationally, at each state, I solve for the following maximization problem:

$$V(k_t, z_t) = \max_{k_{t+1} \in K} u[z_t k_t^\alpha + (1 - \delta)k_t - k_{t+1}] + \sum_{z_{t+1}} \Pi[z_{t+1}|z_t] V(k_{t+1}, z_{t+1})$$

The Howard Policy Improvement algorithm modifies value function iteration by fixing the policy $d(k_t)$ every nv rounds, and iterating the Bellman equation at that policy for nh rounds. This exploits the contraction mapping, getting better and better estimates of the continuation values associated with the sub-optimal policy $d(k_t)$ before choosing a new policy. This makes the most of each maximization step, speeding up convergence.

The MacQueen-Porteus error bounds provide upper and lower bounds on the error of the computed value function from the true one based on the last iterates: If $V^\tau(s)$ is the computed value function at iteration τ at state s :

$$\underline{b}(s) = \frac{\beta}{1-\beta} \min_i [V_i^\tau(s) - V_i^{\tau-1}(s)]$$

$$\bar{b}(s) = \frac{\beta}{1-\beta} \max_i [V_i^\tau(s) - V_i^{\tau-1}(s)]$$

Since the Bellman operator is a contraction operator, these bounds converge to one another. This can be exploited computationally by setting:

$$V^{\tau+1}(s) = V^\tau(s) + \frac{b(s) + \bar{b}(s)}{2}$$

This increases the speed of convergence, since the true value function is likely to be somewhere in the middle of the bounds, and the bounds are converging towards one another at a linear rate.

Finally, I use local search, which replaces the restriction $k_{t+1} \in K$ with $k_{t+1} \in \mathbb{R}_+$. As a guess of the correct policy, I use the results of value function iteration as an initial guess of $k_{t+1}(k_t, z_t)$. Next, I choose k_{t+1} at each state (k_t, z_t) to satisfy the Euler equation:

$$u'[k_t^\alpha + (1-\delta)k_t - k_{t+1}] = \sum_{z_{t+1}} \Pi[z_{t+1}|z_t] u'[k_{t+1}^\alpha + (1-\delta)k_{t+1} - \tilde{k}_{t+2}](\alpha k_{t+1}^{\alpha-1} + 1 - \delta)$$

where $\tilde{k}_{t+2}(k_{t+1}, z_{t+1})$ is linearly interpolated in two dimensions on $K \times Z$ from the current guess at the optimal policy. I iterate this process until the policy converges. This approach was chosen since approximating the value function with linear interpolation generally gave extremely poor results and suffered from convergence problems: since the derivative of a linearly-interpolated value function is a step function, the continuation values of various states are all equated, leading to inaccurate evaluation of points off the grid. By using the Euler equation, this problem is less of an issue, since it relies only on the economic fundamentals, rather than computed objects like approximated value functions.

Results

I write the value function iteration codes in *MATLAB*. I formulate the utility function in the natural logarithm form, i.e. $u(c) = \log(c)$, as it is standard in the literature. I also set parameter values to conventional estimates: $\alpha = 0.36, \beta = 0.95, \delta = 0.025, \sigma_\epsilon = 0.007, \rho = 0.95$ and $\mu = 0.00$. For my benchmark computations, I set the number of physical capital grid points to $nk = 100$ and total factor productivity grid points to $nz = 5$. Because $nk = 100$ grid points yield poor performance in Euler errors, I repeat my exercise via $nk = 500$. I report my findings with $nk = 500$ and $nz = 5$ for brevity.

The results from regular value function iteration generate policy and value functions that are consistent with theory: as shown in Figure 1-3, value function and physical capital choice are increasing in current capital stock, and the value function is concave conditional on the current value of the productivity shock.³

³ As expected, investment choice is decreasing over current capital stock, as shown in Figure 3.

Figure 1:Value Function (500 nodes)

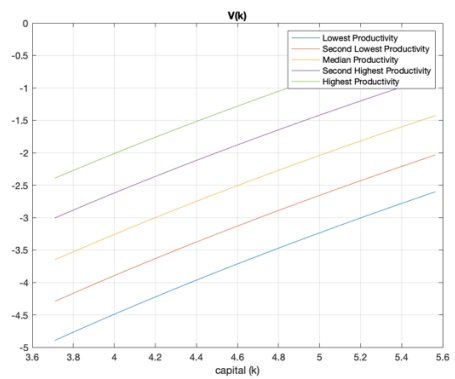


Figure 2: Capital Stock Decision Rule (500 nodes)

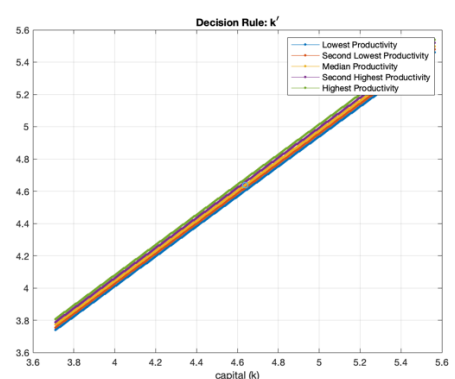
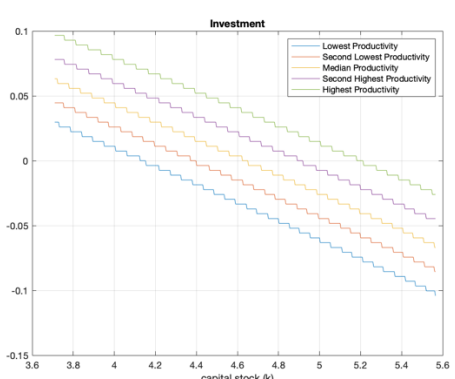


Figure 3: Investment Decision Rule (500 nodes)



The main advantages of the Howard (1960) policy algorithm and MacQueen (1965)-Porteus (1979) error bounds are primarily faster convergence. Using an *Intel 3.1 GHz Intel Core i5* processor, regular value function iteration takes about 0.846 seconds to converge with 100 nodes. With 20 iterations per policy per 10 applications of the Bellman operator, the Howard (1960) policy algorithm converges in about 0.5407 seconds. However, the Howard (1960) policy algorithm should be tuned carefully, since with 5 Howard (1960) iterations per 20 applications of the Bellman operator, the algorithm took 1.062 seconds – more than regular value function iteration. If the Howard (1960) policy algorithm is to improve convergence, a sufficient number of Howard (1960) iterations are required so that the computed value function at the current policy is fairly accurate. Otherwise, computational effort is simply wasted. Finally, the MacQueen (1965)-Porteus (1979) algorithm took approximately 17 seconds. With 500 nodes, regular value function iteration takes approximately 17.63 seconds, Howard (1960) policy improvement takes approximately 9.433 seconds with twenty Howard (1960) iterations per 10 applications of the Bellman operator, and MacQueen (1965)-Porteus (1979) took around 176 seconds. The slow performance of the MacQueen (1965)-Porteus (1979) algorithm may be due to implementation, since computing the error bounds may introduce a number of new complications that, if not optimized to use vector operations instead of “for” loops, can lead to slow performance. The careful reader could note the “curse of dimensionality” in play: as the number of nodes increases from 100 to 500, the timing of the code increases by an order of magnitude more than the multiple 5.

The linear interpolation algorithm is by far the slowest at about 23 seconds for 100 nodes and 240 seconds for 500 nodes. This is to be expected, since each iteration requires the solution to a non-linear maximization problem. However, the results are not concave or increasing without built-in safeguards, which lead to longer computation times and convergence problems.⁴

In addition to evaluating the algorithms on the basis of speed, I evaluate whether the results satisfy the Euler equation at the points on the capital grid by computing the resultant Euler errors:

$$\text{Euler Error}(k_i) = u'[k_i^\alpha + (1 - \delta)k_i - k'(k_i)] - \beta \mathbb{E}[u'[k'(k_i)^\alpha + (1 - \delta)k'(k_i) - k'(k'(k_i))]]$$

For regular value function iteration, this computation yields the Euler errors in Figure 4.

It is notable that the Euler errors are generally higher in higher-productivity states, suggesting that agents are making systematic errors relative to the optimal continuous policy. Further, Euler errors decrease over the stock of existing capital, as the initial nodes preserve much larger nonlinearities. Likewise, the errors decrease as more nodes are added, and exhibit increasingly regular and monotonic behavior. The Euler errors for the Howard (1960) algorithm are similar, both qualitatively and quantitatively. They are highest for low values of capital, and ordered with the worst errors for the highest-productivity shock states.⁵

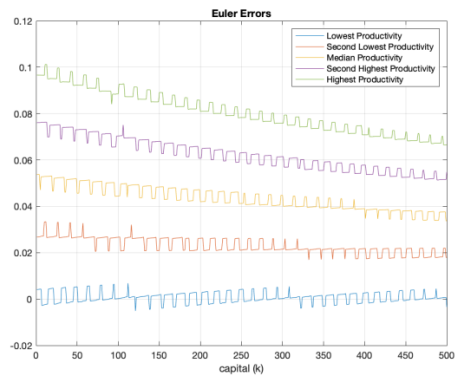
Next, I turn to conducting Monte Carlo simulations so as to explore the predictions of the decision rules by the competing value function iteration algorithms. I depict the result of a resultant Monte Carlo simulation over 160 periods in Figure 5. The decision

⁴ One way to improve performance would be to use splines or Chebyshev polynomials, which allow more curvature on the interior points in the grid. This leads to large Euler errors, and investment functions that exhibit non-monotonicity.

⁵ I omit the resultant graphs via Howard (1960) policy algorithm for brevity. They are available upon request.

rules by the value function iteration methods suggest that investment choices are to mimic total factor productivity shocks, and favorable (unfavorable) productivity shocks are to translate into higher (lower) capital stock choices. Figure 5 exhibits this in action: capital stock closely follows the stochastic total factor productivity process. Since the TFP shocks are perfectly correlated with z , this suggests that the (Tauchen 1986) approximation is extremely good at mimicking an AR(1) process with normal shocks.

Figure 4: Euler Errors (500 nodes)



Finally, I study the business cycle properties (comovements and volatilities) of variables of interest by value function iteration

Table 1: Business Cycle Properties by Value Function Iteration (500 nodes)

Variable	S.D.	Rel. S.D. to y	Corr. with y(-5)	Corr. with y(-4)	Corr. with y(-3)	Corr. with y(-2)	Corr. with y(-1)	Corr. with y	Corr. with y(+1)	Corr. with y(+2)	Corr. with y(+3)	Corr. with y(+5)	Corr. with y(+5)	Corr.with z
Output	0.912	1.000	0.152	0.268	0.315	0.499	0.690	1.000	0.690	0.499	0.315	0.268	0.152	0.987
Consumption	0.799	0.876	0.103	0.233	0.291	0.484	0.684	0.992	0.708	0.533	0.364	0.317	0.199	0.966
Investment	4.325	4.741	0.335	0.364	0.355	0.470	0.590	0.844	0.490	0.265	0.048	0.013	-0.068	0.884
Capital	0.408	0.447	-0.303	-0.188	-0.082	0.070	0.259	0.510	0.637	0.707	0.708	0.696	0.651	0.371
TFP	0.877	0.961	0.223	0.324	0.354	0.525	0.697	0.987	0.630	0.412	0.212	0.165	0.050	1.000

Table 2: Business Cycle Properties by Local Approximation

Variable	S.D.	Rel. S.D. to y	Corr. with y(-5)	Corr. with y(-4)	Corr. with y(-3)	Corr. with y(-2)	Corr. with y(-1)	Corr. with y	Corr. with y(+1)	Corr. with y(+2)	Corr. with y(+3)	Corr. with y(+5)	Corr. with y(+5)	Corr.with z
Output	1.076	1.000	0.144	0.252	0.388	0.564	0.778	1.000	0.778	0.564	0.388	0.252	0.144	0.975
Consumption	1.050	0.976	0.045	0.090	0.221	0.362	0.588	0.832	0.713	0.570	0.433	0.343	0.224	0.760
Investment	13.826	12.851	0.181	0.290	0.311	0.390	0.411	0.403	0.202	0.058	-0.028	-0.127	-0.127	0.480
Capital	0.675	0.627	-0.341	-0.196	-0.038	0.162	0.364	0.563	0.658	0.673	0.644	0.569	0.499	0.388
TFP	1.009	0.938	0.258	0.352	0.460	0.608	0.789	0.975	0.692	0.444	0.255	0.116	0.018	1.000

I also compare these results by the local approximation technique. I report my resultant findings in Table 1 and 2, respectively. Table 1 demonstrates that value function iteration methodology generates better predictions than the local approximation methodology. Global approximation via value function iteration not only delivers better relative volatility estimates, but also generate more realistic comovements for variables of interest.

Conclusions

In this study, I study the numerical properties of the value function iteration methodology using a classic stochastic dynamic programming problem. In particular, I investigate the numerical properties of value function iteration for the canonical neoclassical growth model. In doing so, I rely on the standard value function iteration methodology, along with its variants via Howard (1960) Policy algorithm, value function iteration with MacQueen (1965)-Porteus (1979) error bounds, and linear local search. I find that Howard (1960) policy algorithm and value function iteration with MacQueen (1965)-Porteus (1979) error bounds are the fastest methods, and are equally as reliable as the regular value function iteration. Regular value function iteration is easy to code, but slows down considerably as the size of the state space is increased. Local search in its linear form occasionally generates convergence problems, and offers less reliability than the other competing methods. Overall, I recommend the use of Howard's Improvement Algorithm or the MacQueen (1965)-Porteus (1979) approach to attain a reliable starting guess for any dynamic decision problem, then, if desired, using these results for attempting local search or other more advanced methods.

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