



**Masters International
R&D Center**

MIRDEC 2016

Conference on Social, Economics, Business and Educational Science

CONFERENCE PROCEEDINGS
Budapest, Hungary

Editor
Kemal Cebeci

HOTEL PRESIDENT BUDAPEST
24-26 May, 2016

Masters International Research and Development Center

MIRDEC 2016

International Conference

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ISBN: 978-605-83117-0-1

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MIRDEC 2016, Conference on Social, Economics, Business and Educational Science,
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Preferace and Special Thanks: We are very pleased to introduce the proceedings of the Masters International Research and Development Center, MIRDEC 2016, Conference on Social, Economics, Business and Educational Science, Budapest, Hungary, 24-26 May, 2016. MIRDEC thanks to all our participants for their academic and social contributions.

Special thanks to MIRDEC 2016 Keynote speakers:

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İlker Kefe, İrem Kefe and Veyis Naci Tanış,

"Quality Costs: A Comparison of Two Case Studies"

ISBN: 978-605-83117-0-1

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Published at: **Form Baskı Teknolojileri**, Şerifali Mah. Şehit Sokak, No:16/1 Ümraniye / İstanbul,
Tel: (+90)(216) 337 37 96, Matbaa Sertifika No: 31613, www.formbaski.com.tr
Forum Baskı Tech. Printing House, Certificate no: 31613, www.formbaski.com.tr
Publication date: October 2016
Istanbul, Turkey

Masters International Research&Development Center (MIRDEC)

TABLE OF CONTENTS

HANS-DIEDRICH KREFT

QUADRATIC PROSPERITY GROWTH INSTEAD OF STAGNATION 5

SLAGJANA STOJANOVSKA

THE IMPACT OF INNOVATION OUTPUTS ON COMPETITIVENESS: COMPARATIVE ANALYSIS 6

LÁSZLÓ ANDOR

THE NEXT STEPS OF EMU REFORM AND THE CASE FOR EUROZONE UNEMPLOYMENT INSURANCE 7

NORBERT SZIJARTO

INSTITUTIONAL CHANGE OF THE ECONOMIC AND MONETARY UNION AND THE OPTIMUM CURRENCY AREA THEORY 8

CHAERUL D. DJAKMAN, RAHMIA HASNIASARI AND HANDOYO PRIHATANTO

GOVERNANCE, GOVERNMENT PERFORMANCE, AND POLITICS TO INFLUENCE SOCIAL-ENVIRONMENTAL: INDONESIA MUNICIPALITIES CASE 9

KNUT MICHELBERGER

INFLUENCE OF SUPERVISORY BOARD COMPENSATION AND INCENTIVATION ON FIRM PERFORMANCE 10

FADHIL HASAN AND EKO LISTIYANTO

THE IMPACT OF FISCAL DEFICITS ON INTEREST RATE IN INDONESIA 21

ROBERT G. VAMBERY AND PETER MAYER

FREE MARKET CAPITALISM VS. STATE CAPITALISM: THE WORLD WE ARE LIVING IN NOW AND WHAT WE MUST DO TO KEEP IT LIVABLE 22

HAMZEH ARABZADEH JAMALI

THE POLITICAL ECONOMY OF TWIN DEFICITS AND WAGE SETTING CENTRALIZATION 23

YAĞMUR SAĞLAM AND FİLİZ ERATAŞ SÖNMEZ

FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH: A COMPARATIVE ANALYSIS BETWEEN EURO AREA AND EMERGING-DEVELOPING EUROPE 24

ABDELFETEH BITAT

ENVIRONMENTAL REGULATION AND ECO-INNOVATION: INSIGHTS FROM DIFFUSION OF INNOVATIONS THEORY 40

ISSOUF OUARMA

ESSAY ON GOVERNANCE AND DEVELOPMENT. INSTITUTION, HUMAN
CAPITAL, LIVING CONDITIONS: ROLE IN DEVELOPMENT 41

JACEK GAD

INTERNAL CONTROL AND RISK MANAGEMENT SYSTEMS IN RELATION TO
FINANCIAL REPORTING: THE PERSPECTIVE OF THE POLISH AND GERMAN
CAPITAL MARKETS 42

HULİSİ BİNBAŞIOĞLU AND SÜLEYMAN NİHAT SAD

TURKISH TOURISM STUDENTS' INTERNATIONAL POSTURE..... 43

NICHOLAS DIMMITT

PROJECT-BASED CLASSROOM ACTIVITIES TO EMPOWER STUDENT LEARNER
AUTONOMY 44

ÖZLEM ENGİN AND RENAN SEZER

A COMPARISON OF COGNITIVE DEMAND LEVELS OF TASKS IN 7TH GRADE
MATHEMATICS TEXTBOOK USED IN TURKEY WITH THOSE IN SINGAPORE, AND
THE UNITED STATES..... 45

YASER ALADWAN

THE EFFECT OF USING CALL PROGRAM ON TEACHING ENGLISH COURSES AT
THE WORLD ISLAMIC UNIVERSITY AND THE STUDENTS' ATTITUDES 46

**ROSA MARÍA VELÁZQUEZ SÁNCHEZ , JESÚS GÓMEZ VELÁZQUEZ AND
ARMANDO PEREZ DELGADILLO**

ORGANIZATIONAL CLIMATE ELEMENTS IN A MEXICAN TECHNOLOGICAL HIGH
SCHOOL 47

**ALINA ALMASAN, CRISTINA CIRCA, JUSTYNA DOBROSZEK AND EWELINA
ZARZYCKA**

THE MANAGERS' PERCEPTION ON THE USEFULNESS OF MANAGEMENT
ACCOUNTING: A COMPARATIVE STUDY 48

PATRICK LEONI AND ALVARO SANDRONI

CAN PATENT DURATION HINDERS MEDICAL INNOVATION?..... 49

AHMET MURAT ÖZKAN AND ALİ OĞUZ BAYRAKÇIL

MANAGEMENT STYLE AND COLLECTIVISM AT TURKISH SME..... 50

ALİ OĞUZ BAYRAKÇIL AND AHMET MURAT ÖZKAN

WORKPLACE SAFETY: AN EMPIRICAL STUDY REGARDING ACADEMIC
EDUCATION..... 51

LUKASZ WSCIUNIAK

STRATEGIC USE OF PATENTS AS A NEW DIRECTION IN INTELLECTUAL
PROPERTY MANAGEMENT 52

KATARZYNA SKORUPIŃSKA

EVALUATION OF THE ACTIVITY OF WORKS COUNCILS IN THE POLISH LABOUR
RELATIONS..... 53

**ADEEL AHMED , MOHD ANUAR ARSHAD, ARSHAD MAHMOOD AND SOHAIL
AKHTAR**

EMPLOYEES ORGANIZATIONAL CITIZENSHIP BEHAVIOR THROUGH THE LENS
OF AL-GHAZALI THEORY OF SOUL: A HOLISTIC PERSPECTIVE 54

RIAZ AHMED

SOCIAL INFRASTRUCTURE AND PRODUCTIVITY OF MANUFACTURING FIRMS-
EVIDENCE FROM PAKISTAN 55

JOANNA DZIAŁO

FISCAL RULES INDEX AS A MEASURE OF QUALITY OF FISCAL RULES –
EVIDENCE FROM THE EUROPEAN UNION COUNTRIES 56

NIHAN İÇÖZ

MİNA URGAN: AN ACADEMICIAN, A WRITER, TRANSLATOR AND HUMAN 57

MANAF BASHIR

PUBLIC RELATIONS IN A SOCIAL MEDIA ENVIRONMENT: IDENTIFYING
DISCOURSE EVOLUTION IN KUWAITI ORGANIZATIONS 58

MARIYA SERGEYEVNA LYASHENKO

DEPLOYMENT OF SOCIAL MEDIA IN THE UNIVERSITY EDUCATIONAL
ENVIRONMENT..... 59

VEYİS NACİ TANIŞ, İLKER KEFE AND İREM KEFE

QUALITY COSTS: A COMPARISON OF TWO CASE STUDIES..... 60

OLGA IRODENKO

THE DETERMINANTS OF INTERNAL AUDIT EFFECTIVENESS: THEORETICAL
STUDY..... 61

MURTAZA AYKAC AND DEVRİM ERDEM KEKLİK

THE CONTRIBUTION OF THE ACTIVITIES OF CREATIVE DRAMA FICTONALIZED
WITH CHILDREN’S LITERATURE TO THE SPEAKING SKILLS OF PRESCHOOLERS
..... 62

ÖZKAN ZÜLFÜOĞLU

BUDGET DEFICITS IN EUROPEAN UNION AFTER EURO 70

LENKA JANOŠOVÁ

EXTENDING THE AGE OF THE ECONOMICALLY ACTIVE POPULATION AS A
WAY OF ADAPTING TO AN AGEING WORKFORCE 71

DİLARA ZORLUTUNA

THE NOTION OF PRIVATE LIFE AND THE THEORY OF THREE SPACES 83

TAREK ABDELFAHMAH MOURSI AND NOHA S. OMAR

DETECTING NATIONAL AND SUB-NATIONAL ECONOMIC PERFORMANCE USING
WEATHER SATELLITE PICTURE COMPOSITES: THE CASE OF EGYPT..... 89

ANNA-STEPNIAK KUCHARSKA

THE ECONOMIC POTENTIAL OF THE SME SECTOR IN POLAND 109

MOULIK KAPADIA AND ABHIGNA CHAVDA

INVENTORY OPTIMIZATION MODEL DESIGN ACROSS THE CHAIN OF A
HSAW(HELICAL SUBMERGED ARC WELDING) PIPE MANUFACTURING PROCESS
..... 110

ABHIGNA CHAVDA, MOULIK KAPADIA AND SHIVAM SETH

INVENTORY RATIONALIZATION OF HSAW PIPE MANUFACTURING PROCESS
USING LINEAR PROGRAMMING..... 111

HANS-DIEDRICH KREFT¹

QUADRATIC PROSPERITY GROWTH INSTEAD OF STAGNATION

Abstract

Today's world economy is threatened by stagnation. The conventional fiscal instruments to counter this are exhausted. If no new economically convincing solutions are found to avoid stagnation, we are faced with increasing distribution struggles between nations. The ensuing economic crisis threatens to destabilize political systems because humans lose faith in the market economy and the democracy it supports. In 1936 economist Friedrich Hayek in his presidential address to the London Economic Club held a speech titled "Economics and Knowledge". In his address he introduced the term "bit of knowledge" and urged his guild to search for said „bit of knowledge“ as otherwise the science of economics could not be developed further. To achieve this objective, this article presents a new mathematically formulated superstructure for economic theories. New cybernetic methods are applied to economic processes. It is shown that economic success has a quadratic dependency to the success of the education system. This means that when the education level increases by 1%, economic income increases by 2%. This economic growth is an internal not external expanding one since higher educated individuals live inside their national frame. The quadratic economic grow would allow nations to service or pay down their national debt. All these positive effects occur when the economic system promotes and supports the education system and visa verse. With this, unemployment loses its trepidation because now, not only employed workers are paid an income also individuals who further their education are compensated for their learning efforts. Furthermore, individuals of the social underprivileged class can generate income by their own means. That, in turn, stabilizes the political system.

Keywords: Stagnation, growth, education

JEL Code: O10, O15

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SLAGJANA STOJANOVSKA¹

THE IMPACT OF INNOVATION OUTPUTS ON COMPETITIVENESS: COMPARATIVE ANALYSIS

Abstract

Using data set from both the Global Innovation Index (GII) and Global Competitiveness Index for selected EU countries, including Turkey and Macedonia as *candidate countries* for EU membership, for the period 2010 – 2015, this research identify *drivers* of innovation output and investigates their impact on competitiveness. The findings indicate that the innovation outputs both knowledge and creative outputs are vital for the national competitiveness. On other hand the comparative analysis of the results helps in understanding the existing weaknesses and strengths in their innovation efforts. According to that advanced economies as EU countries remain leading innovators with high level of competitiveness. In contrast, innovation outputs of Macedonia as developing country remains limited, which poses a risk to its growth in the long run. *Turkey* as one from the *fastest growing countries* among the *emerging economies* shows a positive change in the innovation output performance. These findings should help policy makers and other stakeholders to create better policies, strategies, practices and other levers which will strengthen the national innovative capacity because using knowledge effectively enhances productivity and creates new market opportunities.

Keywords: Innovation outputs, competitiveness, knowledge, weaknesses/ strengths

Jel Code: M16, M21, M10, M11

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LÁSZLÓ ANDOR¹

**THE NEXT STEPS OF EMU REFORM AND THE CASE FOR EUROZONE
UNEMPLOYMENT INSURANCE**

Abstract

The divergences developed within the euro area represent the main threat to the existence of the single currency and to the stability of the EU as a whole. Such weaknesses have been explored by the Four Presidents' Report in 2012, and the Five Presidents' Report in 2015. For the sake of sustainability and better economic performance, the reform of the EMU has to continue. Completing the Banking Union is crucial, and so is the consolidation of the anti-crisis functions of the ECB, and the creation of a proper Eurozone fiscal capacity. Without automatic stabilizers, a monetary union can only deliver suboptimal results. In the recent years, common unemployment insurance has been examined as one of the possible ways to improve the functioning of the EMU through temporary, but rule-based transfers. Among various options, a partial pooling of unemployment benefit schemes stands out as the model with continuous impact and direct connection with the citizens, while the political process may favour less permanent features and more conditionality. In any case, there is a strong case for better risk-sharing in Europe that would lead to better economic and social outcomes as well as greater political cohesion.

Keywords: Eurozone, divergence, fiscal capacity

JEL Code: H55, E23

¹ Professor, Corvinus University of Budapest, Hungary

NORBERT SZIJARTO¹

**INSTITUTIONAL CHANGE OF THE ECONOMIC AND MONETARY UNION AND THE
OPTIMUM CURRENCY AREA THEORY**

Abstract

The paper investigates the European economic integration by merging two interconnected aspects: the Optimum Currency Area (OCA) theory and European economic governance that has not been analyzed in detail since the eruption of the global financial crisis. The OCA theory has changed significantly since the seminal paper of Mundell but did not play essential role in the creation of the Economic and Monetary Union (EMU). However, the EMU had worked almost perfectly prior to the crisis of 2008 that revealed its poor governance framework. Due to its design failures and institutional weaknesses a European sovereign debt crisis (“eurocrisis”) emerged. Endogenous forces within the EMU are too slow to absorb shocks therefore a new institutional design is fundamental to prevent disintegration. The paper concentrates on the reform of eurozone governance and the new institutional set up: how it creates a more optimal EMU by correcting OCA theory conditions. The institutional integration – as an exogenous approach to the OCA theory – may lead to a well-functioning currency union after the crisis

Keywords: Optimum currency area theory, economic integration, Economic and Monetary Union

JEL Code: E42, E52

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CHAERUL D. DJAKMAN¹, RAHMIA HASNIASARI² AND HANDOYO PRIHATANTO³

**GOVERNANCE, GOVERNMENT PERFORMANCE, AND POLITICS TO INFLUENCE
SOCIAL-ENVIRONMENTAL: INDONESIA MUNICIPALITIES CASE**

Abstract

Social and environmental aspects are two substantial foundations to support the citizen life. A good social condition carries citizen to feel secure, have a good society, and optimizing community to achieve communal goals. In addition, when people maintain and served by a sustain environment, they will able to consume a nutritious food, use a clean water, live healthy, and reach the basic needs of welfare. Those two aspects have to be encouraged by a gallant government system which will produce an appropriate regulation and provide a decent public goods and services. However, there are several issues that have to be considered along with the observation on government service, such as governance, politics, and budget allocation. This paper aims to study the relationship between government and social-environmental aspects in Indonesia. We equip data from over 500 municipalities to capture the behavior of the trend throughout 2012-2013. Governance is measured by Indonesian Governance Indicator; performance will be reflected by the accomplishment of government budget; politics will be represented by gender equality on institution leader level; along with the social and environmental aspects that will use Raworth's social foundation and environment ceiling as proxy. To the best of the knowledge, this is the initial study which examines the relationship between government and social-environmental aspects, particularly in the Asian context using municipality data approach.

Keywords: Local government, governance, government performance

JEL Code: F64, Q58

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KNUT MICHELBERGER¹

INFLUENCE OF SUPERVISORY BOARD COMPENSATION AND INCENTIVATION ON FIRM PERFORMANCE

Abstract

A broader study of the author of this paper examines a sample of German stock-listed companies. The overall objective of the study is to find out whether ‘good’ corporate governance and board competence explain firm performance differences. Which corporate governance attributes distinguish performing (outperforming) from non-performing (underperforming) companies? Several ‘good’ corporate governance variables, specifically the number of committees, supervisory board compensation, risk liability, etc. are examined regarding their effect on firm performance in terms of firm growth and profitability. The main approach is a quantitative data analysis, based on financial figures and corporate governance variables. The total sample consists of 128 German stock-listed companies. The financial data are obtained from the financial databases providers ThomsonOne and Morningstar. The corporate governance data are also collected from annual reports and from corporate governance compliance statements. According to the German Corporate Governance Codex (DCGK) each stock-listed company has to explain to what extent they comply with the DCGK rules. Thus, the DCGK represents a benchmark of ‘good’ corporate governance and allows collecting quantitative and thus objective and comparable data to estimate the corporate governance level. The main data analysis methods are bivariate analysis and tests for statistical differences (t-test), the latter in particular to find differences between groups clustered by their 5-years total shareholder return (TSR) growth resulting in a TSR top-30 group and TSR bottom-30 group. While the fulfilment of good corporate governance standards shows no significant effect on firm performance, it is found that growth outperformers have smaller supervisory boards, fewer committees and tie the supervisory compensation more closely to firm performance. However, coupling supervisory board compensations to firm performance does not explain the excessive growth of supervisory board compensations in comparison with executive board compensation. In fact, the supervisory board compensation increase has decoupled from the executive board compensation increase. This result is even more remarkable because the executive board compensation is tied to the financial performance of the company over the variable share.

Keywords: Corporate governance, supervisory board, principal–agent theory, supervisory compensation, firm performance

JEL Code: L15, L22, L25

Introduction

Although this paper focusses on the impact of supervisory board compensation and incentivitation on firm performance, the subject is embedded in the broader context of the Corporate Governance discussion and the New Institutional Economics. The neo-institutional approach of financing theory expands the perspective on financing relationships, which – in contrast to neo-classical financing theory places in question the assumption of perfect capital markets, complete information, and the non-existence of transaction costs. New Institutional Economics is based upon the connection of all relations between individuals and commodities through rights of disposal (property rights). Principal-agent theory serves as a theoretical foundation for the definition of financing relations. It constitutes a subdivision of New Institutional Economics, whose core includes three areas of research: (1) Transaction Cost Theory²,

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² Coase, Ronald H. [1937] The Nature of the Firm, pp.390

(2) Property Rights Theory³, and (3) Principal Agency Theory⁴. The Principal Agent Theory attempts to explain how people act within a hierarchy and establishes the necessity of a functioning corporate governance system. The point of departure is economic subjects restricted by an asymmetrical distribution of information, who are not completely informed when judging the actions of other subjects. The agent (commissioned party) is entrusted with a particular task by the principal (commissioning party), whereby both parties strive to maximize their individual utility. Constituent elements of informational asymmetry are adverse selection⁵, moral hazard⁶, and hold-up⁷. Agency problems may arise from (1) the separation of ownership and management or (2) from conflicts of interest between controlling and non-controlling shareholders. Governance structures in the form of a corporate governance code should identify the distribution of responsibilities and rights among the different corporate stakeholders such as the board of directors, shareholders, managers, auditors, creditors, regulators, and others and should contain rules and procedures for decisions making in business affairs. Furthermore, corporate governance includes processes through which the corporation's objectives are defined and pursued in the context of the regulatory, market and social environment. Governance mechanisms comprehend instruments for the monitoring of policies, decisions, and actions of corporations and its management (agent). Therefore, corporate governance systems include definitions and regulations concerning (1) ownership structure, (2) board characteristics, and (3) management controlling regulations. According to the agency theory⁸, a positive relationship between company performance and corporate governance should exist. The Property rights Theory attempts to explain how rights of disposal must be instantiated as required by institutional prerequisites in order to optimize the economic activities of individuals. Each utilization and transaction involving rights of disposal generates costs.⁹ Cooperation partners conclude contracts that regulate the exchange and utilization of rights of disposal. The optimal form for such contracts between cooperation partners is explained by principal-agent theory.¹⁰ In both Principal-Agent Theory and Transaction Cost Theory, transaction costs of supervisory body are being relevant.

The failure of several corporations such as Enron, Tyco, Parmalat, Skandia, Lehman Brothers, etc. in the last decade shows that firms should undertake additional modifications in their corporate governance (CG) to increase transparency and to assure shareholders' reliance on management¹¹

Corporate governance defines the regulatory framework for the management and supervision of companies. The corporate governance framework is largely determined by legislators and owners¹², whereas the actual corporate governance design is the supervisory board's responsibility. The company-specific corporate governance system consists of the totality of relevant laws, regulations, codes, letters of intent, mission statement, and management habits, and monitoring¹³.

Academic literature discusses good corporate governance and the improvement of existing corporate governance. Good corporate governance should ensure and guide a responsible, professional, and transparent business administration in the interest of owners, but also of external stakeholders (i.e.,

³ Coase, Ronald H. (1960). "The Problem of Social Cost". *Journal of Law and Economics* 3 (1): 1–44

⁴ Jensen, Michael C. and Meckling, William H. [1976]. *Theory of the Firm: Managerial Behavior, Agency Cost and Ownership Structure*

⁵ "Adverse selection" is negative risk selection through „hidden characteristics“. Should the agent conceal defects or risks ex ante, the principal can choose the wrong agent. Prevention can be ensured through the possibility of „signaling“ by the agent or screening by the principal.

⁶ "Moral hazard" is caused by „hidden actions“ during the performance process or by „hidden information“.

⁷ "Hold-up" occurs due to the hidden objectives of the parties. In this way, investment decisions can be made and it is first ex post that dependencies can be identified and taken advantage of.

⁸ Jensen & Meckling 1976

⁹ Alchian, Armen A. and Demsetz, Harold [1972]. *Production, Information Costs, and Economic Organization*. pp. 777.

¹⁰ Jensen, Michael C. and Meckling, William H. [1976]. *Theory of the Firm: Managerial Behavior, Agency Cost and Ownership Structure*, pp. 309 ff.

¹¹ Hermalin & Weisbach, 2012, p. 326

¹² Spira, 2002, p. 11

¹³ OECD, 2010, p. 34

creditors, sales and procurement markets, society, citizens)¹⁴. Discussed characteristics of ‘good’ corporate governance are (1) appropriate risk management, (2) formal and transparent procedures for the proposal and election of board members, (3) functional organizational management, (4) management decisions focused on long-term value creation, (5) transparency in internal and external corporate communications, (6) safeguarding mechanisms to secure the interests of various groups (stakeholders), and, overall, (7) a clearly defined management and control structure.¹⁵

The subject of ‘good’ corporate governance has gained in importance also in Germany since the 1990s. The German government passed the Law of Control and Transparency (KonTraG) in 1998, which was the first actual corporate governance law in Germany, which extended the liability of directors, supervisors and auditors. The core of this law is a provision forcing companies to introduce and operate company-wide early warning systems and to publish statements about risks and the company’s risk structure in a special report attached to the annual report. Due to the subsequent publication in the *Federal Law Gazette*¹⁶ the declaration obligation in Section 161 in the Stock Corporation Act applies for listed companies. The supervisory and executive boards of corporations are obliged annually to explain if the Code is adopted or rejected as a whole or only parts of the Code are.¹⁷ The declaration must be made permanently available to the shareholders and all other interested parties on the company's website. In 2013, the Commission decided on cuts of the Code and also dealing with the management board remuneration. The most important point is the recommendation to limit the board remuneration including their variable parts.¹⁸

1. Research Question, Data and Methods

While one of the objectives of the study is to analyze corporate governance attributes distinguishing performing (outperforming) from non-performing (underperforming) companies, this paper focusses on the influence of supervisory compensation and incentivation on firm performance.

Good corporate governance is observed mainly by deviations from the ‘good’ corporate governance codex as a benchmark provided by the German Corporate Governance Codex and is measured as total number of exceptions from the codex and as exceptions from selected core elements of the codex. Additionally, board size, number of committees, compensations, etc. are collected as well. Some data are calculated based on given financials, such as share of management costs to revenue.

The research process involves several steps and different statistical tests conducted with the total sample as well as with subgroups. The total sample consists of 128 German stock-listed companies in the period 2005 to 2014, for which the necessary data is completely available. The data source for firm performance metrics is Thomson ONE by Thomson Reuters and Morningstar. The data for qualifying corporate governance are retrieved from corporate governance reports, containing the declaration of exceptions to the Corporate Governance Codex, and annual reports containing key performance metrics, the number of board members, board members’ academic degrees, number of committees, performance-based supervisory board compensation, etc. The values are collected from the annual reports and corporate governance compliance statements for the years 2010 and 2014, converging with the financial data that refer on a 5-year period such as 5-year total shareholder return average, 5-year return growth (CAGR)¹⁹, etc. The financial data are all scaled numerically, as are most corporate governance values. The main data analyses methods are bivariate correlations testing and tests for statistical differences (t-test), the latter in particular to find differences between groups clustered by their 5-year total shareholder return growth resulting in a TSR top-30 group and TSR bottom-30 group.

Based on these data, which are supplemented by several firm performance characteristics such as revenue growth, total shareholder growth, and financial leverage, the following tests are applied:

¹⁴ Spedding, 2009, pp. 500–503

¹⁵ Passenheim, 2010, p. 11

¹⁶ Federal Law Gazette (Bundesgesetzblatt)

¹⁷ Jannott & Frodermann, 2014, pp. 266–268

¹⁸ Janocha, 2014, p.2

¹⁹ CAGR: Compound Annual Growth Rate.

1. Testing Statistical Influence of Single Board Characteristics on Firm Performance among the Total Sample. The main data analysis applies Pearson's R as a correlation coefficient to analyze bivariate correlations or cumulative influences of corporate governance characteristics on firm performance through the application of the multivariate regression analysis.
2. Testing Differences between TSR Performance Groups: Additionally, not only bivariate correlations among the total sample are analyzed but also among different groups. The sample is clustered into two different groups. One group, which is named TSR top-30 group (TSR outperformers), includes the top-30 companies with the highest total shareholder returns among the total sample, while the second group, which is named TSR bottom-30 group (TSR underperformers), includes the 30 companies with the lowest total shareholder returns in a 5-year period among the total sample. Both groups are compared by applying a t-test, to determine the significance of group differences, while among both groups, the same tests are performed as with the total sample regarding bivariate correlations.
3. Testing Multivariate Effects among the Total Sample: All independent corporate governance variables are included in the final testing to examine their cumulative impact. The multivariate test is conducted to test the influence of the accumulated effects of all corporate governance variables on the total shareholder return (TSR).

2. Analysis

2.1 Data Samples

The total sample includes all German companies listed in the DAX30, MDAX, SDAX, and TecDAX minus the companies for which corporate governance data were not available, as was explained in the data collection section of this study above.

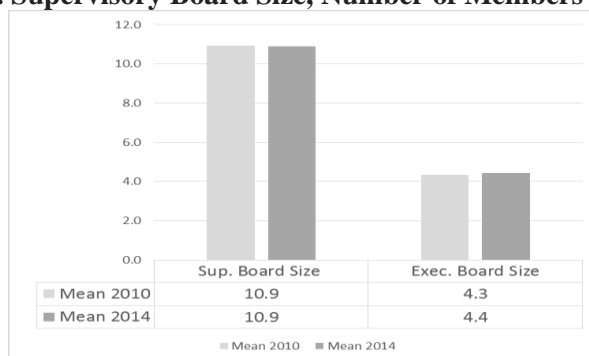
The TSR-30:30-sample consists of the top-30 companies and the bottom-30 companies in terms of the total shareholder return (TSR). Thus, the TSR 30:30 sample consists of, from the shareholder's viewpoint, the most profitable companies and the companies with the lowest profitability. The TSR-top-30-companies show the highest degree of serving the shareholder's interest, labeled as TSR-outperformers and, vice versa, the TSR-bottom-30-companies are labeled as TSR-underperformers.

The main sample's difference in terms of 5-year TSR growth is very high (38.25% vs. -7.95%), while the differences in terms of 5-year revenue growth (12.17% vs. 6.10%) and profitability (ROIC: 11.13% vs. 6.27) are not as large. The revenue mean for the TSR top-30 group accounts for EUR 5.8bn (2014) and is lower compared with the TSR bottom-30 group (EUR 12bn).

2.2 Supervisory Board Characteristics

The average size of the supervisory boards and the average size of the executive board of the total sample remains absolutely constant over the measurement period 2010 to 2014 (see Figure 1).

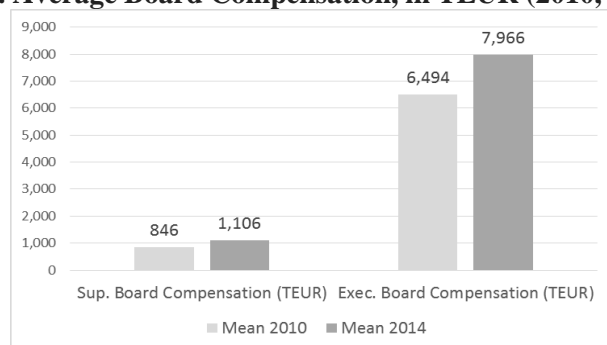
Figure 1. Supervisory Board Size, Number of Members (2010, 2014) (Total Sample)



Source: Own calculation and presentation.

Yet the average compensation of supervisory board members and executive board members increased considerably in this time period. For the group of supervisory members, the average compensation increased by EUR 260,000, while the group of executive board member's compensation increased by EUR 1.472m (see Figure 2)

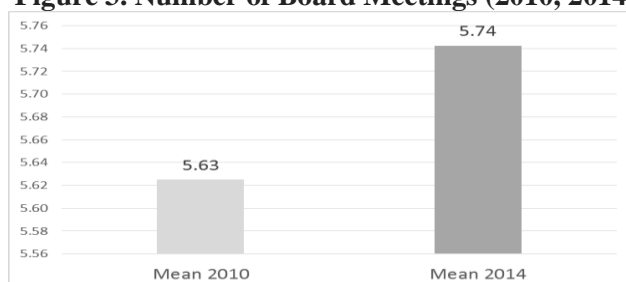
Figure 2. Average Board Compensation, in TEUR (2010, 2014) (Total Sample)



Source: Own calculation and presentation.

Since the supervisory board compensation is linked to the number of sessions, the number of supervisory board sessions is also interesting. Yet, the number of supervisory board meetings indicates not a significant increase in the observation time period (see Figure 3).

Figure 3. Number of Board Meetings (2010, 2014) (Total Sample)



Source: Own calculation and presentation.

In this respect, it can be assumed that, in principle, the compensation increase reflects less the increased control effort. Rather, it may be assumed, that the supervisory board compensation increase is more aligned with the increase of the executive board compensation, which is, in the most cases linked to company performance. However, the growth rates of both shows, that the supervisory board increase exceeds the executive board compensation growth rate. While the average executive board compensation increases by 22%, the average supervisory board compensation increases by 30% (see Table 1).

Table 1. 5-Years Average Increase of Compensation (CAGR), Index = 100 (2010 to 2014) (Total Sample)

	Sup. Board Compensation (TEUR)	Exec. Board Compensation (TEUR)
Mean 2010	100.00	100.00
Mean 2014	130.70	122.68

Source: Own calculation.

Considering further the correlation between the growth of the supervisory board compensations and the executive board compensations of the total sample shows, as expected, only a low correlation. Calculating the compound average growth rate of both the supervisory board compensation and the executive board compensation for each company as

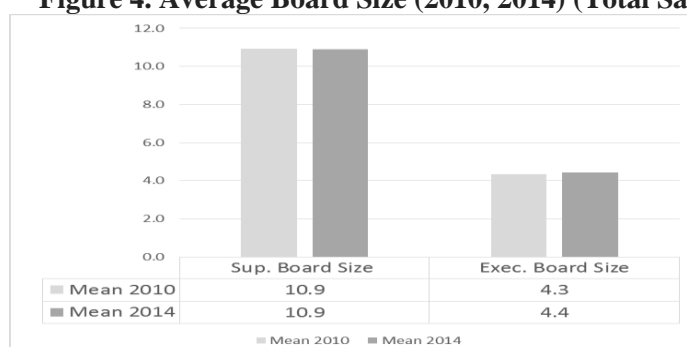
Equation 1. CAGR Formula

$$CAGR = \left(\frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\left(\frac{1}{\# \text{ of years}} \right)} - 1$$

results in a correlation of $r = 0.27$, which is very low, so that it can be stated, that the supervisory board compensation increase has decoupled from the executive board compensation increase. This result is even more remarkable because the executive board compensation is tied to the financial performance of the company over the variable share, which is an essential source of executive compensation in all companies in the sample, so that the executive board compensation may be considered as a benchmark for a performance-based compensation. Yet, the supervisory board compensation exceeds the executive board compensation by more than 10% -points. Therefore, it could be concluded that the development of supervisory board compensation has been decoupled from the actual firm performance in the observation period.

It would be, however, conceivable, that this development could be explained by an increase in the number of supervisory board members. Yet the average supervisory board size remains absolutely equal in this sample over the observation period(see Figure 4).

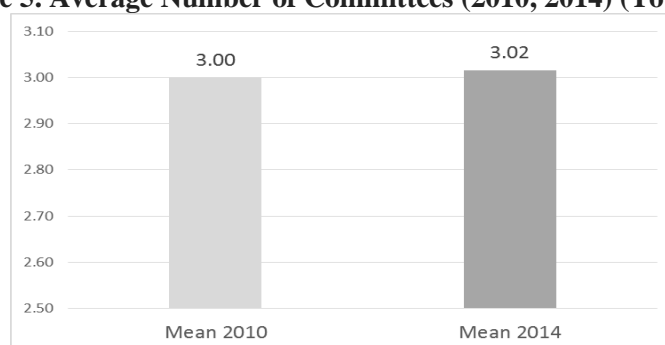
Figure 4. Average Board Size (2010, 2014) (Total Sample)



Source: Own calculation and presentation

Another reason for this excessive growth of supervisory board compensation might arise from the fact that the average number of committees may have increased so that higher attendance fees incurred. But here, too, the number of supervisory board committees has not changed over the observation period (see Figure 5).

Figure 5. Average Number of Committees (2010, 2014) (Total Sample)



Source: Own calculation and presentation

Therefore, it can be concluded, that, at least of the basis of the present data, no reason can be found to explain such an excessive increase of supervisory board compensations.

2.3 'Good Corporate Governance' Characteristics

The German Corporate Governance Codex comprehends 62 sections. Only a certain number of sections are selected for the purpose of this paper.

1. Overall Compliance with Corporate Governance Rules: § 161 of the German Stock Corporate Act (AktG). The number of exceptions can be obtained from the declaration of compliance, which is either provided in the annual report or published on the investor relation website.
2. Performance-based Compensation: § 5.4.6, section 2 of the German Corporate Governance Codex (DCGK) determines that the members of the supervisory board shall receive a compensation that is commensurate to their duties and the company's position.

2.4 Results

It has been already stated above that the supervisory board compensations increased significantly stronger than management compensations. While a relatively strong correlations exists between firm size and board size ($r = 0.478$), a strong correlation exists as well between the number of committees and supervisory board compensation ($r = 0.528$) (see Table 2).

Table 2. Correlations between Firm Size, Number of Committees and Supervisory Board Compensation (Total Sample)

Correlations			
		Revenue_2014_EUR.Mil	Sup. Board Size
Number Committees	Pearson Correlation	-.176*	-.329**
	Sig. (2-tailed)	.047	.000
	N	128	128
Sup. Board Size	Pearson Correlation	.478**	1
	Sig. (2-tailed)	.000	
	N	128	128

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Own calculation.

From both results, it can be concluded, that the larger the company in terms of revenue in 2014, the higher is the supervisory board size, and that the higher the number of committees, the higher is the supervisory board compensation, whereas both correlations are highly significant at the 0.01 significance level (see Table 2). On the other hand revenue growth is slightly negative correlated with firm size in terms of revenue in 2014 with $r = -0.176$ level (see

Table 2). Thus, it can be assumed, that, at a certain level, the monitoring complexity rises immensely without an influence on firm performance, so that the supervisory costs in larger firms may be higher without more influence on firm performance. However, this explanation needs further tests.

The group statistics as shown in Table 3 of the TSR-30:30-sample indicates that the TSR top-30 companies have a smaller supervisory boards, fewer committees and smaller executive boards, pay smaller supervisory board compensations and executive board compensations, but comply lesser with the DGCK ("Number of Except. § 161"), etc. than the TSR bottom-30 companies. Here again, the firm size effects become much more visible as in the total sample. While the TSR top-30 group shows a 5-years TSR growth of 38% against -8% among the TSR bottom-30 group, the mean revenue is 5,792m, while the average TSR bottom-30 company revenue accounts to 11,900m. Instead, the TSR top-30 group shows a double 5-years revenue growth (see Table 3).

Table 3. TSR 30:30 Group Statistics

		Group Statistics			
Top30 =1; Bottom30=2		N	Mean	Std. Deviation	Std. Error Mean
5y-TSR Growth	Top 30	30	38.2493	15.20116	2.77534
	Bottom 30	30	-7.9533	8.12019	1.48254
5y- Rev. Growth	Top 30	30	12.1683	19.27009	3.51822
	Bottom 30	30	6.0987	9.14848	1.67028
Sup. Board Size	Top 30	30	9.233	5.4373	.9927
	Bottom 30	30	12.300	6.4228	1.1726
Exec. Board Size	Top 30	30	3.733	1.7991	.3285
	Bottom 30	30	4.500	1.5029	.2744
Sup. Board Comp. TEUR	Top 30	30	519.500	611.7080	111.6821
	Bottom 30	30	1085.133	1161.2743	212.0187
Exec. Board Comp. TEUR	Top 30	30	3448.767	4040.3610	737.6656
	Bottom 30	30	6890.600	5436.6526	992.5924
Number Board Meetings	Top 30	30	5.400	2.2682	.4141
	Bottom 30	30	5.533	1.9954	.3643
Number Sup. Board Memb. with PhD	Top 30	30	3.200	2.2954	.4191
	Bottom 30	30	3.933	2.5316	.4622
Number of Comittees	Top 30	30	2.367	1.9737	.3603
	Bottom 30	30	3.467	1.5477	.2826
Numb. SB-Members with oth. Mandates	Top 30	30	4.967	4.6497	.8489
	Bottom 30	30	7.400	6.0777	1.1096
Number of Excep. § 161 AktG	Top 30	30	6.167	3.5241	.6434
	Bottom 30	30	4.433	4.0995	.7485
Number of Excep. DCGK § 3	Top 30	30	.833	.9129	.1667
	Bottom 30	30	.500	.6823	.1246
Number of Excep. DCGK § 5	Top 30	30	2.900	2.1391	.3905
	Bottom 30	30	2.233	2.4870	.4541
5y Average ROIC	Top 30	30	11.1315	8.5325	1.5578
	Bottom 30	30	6.2656	8.1281	1.4840
Exec. Comp/Rev. Ratio	Top 30	29	0.0068	0.0077	0.0014
	Bottom 30	30	0.0040	0.0053	0.0010
5y Average Financ. Lev.	Top 30	30	3.3183	1.6671	0.3044
	Bottom 30	30	3.2147	1.8720	0.3418
Revenue 2014 (EUR Mil)	Top 30	30	5792.167	13220.4075	2413.7051
	Bottom 30	30	11963.767	24371.3851	4449.5858

Source: Own calculation.

Table 4. TSR-30:30-Sample Correlations Regarding Firm Performance

Correlations TSR Top-30		5y- Rev. Growth	5y Average ROIC	Exec. Comp/Rev. Ratio	5y Average Financ. Lev.	Revenue 2014 (EUR Mil)
5y-TSR Growth	Pearson Correlation	.639**	-.005	.191	.020	-.230
	Sig. (2-tailed)	.000	.979	.320	.918	.221
	N	30	30	29	30	30

Correlations TSR Bottom-30		5y- Rev. Growth	5y Average ROIC	Exec. Comp/Rev. Ratio	5y Average Financ. Lev.	Revenue 2014 (EUR Mil)
5y-TSR Growth	Pearson Correlation	.035	.124	-.484**	-.060	-.075
	Sig. (2-tailed)	.855	.514	.007	.753	.693
	N	30	30	30	30	30

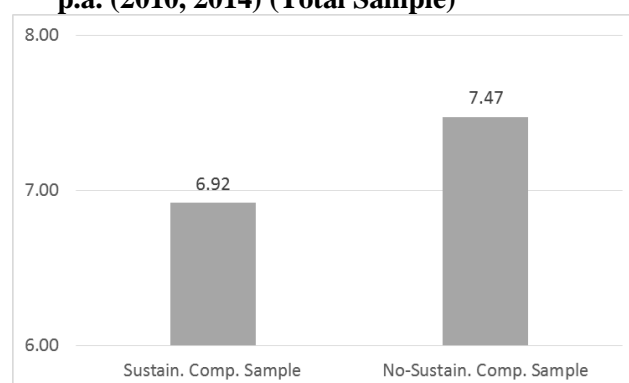
Source: Own calculation.

Table 4 shows that the difference between both groups in terms of the share of management costs to revenue ("Exec. Com./Rev Ratio" in

Table) is relatively moderate. While the share of management costs in the TSR top-30 group is 0.007% of revenue, the share of management costs in the TSR bottom-30 group accounts for 0.005%. Again, it must be questioned if management incentives are really effective in particular against the background of the correlations in both samples. The TSR sample correlation comparison shows no correlation between the management compensation/revenue ratio and shareholder return (TSR) growth in the case of the TSR top-30 group as well as a relatively strong negative and significant correlation in the case of the underperforming TSR bottom-30 group (see Table 3). This implies, that TSR growth in the case of the outperformers is not related to management compensation and means that the higher the TSR growth, the lower is the share of management compensation to revenue, or, vice versa, the lower the TSR growth, the higher is the share of management compensation to revenue.

As the increase of supervisory fee growth could not be explained by the increase in the number of sessions and thus higher attendance fees, or with the increase in the size of the supervisory boards, a comparison of companies with and without exceptions to § 5.4.6 (coupling of supervisory board compensation and firm performance) may provide additional indications. Therefore, two sub-samples were formed to compare group differences in the growth of supervisory compensations. One group consists of all companies which have not established a performance-dependent supervisory board compensation neither in 2010 nor in 2014, and vice versa. The group of companies with a coupling of supervisory board compensation to firm performance includes 70 companies, which is 55% of the total sample. As the difference between both groups in terms of the 5-years CAGR growth in % p. a. is extremely low with only 0.5 percentage points (see Figure 6) it cannot be concluded that the excessive supervisory board compensation growth is performance related.

Figure 6. Comparison of 5-Years CAGR Supervisory Board Compensation Growth, in p.a. (2010, 2014) (Total Sample)



Source: Own calculation and presentation.

Thus, it can finally be concluded, that the coupling of supervisory board compensations to firm performance does not explain the excessive growth of supervisory board compensations in comparison with executive board compensation. And, vice versa, it may be questioned, if the § 5.4.6 rule, which requires a link between firm performance and supervisory board compensation, is really effective, in that the compliance with this rule leads to the desired results.

Conclusions

The results of all bivariate analysis of the total sample indicate that none of the single factors show a higher ($r > 0.5$) and significant correlation with firm performance indicators. Therefore, it can be concluded that the selected parameters of 'good' corporate governance are not significantly relevant for revenue growth and total shareholder return growth. However, this does not mean that they are irrelevant. The examination of the TSR-30:30-sample indicates that the TSR top-30 companies – with the TSR growth of 38% – have smaller supervisory boards, fewer committees and smaller executive boards, pay smaller supervisory board compensations and executive board compensations, but comply lesser with the DCGK ("Number of Except. § 161") than the TSR bottom-30 companies with the TSR growth of -8%.

It can finally be concluded, that the coupling of supervisory board compensations to firm performance does not explain the excessive growth of supervisory board compensations in comparison with executive board compensation. In fact the supervisory board compensation increase has decoupled from the executive board compensation increase. This result is even more remarkable because the executive board compensation is tied to the financial performance of the company over the variable share and, vice versa, it may be questioned, if the § 5.4.6 rule, which requires a link between firm performance and supervisory board compensation, is really effective, in that the compliance with this rule leads to the desired results.

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MOHAMAD FADHIL HASAN¹ AND EKO LISTIYANTO²

THE IMPACT OF FISCAL DEFICITS ON INTEREST RATE IN INDONESIA

Abstract

This study aims to examines the effects of fiscal deficits and government debt on interest rate in Indonesia using annual time series data from 1990 - 2015. By using the Vector Auto-regression method, the results of the analysis showed that the fiscal deficits and government debt has a positive impact on the interest rate. It is recommended that deficit financing should be put into productive expenditure especially infrastructure in order to raise economic growth and create more employment. Furthermore, the government revenue should be increased mainly from tax revenue. The results of this study also shows that the government debt management must be managed properly so that the economy can grow with the support of adequate liquidity.

Keywords: Fiscal deficits, interest rate, crowding out

JEL Code: E62, H60

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ROBERT G. VAMBERY¹ AND PETER MAYER²

FREE MARKET CAPITALISM VS. STATE CAPITALISM: THE WORLD WE ARE LIVING IN NOW AND WHAT WE MUST DO TO KEEP IT LIVABLE

Abstract

Free market capitalism has many benefits and advantages. It also has significant weaknesses. As the world economy evolves with the emergence of the highly competitive state capitalist system with government supported and privately managed companies, the relative weakness of a free market economic system is growing and its strengths are diminishing. Globalization has created some major opportunities for firms while also creating huge disruptions in corporate business models as well as government regulations and taxation. On the positive side, it generated vigorous economic growth in many newly industrialized and third world countries. On the negative side, in OECD countries it led to reductions in earnings growth, economic stagnation and impoverishment and the political alienation of a significant portion of the skilled and unskilled as well as young people. There have been several developments which will continue to have negative impacts on entire economies such as: • Not only is income inequality growing in many countries, but the real earnings and purchasing powers of lower to middle income people have been stagnating and in some cases actually reduced. This is leading to a decline in their spending ability and is increasingly antagonizing their views towards a free market capitalist system and a liberal democracy. • For more and more people “free market” means “rigged market” in favor of a small group of ever richer people. • Despite a slowing in the growth of the economies of the world and actual GDP stagnation in most OECD countries, corporations (especially the large global ones) are increasing their profit margins and cash flows. • These profits combined with low interest rates and easy credit, have become an incentive for companies to seek expansion through acquisitions and financial engineering rather than organic growth. As a result, vast numbers of lower to middle income people, including the majority of young people, have limited confidence in the current economic and political system and their futures in it. They are looking for a greater governmental role in managing the economy, and a more inward, “selfish” philosophy away from globalization – all forms of globalization – economic/business/financial, cultural, moral and ethical. Are we proponents of state capitalism or are we closet socialists or revolutionaries? No, not by a long shot. We are, in fact, the true believers in a free market economic system in a liberal democracy – a system in which the government helps to protect against unfair competition and helps to maintain a level playing field and a system in which well established, democratic governmental and nongovernmental institutions help insure individual and corporate freedom to live and function freely on a level playing field and thrive based on performance and not on prejudices.

Keywords: Free market capitalism, state capitalism, inequality, globalization

JEL Code: P16, P27, P47, J18

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HAMZEH ARABZADEH JAMALI¹

THE POLITICAL ECONOMY OF TWIN DEFICITS AND WAGE SETTING CENTRALIZATION

Abstract

Fiscal balance has been recognized as one of the most important explanatory variables for global pattern of current account imbalances among the developed countries: More deficit in fiscal balance leads to more deficit in the external balance (Twin deficit). Data from OECD countries show that the countries with more centralized wage bargaining tend to have relatively less deficits in both fiscal and external balances. This paper provides a theoretical framework to explain this observation through a political economy point of view. I show that more centralized wage bargaining reduces the government's political incentive (political cost) to surge (improve) the external deficit through the budget deficit. The mechanism is as follows: An increase in government expenditure and, hence, in budget deficit deteriorates the external balance. This leads to the well-known symptoms of Dutch disease: (i) appreciation of real exchange rate (defined as relative price of Non-tradable sector (N-sector) to tradable sector (T-sector)) and, hence, loss in the competitiveness of T-sector. (ii) shrinkage in T-sector and expansion in N-sector. By introducing Search and Match framework, I show that, if labor market is frictional, the Dutch disease effect of twin deficits will alter the wages in the two sectors in opposite ways: Widening the two deficits leads to a rise (decline) in the real wage in N-sector (T-sector). The opposite happens when the government improves the two balances. Consequently, due to this impact on relative wages, N-sector workers relatively support (oppose) more the rise (reform) in the two deficits. Centralization of wage bargaining moderates the effect on the sectoral wages by reducing the responsiveness of the sectoral wage with respect to the sectoral prices: The more centralized is the wage determination, the less is the rise (decline) in N-sector (T-sector) real wage as a response to deterioration of the two deficits. Consequently, N-sector workers support (oppose) less a rise (reform) in the two deficits, if wage bargaining is more centralized. Relying on the majority rule (median voter theorem), it is argued that policy makers follow the preferences of N-sector workers who constitute the majority in the developed economies. Therefore, the governments in the countries with higher degree of wage centralization will have less political incentives to widen twin deficits and face less political cost for improving the two balances.

Keywords: Wage bargaining centralization, twin deficits, current account imbalances, dutch disease, search and match

JEL Code: P16, H62, J30

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YAĞMUR SAĞLAM¹ AND FİLİZ ERATAŞ SÖNMEZ²

FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH: A COMPARATIVE ANALYSIS BETWEEN EURO AREA AND EMERGING-DEVELOPING EUROPE

Abstract

The purpose of this study to analyze the relationship between financial development and economic growth, within the framework of the Euro Area and Emerging-developing Europe. In this study, there is a comparative analysis to clarify the direction of the relationship and to understand which hypothesis already exist in the literature such as demand-following and supply-leading available for both group of countries. The empirical model using panel data analysis, primarily the homogeneity of variables were investigated by Delta Test and then the cross section dependency is examined by the CD_{LM} test. Also, the stability of the series was tested with CADF, the second-generation unit root test. After proving the existence of the cointegration relationship between the series, long term regression parameters are estimated. According to the empirical results obtained by panel causality test, there is a two-way relationship between economic growth and financial development for both groups of the EU countries.

Keywords: Financial development, economic growth and panel data analysis

Jel Codes: G15, F43, C23.

1. Introduction

Does financial development promotes economic growth or the direct contrary is exist? That question has encouraged researchers to analyze the relationship between these two for a long time. But there is still not a consensus has been reached about the direction of the relationship. While mentioning about the relationship between financial development and economic growth, it is necessary to deal with the different views of researchers on this issue. Levine (2003), describes the financial development as an access to financial credits and financial services; Schumpeter (1912), indicates that financial development promotes economic growth. Robinson (1952), financial development facilitates economic growth through various financial channels and Miller (1998), financial development leads to real internal economic growth thanks to different explanatory variables (proxies). Lucas (1988), believes that the role of financial sector has been exaggerated.

There are two views that is opposite to each other about the direction of the relationship between financial development and economic growth. These are; Patrick (1966), supply-leading and demand-following hypotheses. The supply-leading hypothesis supports that financial markets and institutions increase the supply of financial services, thus leads to real economic growth while demand-following hypothesis is drawing attention to the direction of the relationship from economic growth through financial development. Because a growing demand for financial services in the financial sector, can lead an expansion such as real economic growth did (Bangake and Eggoh, 2009: 2).

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The formation of modern financial institutions spurs economic growth in real economy because their financial assets, liabilities and services respond to the demands of current investors and those who want to save. Then the evolution of the financial system is a result of sustainable economic development. According to the demand-following hypothesis the increase of GDP output rate will also accelerates demand for foreign fund for financial intermediation of entrepreneurs. Supply-side hypothesis based on deep and sophisticated financial markets, which gives a chance to investors to eliminate exchange risk via of rapid trade of assets or swap with other alternatives. Less risk and ease of access to capital improves the allocation of capital and promotes economic growth in the long term (Akıncı et al., 2014: 34-35). Also there are some studies stressed that the relationship between variables is bidirectional (Lewis, 1955; Pradhan 2011; Bangake and Eggoh, 2011), or there is no relationship between them (Lucas, 1988; Chandavarkar, 1992; Eng and Habibullah, 2011).

Financial development is a key factor for economic growth for all countries. Market based system based on commodity, labor, money and capital markets at macro level. But we called money and capital markets together financial sector and countries with more developed financial system (which means depth and efficiency of it) have bigger GDP output rates. Because efficient financial sector has an important role at the optimization of allocation mechanism with mobilization of foreign capital and investments. If a country is lack of financial tools then it is not possible to obtain financial resources and support financial institutions to robust economic growth. It is necessary for two sectors (real and financial sector) to work together to have a balanced and sustainable economic growth (Mehrra and Ghatami, 2014: 75-76).

When it is compared with developed countries, emerging-developing economies have divergent features. First of all they are close to each other geographically and most of them are already a member of European Union but not Eurozone. But the most important common feature is they are ex-communistic countries which had a transition from centrally planned economic system to the market based economy after the fall of Berlin Wall in 1990's except Turkey (Yıldırım et al., 2013: 711).

Gill et al. (2012); Kolev and Zwart (2013), with transition it was obvious not only to restructure and rebuild industrial sector with new institutions but also regaining the inactive human capital stock. The need for finance and banking sector have increased just after privatization process at the beginning of 1990's. But the financial development levels of each country had acquired a different character across emerging European economies. Until the beginning of 2000's expertise, modern banking applications and accessing to the capital were missing in these countries so they have been coped with problems thanks to Western and foreigner banks which made contributions to access credits easily, customer services, introducing new banking products and how to manage risks. Niemczak (2010), in this region the second source of the finance is stock markets after banking sector but those markets are not deep, stable and sufficient however these markets continue to grow very fast.

This paper aims to investigate whether the relationship between financial development and economic growth which has been mostly found for developed countries in the current literature. So there is an attempt to partially fill the gap of developing countries side in this paper with a comparison. So we studied with developed and developing countries which are represented by emerging countries of Europe (Bulgaria, Hungary, Romania, Poland, Croatia, Turkey, Serbia and Macedonia) and countries in Eurozone (Belgium, Italy, Spain, Austria, Lithuania, Latvia, Netherlands, France, Finland, Germany, Ireland, Malta, Portugal, Slovenia, and Slovakia). We also identify financial development with different aspects such as; banking sector development and stock market development etc. with a composite index of financial sector development. The lay out of the paper is the following. Section two shows a review of recent researches on literature. Section three discusses data and methodology; econometric model,

panel evidence on the nexus between variables via of causality and cointegration tests. The last part gives some concluding remarks.

2. Review of Literature

Economists hold different views about the nexus between financial development and economic growth. The very first empirical study has done by Goldsmith in 1969 and he implies that there is a positive relationship between financial development and per capita income ratio. In this section we present a sum of up-to-date empirical studies on this topic. But for it is also possible to see what kind of control variables are used by researchers to evaluate impact of financial sector on long run economic growth.

Hassan and Jung (2007), the high-income OECD countries and Sub-Saharan Africa and South Asia regions (a total of 208 countries) have been discussed for the 1960-2005 period. The relationship between financial development and economic growth was examined as an unbalanced panel regression with fixed effects model and Granger causality analysis. According to the findings of the study; there is a strong relationship between the variables in high-income OECD countries while the same thing can not be said for South Asian and African countries.

Bangake and Eggoh (2009), this study includes 71 developed and developing countries for the period between 1960-2004. Panel co-integration, dynamic ordinary least squares (DOLS) and panel causality techniques were used to analyse long-term relationship between economic growth and financial development. Financial development is measured through three different channels. These are; the ratio of liquid liabilities to GDP, the deposit money bank assets to GDP, private domestic credits as ratio to GDP. They also considered some control variables such as; the openness, government expenditure as ratio to GDP and inflation rate. The findings of the application indicated that there is a bidirectional causality between financial development and economic growth.

Caporale et al. (2009), examined the nexus for ten new members of EU, the period between 1994-2007 with dynamic panel data method. Değişkenler arasındaki ilişki tek yönlü ve finansal gelişmeden ekonomik büyümeye doğrudur. The contribution of the financial development to economic growth is limited for these countries because they are not only lack of financial depth but also stock and credit markets are under developed. Findings gained from application showed that the banking sector is most active and contributing one. The way of the relationship between variables is from financial development to economic growth an one way.

Leitao (2010), this study analyze the impact of financial development on economic growth with GMM (generalized movements) method for 27 members of the European Union and the BRIC countries for the period 1980-2006. Financial development represented by two different indicators. These are CREDIT (ratio of total credit to GDP) and BANK (the logarithm of assests of deposit money banks divided by asstes of deposit money banks plus central bank assets). In addition to this foreign trade, macroeconomic stability and efficiency were included in the study as control variables. The results obtained from the study indicates that financial development and the control variables promote economic growth.

George and Marianna (2010), detected a long run impact of finance and growth for 15 members of European Union for the period between 1975-2005. Real GDP per capita used as a proxy to indicate economic growth while the size of financial system by the ratio of domestic credit to GDP. Monetary

policy is represented by inflation and deposit rates. In conclusion, an increase in the size of the banking sector can have a negative affect on economic growth.

Quayyum et al. (2012), in their empirical study they examined 9 countries from low-income group for different time intervals to observe direct and indirect effects of financial sector on the growth separately. They estimate following different models such as; general, basic, intermediate and final. They put an emphasis particularly on increases and decreases in interest rate to see how it navigates economic growth. Application findings show that the coefficients of financial development and the interest rate are negative but significant. Actually when the interest rate increased financial development is harmful for economic growth. In the panel causality test where they take into account the heterogeneity indicates that financial sector does not promote economic growth.

Yıldırım et al. (2013), focused on nexus between financial development and economic growth for Emerging European Economies such as; Bulgaria, Hungary, Latvia, Lithuania, Poland, Romania, Russia and Ukraine. They also used a new method which called asymmetric causality (Toda-Yamamoto, 1995) test to see the direction of the relationship between variables. Because of financial development has multi-dimensional nature they used two different financial development indicators (M2 to GDP and Liquid liabilities to GDP) for the period 1990-2012. Their empirical findings support supply leading hypotheses in Bulgaria, Croatia, Hungary and Latvia. Also the presence of negative and positive financial shocks do not affect the direction of the relationship strongly. The nexus between economic performance and financial development is very weak in Russia (minimal) and Ukraine.

Pradhan et al. (2013), emphasize that there is two-way causal relationship between economic growth and financial development for BRICS (Brazil, Russia, India, China and South Africa) countries during the period between 1989-2011. They determined a financial composite index (FSD) which is a sum of banking sector development (BSD) and the stock market (SMD) development indicators. Panel causality test and FMOLS regression estimator approach were used in empirical part.

Mhadbi (2014), re-examined the relationship between financial development and economic growth for some developed and developing countries during the period between 1973-2012 with GMM method. Financial development is represented by three different indicators. These are; depth (ratio of liquid assets to GDP), private (private credit to the total credit distributed) and the bank (the credit issued by deposit money banks to the private sector divided by GDP). The indicator of private has a negative impact on economic growth contrary to bank indicator. The depth indicator has a positive effect on economic growth for developed countries but has a negative effect on developing countries.

Mehrara and Ghatami (2014), investigated the impact of financial development on economic growth for ten developed countries such as; Canada, England, Spain, Germany, USA, Netherlands, Switzerland, Italy and Russia during the period 1999-2007 with panel data analysis. They used the equation of Levine as an empirical model which has improved by Barro and Lee in 2012. According to their empirical results, it can be said that even if financial sector has limited development in terms of scale it has become more important for economic system.

Akinci et al. (2014), analyzed OECD countries with unbalanced panel data for the period 1980-2011. According to findings derived from Pedro-Kao Cointegration and Granger causality analysis it can be said that there is a long-term relationship between the variables. However, the direction of the causality from economic growth to financial development's three indicators (domestic credits by the private sector to GDP, the ration of broad measure of money, the ratio of total bank creidts to GDP) is one way. In

addition, two-way causality is observed between the definition of broad money and economic growth. So this study supports demand-following hypothesis which claims that an increase in real national income growth will support activities and entrepreneurship in financial sector.

Menyah et al. (2014), for 21 Sub-Saharan African (SSA) countries, they prefer to work with Granger causality test and panel bootstrap method to analyse the relationship between financial development and economic growth. They determined an index with other explanatory variables of financial development. Also they added openness which represents foreign trade to the application as a third variable for the period between 1965-2008. After examining variables one by one it can be said that demand-following hypothesis is accepted for only one African country but supply-leading hypothesis is valid for 3 different African countries. And also it the relationship between trade and economic growth is limited. Naturally, for these countries the financial and trade-led growth hypotheses are rejected.

Naik and Padhi (2015), have used second generation unit root, Hurlin-Dumitrescu panel causality tests and GMM estimator for 27 emerging economies for the 1995-2012 period. They determined a stock market development index with market capitalization ratio, total value of shares traded ratio and turnover ratio. The control variables; investment rate, interest rate, rate of inflation, trade openness, foreign direct investment were chosen. A development that occurred in the stock market affects economic growth considerably. In addition, aspect of the relationship between variables is supporting supply-side hypothesis.

Anderson et al. (2015), used Pesaran and Smith (POLS) technique for 103 SSA countries for the period 1975-2009. According to their findings, in these countries financial liberalization has not led to a financial development as expected. However, financial liberalization is seen as a very positive effect on output, including economic growth. There is a strong relationship between financial reform, price stability and increased foreign direct investment.

3. Data Set and Methodology

Many empirical studies have been done for the relationship between financial development and economic growth. It is possible to divide these studies according to their empirical method. Such as; first generation's studies used time-series method but second generation's studies analyzed the causality between variables with panel data. The purpose of this paper; to examine causality relationship and cointegration between financial development and economic growth in the line of second generation studies with the consideration of cross sectional dependency and heterogeneity.

The basic regression for modeling can be written (Pradhan et al., 2013: 311);

$GDP = f(FDI)$ or $FDI = f(GDP)$ while $FDI = BSD + SMD$ is an composite index of finance sector development which includes BSD (banking sector development indicators) and SMD (stock market development indicators).

$$GDP_{it} = \alpha + \beta_i FDI_{it} + e_{it} \quad (1)$$

$$FDI_{it} = \alpha + \beta_i GDP_{it} + e_{it} \quad (2)$$

Financial development index (FDI) developed with PCA-Principal component analysis and control variables are choosen in the light of Pradhan et al. (2013) and literature readings. The PCA transforms the original set of variables into smaller set without information structure and size loss. Joliffe (2002), the PCA is a linear function of the original variables and it is converted apposite and independent variables into a new data set, this conversion is also linear.

The data [GDP per capita as a proxy of economic growth and the other indicators to compose FDI index; liquid liabilities to GDP (%), private credit by deposit money banks to GDP (%), bank deposits to GDP (%), credit to government and state owned enterprises to GDP (%), deposit money banks' assets to GDP (%), central bank assets to GDP (%), stock market capitalization to GDP (%), stock market total value traded to GDP (%)] had taken from World Bank Global Finance Indicators for Euro Area and Emerging-developing Europe for the period between 1995-2013.

4. Empirical Results and Evaluation

In this study, the effects of financial development on economic growth vice versa in Eurozone and Emerging-Developing Europe were examined. To test this, we started with descriptive tests to understand the attribute of dataset. Because deciding homogeneity or heterogeneity of slopes and cross-section dependency of the variables are very important issue in panel data analysis.

4.1. Testing Slope Homogeneity

As a starting point, homogeneity of the variables have been examined via Pesaran and Yamagata's (2008) Delta Test. Heterogeneity of the variables has an effect on the next step; i.e. choosing the types of unit root and cointegration tests. The delta test can be written as follow (Pesaran and Yamagata, 2008:57-58):

$$\tilde{\Delta} = \sqrt{N} \frac{N^{-1}\tilde{S}-k}{\sqrt{2k}} \quad (3)$$

$$\tilde{\Delta}_{adj} = \sqrt{N} \frac{N^{-1}\tilde{S}-k}{\sqrt{\text{Var}(T,k)}} \quad (4)$$

Equation 3 represents delta test statistics for small samples while equation 4 shows adjusted delta test statistics for large ones.

Null and alternative hypotheses can also be stated as:

$H_0: \beta_1 = \beta_2 = \dots = \beta_n = \beta$ (for all β_i)

$H_1: \beta_1 = \beta_2 = \dots \neq \beta_n$ (at least for one i)

Table 1: Delta Test Results for Euro Area

Test	T-Statistics	Prob.
$\tilde{\Delta}$	6.437	0.000
$\tilde{\Delta}_{adj}$	6.982	0.000

According to table 1, the variables are heterogeneous for Euro Area countries. Because the given probability values are significant and H_0 null hypothesis is rejected.

Table 2: Delta Test Results for Developing-Emerging Europe

Test	T-Statistics	Prob.
$\tilde{\Delta}$	-0.541	0.706
$\tilde{\Delta}_{adj}$	-0.587	0.721

According to results on table 2, the variables are homogeneous, probability of given t-stats are not significant (over 0.05) and H_0 null hypothesis can not be rejected for Developing-Emerging Europe economies.

4.2. Testing Cross-Section Dependence

It is important to determine the Cross-section dependence (CD) before implementing unit root tests. If there is a certain shock (internal or external) which comes from one country may not affect to the others (each cross section units) at the same level even if they have common EU economic policies (Hu et al., 2013:187).

In this study we used the *Pesaran CD_{LM}* test in order to determine whether the cross sections are dependent:

$$\Delta Y_{it} = a_i + b_i Y_{i,t-1} + \sum_{j=1}^{p_i} c_{ij} \Delta Y_{i,t-j} + d_i t + h_i \bar{Y}_{t-1} + \sum_{j=0}^{p_i} \eta_{ij} \Delta Y_{i,t-j} + \varepsilon_{i,t} \quad (5)$$

The *CD_{LM}* test statistic is to be obtained by the equation above in order to examine the cross sectional independence. A contemporaneous correlation, low or high, is expected between the residuals. The statistical significance of these correlations' is tested with Breusch-Pagan LM test (Pesaran, 2004:4; Güloğlu and İspir, 2009:4). The *CD_{LM}* test statistic can be calculated as follows:

$$CD_{LM} = T \sum_{i=j}^{N-1} \sum_{j=i+1}^N \hat{\rho}_{ij}^2 \sim \chi_{N(N-1)/2}^2 \quad (6)$$

In equation 6, ρ_{ij} are the simple correlation coefficients between the residuals of the ordinary least squares (OLS) estimation. Under the null hypothesis of there is no correlation between residuals; LM test statistic has a chi-squared (χ^2) distribution while N is constant and T approaches to infinity (Pesaran, 2004:5, Pesaran et al., 2008:106).

$$CD_{LM} = \sqrt{\frac{1}{N(N-1)}} \sum_{i=j}^{N-1} \sum_{j=i+1}^N (T \hat{\rho}_{ij}^2 - 1) \sim N(0,1) \quad (7)$$

Null and alternative hypotheses about *CD_{LM}* are as follows:

$H_0: \rho_{ij} = \rho_{ji} = \text{cor}(u_{it}, u_{jt}) = 0, \quad i \neq j$ (cross sections are not dependent)

$H_1: \rho_{ij} = \rho_{ji} \neq 0, \quad i \neq j$ (cross sections are dependent)

Table 3: Cross-section Dependency Test (G) for Euro Area

CD Test	Test Statistics	Prob
LM (Breusch, Pagan 1980)	253.662	0.000
CD LM 1 (Pesaran 2004)	10.259	0.000
CD LM 2 (Pesaran2004)	1.123	0.131
Bias-adjusted CD (Pesaran et all. 2008)	0.476	0.317

According to the results presented in table 3, the null hypothesis, cross sectional independence of variable G, is rejected. So there is a dependency between the cross sections for Euro Area countries.

Table 4: Cross-section Dependency Test (G) for Developing-Emerging Europe

CD Test	Test Statistics	Prob
LM (Breusch, Pagan 1980)	53.735	0.002
CD LM 1 (Pesaran 2004)	3.439	0.000
CD LM 2 (Pesaran2004)	-2.006	0.022
Bias-adjusted CD (Pesaran et all. 2008)	1.094	0.137

According to probability values of variables in table 4, the null hypothesis which claims that there is no cross section dependency is rejected. So it's possible to say that there is a dependency between the cross sections composing G for Developing-Emerging Europe economies.

Table 5: Cross-section Dependency Test (FDI) for Euro Area

CD Test	Test Statistics	Prob
LM (Breusch, Pagan 1980)	193.914	0.000
CD LM 1 (Pesaran 2004)	6.136	0.000
CD LM 2 (Pesaran2004)	-2.404	0.008
Bias-adjusted CD (Pesaran et all. 2008)	1.363	0.087

As table 5 showed, the null hypothesis is rejected, because the given probabilities are less than 0.05 except the last CD test that there is a dependency between the cross sections composing FDI for Euro Area countries.

Table 6: Cross-section Dependency Test (FDI) for Developing-Emerging Europe

CD Test	Test Statistics	Prob
LM (Breusch, Pagan 1980)	121.174	0.000
CD LM 1 (Pesaran 2004)	12.523	0.000
CD LM 2 (Pesaran2004)	-2.192	0.014
Bias-adjusted CD (Pesaran et all. 2008)	-0.135	0.555

The results showed in table 6, the null hypothesis is rejected; because the given probabilities of values are significant. There is a dependency between the cross sections composing FDI for Developing-Emerging Europe economies.

4.3. Testing Stationary of Variables

Unit root tests which take into account the cross section dependency are called the second generation unit root tests. Pesaran (2007) developed a panel unit root test which takes into account the cross section dependency, instead of the factor structures of the residuals. This method is called Cross-Sectionally Augmented Dickey-Fuller (CADF) test and based on the estimation of the regression below (Pesaran, 2007:268):

$$\Delta Y_{it} = \alpha_i + b_i y_{i,t-1} + \sum_{j=1}^{p_i} c_{ij} \Delta Y_{i,t-j} + d_{it} + h_i \bar{y}_{t-1} + \sum_{j=0}^{p_i} \eta_{ij} \Delta \bar{y}_{i,t-j} + \varepsilon_{i,t} \quad (8)$$

$$H_0 : b_i = 0 \text{ stationary}$$

$$H_1 : b_i < 0 \text{ nonstationary (for } i=1,2,\dots,N)$$

T-values which belong to b_i have been calculated by CADF test and critical values have been tabulated by Pesaran (2007). Also Monte Carlo simulations proved that CADF test is valid in both $N>T$ and $T>N$ conditions.

T-statistic of CADF test can be calculated as follows (Pesaran, 2007:269):

$$t_i(N, T) = \frac{\Delta \bar{Y}_i \bar{M}_w Y_{i-1}}{\hat{\sigma}(Y_{i-1} \bar{M}_w Y_{i-1})^{1/2}} \quad (9)$$

Also another statistic called CIPS is the mean of the t statistics for each cross section (Pesaran, 2007: 276).

$$\bar{t} = N^{-1} \sum_{i=1}^N t_i(N, T) \quad (10)$$

Table 7: CADF Test Results for Euro Area

CADF t-statistic values (G)	CADF t-statistic values (FDI)
-3.1773	-0.0442
-2.0794	-1.2496
-2.4490	-3.9119
-3.2885	-3.4789
-1.5628	-4.2368
-4.0422	0.8212
-0.3223	-1.1444
-0.7059	-1.8688
-2.2601	-2.3358
-1.6567	-3.2367
-1.8029	5.9247
-1.1257	-2.5338
-3.3085	0.6797
-1.2399	-1.6360
-2.2404	-0.0628
CIPS = -2.0841	CIPS = -1.2209

According to the findings presented in table 7 variables of G and FDI are not stationary. Calculated CADF statistics are bigger than the critical value of -4.98 (with intercept and trend) from Pesaran critical value table (Pesaran, 2007:276), so H_0 is rejected. Both of the series have unit roots and variables are non-stationary on the level.

According to the findings presented in table 7 variables of G and FDI are not stationary. Calculated CADF statistics are bigger than the critical value of -4.98 (with intercept and trend) from Pesaran critical value table (Pesaran, 2007:276), so H_0 is rejected. Both of the series have unit roots and variables are non-stationary on the level.

Table 8: CADF Test Results for Developing-Emerging Europe

CADF t-statistic values (G)	CADF t-statistic values (FDI)
-2.4748	-2.3389
-3.8629	-4.6904
-2.7730	-3.4659
-3.7953	-2.6002
-3.1522	-3.9792
-1.7057	-2.5630
-5.0658	-2.5499
-2.1209	-1.8679
CIPS = -3.1188	CIPS = 3.0069

According to Table 8, variables of G and FDI are nonstationary. Calculated CIPS statistic (CIPS statistics are taken into account because variables are homogeneous) is bigger than the given critical value of -3.24 (with intercept and trend) at critical value tables (Pesaran, 2007:281), so H_0 is rejected. Both of the series have unit roots and variables are stationary on their first difference $I(1)$.

4.4. Testing Co-integration Relationship

The results obtained from the panel unit root tests indicate that it's crucial to use second generation co-integration test which takes into account cross sectional dependency. While setting up the assumptions for the panel cointegration tests, considering stationarity orders of the variables can change the type of the test.

Westerlund (2008) developed two panel cointegration tests depending on the Durbin H test. One of them DHg are called group mean statistics (for heterogeneous variables), and the other one is DHp called panel statistics (for homogenous variables). The Westerlund Durbin H test assumes that the series in the panel are at the same level and first differences $I(1)$ are stationary (Westurlund, 2008:203).

Panel cointegration statistics are calculated as follows:

$$DH_g = \sum_{i=1}^n \hat{S}_i (\tilde{\phi}_i - \hat{\phi}_i)^2 \sum_{t=2}^T \hat{e}_{it-1}^2 \quad (11)$$

$$DH_p = \hat{S}_n (\tilde{\phi} - \hat{\phi})^2 \sum_{i=1}^n \sum_{t=1}^T \hat{e}_{it-1}^2 \quad (12)$$

Null and alternative hypotheses of Durbin H test are written as follows:

$H_0: \phi_i = 1$ there is no cointegration for all cross section units

$H_{1a}: \phi_i = \phi < 1$ there is a cointegration for all cross section units.

$H_{1b}: \phi_i < 1$ there is a cointegration for all cross section units.

Table 9: Durbin H Test Results for Euro Area

	Test Statistics	Bootstrap Prob.
DH_p	2.322	0.010
DH_g	7.029	0.000

According to the table 9, H_0 hypothesis is rejected (bootstrap values was taken into account because of the cross sectional dependency). The results show that there is a co-integration relationship among all the variables.

Table 10: Durbin H Test Results for Developing-Emerging Europe

	Test Statistics	Bootstrap Prob.
DH_p	5.217	0.000
DH_g	3.610	0.000

The results given in table 10 show that H_0 hypothesis is rejected according to DH_p bootstrap values. There is a co-integration relationship among all variables.

4.5. Estimate Long-term Regression Coefficients

Common Correlated Effect (CCE) Model which has developed as a new prediction approach by Pesaran (2006), because of panel data models include unobserved common factors so it is necessary to consider this multifactorial error structure of given external individual regressors. The main idea is to filter the individual-specific regressors by means of cross-section averages such that asymptotically as the cross-section dimension tends to infinity, the differential effects of unobserved common factors are eliminated (Pesaran, 2006:967).

CCE approach, which consists of approximating the linear combinations of the infeasible factors by cross section averages of the dependent and explanatory variables, and then running standard panel regressions augmented with these cross section averages. Both pooled and mean group estimations of CCE are proposed, depending on the assumption regarding the slope homogeneity (Pesaran, 2013:24).

The CCE mean group estimator is a simple average of the estimators of the individual slope coefficients (Pesaran, 2006:982):

$$\hat{b}_{MG} = N^{-1} \sum_{i=1}^N \hat{b}_i \quad (13)$$

The CCE pooled estimator is below (Pesaran, 2006:986):

$$\hat{b}_P = \left(\sum_{i=1}^N \theta_i X_i' \bar{M}_w X_i \right)^{-1} \sum_{i=1}^N \theta_i X_i' \bar{M}_w y_i \quad (14)$$

After Monte Carlo experiments (1a, 1b, 2a and 2b) it is seen that CCEMG and CCEP estimators are giving effective results even in small samples and CCEP estimator superior than the CCEMG in the condition of homogeneity vice versa (Pesaran, 2006: 992). One of the advantages of this method is long-term coefficients for each cross section unit can be individually calculated. Thanks to this it is possible to see and evaluate results for each country separately. The following tables (11-12-13-14) give the long-term regression coefficients of the cross section units.

Table 11: CCEMG Results for Euro Area
G

	Coeff.	S.E. (NP)	T (NP)
FDI	-0.8608	0.7333	-1.6513

We reported mean group CCE coefficients because the data of Euro Area is heterogeneous. The significance of standard deviation and non parametric (NP) type t-statistic (for $N \times T = 15 \times 19$, bias: -0.26, RMSE: 12.00, size: 6.25, power: 8.70 with rank deficiency) can be seen from table 3, experiment 1a in Pesaran (2006) page 996. According to the results presented on table 11, it's seen that there is a negative relationship between economic growth and financial development. When the financial development index increases % 1, economic growth decreases % 0.86.

Table 12: CCEMG Results for Individual Cross-sections for Euro Area

ID	FDI	se(NW)	inpt	se(NW)	gdppar	se(NW)	fdibar	se(NW)	Ti	From	To
Belgium	-0.188	0.593	0.184	0.531	0.543	0.049	-0.210	0.142	19	1995	2013
Austria	1.025	0.620	-0.502	0.366	0.707	0.039	0.002	0.191	19	1995	2013
France	-4.085	0.815	0.639	0.185	0.562	0.041	3.410	0.650	19	1995	2013
Finland	-0.083	0.453	-0.896	0.370	1.264	0.057	-0.194	0.463	19	1995	2013
Germany	-0.675	0.492	-0.096	0.474	0.939	0.065	2.155	0.474	19	1995	2013
Italy	-0.381	0.611	-1.407	0.233	0.715	0.066	-0.059	0.868	19	1995	2013
Ireland	-0.357	1.231	1.936	1.325	0.836	0.115	-2.572	2.495	19	1995	2013
Latvia	3.627	3.020	11.546	10.125	2.064	0.240	-2.098	3.495	19	1995	2013
Lithuania	4.058	2.439	14.324	8.056	2.011	0.302	-1.090	1.836	19	1995	2013
Malta	-3.980	0.865	8.395	1.681	0.750	0.100	3.101	0.720	19	1995	2013
Netherland	-1.201	0.720	2.753	1.681	0.741	0.089	1.781	1.396	19	1995	2013
Portugal	-0.919	0.637	0.957	0.855	0.433	0.064	0.037	1.037	19	1995	2013
Spain	-0.953	0.496	2.169	1.234	0.525	0.055	1.153	1.369	19	1995	2013
Slovakia	-2.183	3.144	-4.968	6.447	1.240	0.069	1.976	3.343	19	1995	2013
Slovenia	-6.618	1.201	-10.825	2.468	1.028	0.146	0.651	0.518	19	1995	2013

Respectively, the names of the countries for Euro Area are; Belgium, Austria, Estonia, France, Finland, Germany, Italy, Ireland, Latvia, Lithuania, Malta, Netherlands, Portugal, Spain, Slovakia, and Slovenia.

Se(NW) represents standard deviation and T_i representst time. The results show that except the Austria, Latvia nad Lithuania all Eurozone countries have the same destiny for the same period. Financial devlopment has negative impact on economic growth for 12 Euro Area countries. Austria, Latvia and Lithuania have special and opposite situation to each others. Financial development increases economic growth only in these countries.

Table 13: CCEP Results for Developing-Emerging Europe
G

	Coeff.	S.E.(NP)	T (NP)	S.E.(NW)	T(NW)
FDI	-0.8181	0.4369	-1.8726	0.3416	-2.3950

We reported pooled CCE coefficients because the dataset of Emerging-developing Europe is homogeneous. The significany of standart deviation and Newey west (NW) type t-statistic (for $N \times T = 8 \times 19$, bias: -0.11, RMSE: 9.55, size: 6.90, power: 10.95 with rank deficiency) can be seen from table 4, experiment 2b in Pesaran (2006) page 997. According to the results presented on table 13, it's seen that there is a negative relationship between economic growth and financial development. When the financial development index increases % 1, economic growth rate decreases % 0.81.

When the results presented on table 11 and 13 are considered together, it's understood that estimated long term regression (both negative) coefficients are converged. This convergence is possibly coming from catching up process of precommunistic countries (their financial and structural transition with privatization process after the fall of Berlin Wall) and not only common monetary policy of EU members

but also Maastricht Criteria with Stability and Growth Pack. In addition to this, mostly the developed countries are already a member of euro zone. It means that they have already carried out the regulations of Maastricht Criteria such as; inflation, budget deficit and national debt. Economic and political stability have been achieved.

Table 14: CCEP Results for Individual Cross-sections for Developing-Emerging Europe

ID	FDI	se(NW)	inpt	se(NW)	gdpbar	se(NW)	fdibar	se(NW)	Ti	From	To
Bulgaria	-0.662	0.241	-0.479	0.549	1.432	0.129	1.198	0.494	19	1995	2013
Croatia	-0.746	0.922	0.774	2.406	1.118	0.097	0.206	1.340	19	1995	2013
Hungary	1.618	1.522	-0.937	1.132	0.433	0.323	-2.760	1.785	19	1995	2013
Macedonia	-2.202	1.215	-1.324	0.790	0.498	0.183	2.932	1.369	19	1995	2013
Romania	-4.615	2.858	-4.930	3.044	0.929	0.319	4.167	2.586	19	1995	2013
Poland	-3.327	0.743	4.242	0.400	0.377	0.131	2.177	0.731	19	1995	2013
Serbia	0.827	0.992	0.472	1.291	1.551	0.466	-0.163	0.491	19	1995	2013
Turkey	-0.581	1.252	-0.825	0.911	1.246	0.191	1.110	1.119	19	1995	2013

Se(NW) represents standard deviation and T_i represents time. The results presented on table 14 show that financial development has negative impact on economic growth for Bulgaria, Croatia, Macedonia, Romania, Poland and Turkey. Hungary and Serbia have special and opposite situation to each others. Financial development has positive effect on economic growth only in Hungary and Serbia.

4.6. Testing Panel Causality Relationship

Dumitrescu and Hurlin (2012) test can be used not only to estimate for both dependent and independent cross section units but also whether or not co-integration among variables (Dumitrescu and Hurlin, 2012:1). This test has similarities to time series Granger causality test but it refers to the mean of Wald test statistics calculated for Granger causality test (Dumitrescu and Hurlin, 2012:1).

There are three different test statistics which are calculated in Dumitrescu and Hurlin (2012) panel causality test are written as follow (Dumitrescu and Hurlin, 2012:4-5):

$$W_{N,T}^{Hnc} = \frac{1}{N} \sum_{i=1}^N W_{i,T} \quad (15)$$

$$Z_{N,T}^{Hnc} = \sqrt{\frac{N}{2K}} (W_{N,T}^{Hnc} - K) \xrightarrow[N,T \rightarrow \infty]{d} N(0,1) \quad (16)$$

$$Z_{N,T}^{Hnc} = \frac{\sqrt{N} [W_{N,T}^{Hnc} - N^{-1} \sum_{i=1}^N E(W_{i,T})]}{\sqrt{N^{-1} \sum_{i=1}^N Var(W_{i,T})}} \xrightarrow[N,T \rightarrow \infty]{d} N(0,1) \quad (17)$$

Null and alternative hypotheses are below (Dumitrescu and Hurlin, 2012:4):

$$H_0: \beta_i = 0 \quad \forall i = 1, 2, \dots, N$$

$$H_1: \beta_i = 0 \quad \forall i = 1, 2, \dots, N_1 \text{ and } \beta_i \neq 0 \quad \forall i = N_1 + 1, N_1 + 2, \dots, N$$

When the H_0 hypothesis is rejected, it shows that there is a causality relationship between the variables.

Table 15: Dumitrescu and Hurlin Causality Test Results for Euro Area

Null Hypothesis	Test	Statistic	Prob.
FD does not Granger cause G	W_{hnc}	1.924147	0.062655
	Z_{hnc}	2.530882	0.016218
	Z_{tild}	1.620599	0.107302
G does not Granger cause FD	W_{hnc}	4.592866	1.05E-05
	Z_{hnc}	9.839470	3.78E-22
	Z_{tild}	7.235187	1.71E-12

According to the findings presented table 15, it is possible to say that there is a two-way causality relationship between economic growth and financial development for the Euro Area countries during the period of 1995-2013.

Table 16: Dumitrescu and Hurlin Causality Test Results for Developing-Emerging Europe

Null Hypothesis	Test	Statistic	Prob.
FD does not Granger cause G	W_{hnc}	2.625988	0.012691
	Z_{hnc}	3.251977	0.002016
	Z_{tild}	2.261852	0.030902
G does not Granger cause FD	W_{hnc}	2.323666	0.026819
	Z_{hnc}	2.647333	0.011997
	Z_{tild}	1.797354	0.079327

Given results in table 16 show that there is a two-way causality relationship between economic growth and financial development for Developing-Emerging Europe economies during the period of 1995-2013.

5. Conclusion

This paper examined the causality between financial development and economic growth for 15 developed Euro Area members and 8 Emerging-developing European countries during the period 1995-2013 with panel causality analysis and long term coefficients are estimated with CCE Model. We excluded before 1995s due to lack of data. We composed a financial development index (FDI) from eight financial development indicators which belong to banking sector and stock market, using principal component analysis. The empirical results demonstrate the presence of feedback - two way causality between financial development and economic growth, imparting to the support of both demand following and supply leading hypothesis. But the long term coefficients show that there is a negative relationship between economic growth and financial development, when the financial development index increases economic growth decreases for both group of countries.

This suggests that financial development can not be used as a policy implication alone to support economic growth in selected countries. Because, even if they have common monetary policy and regulations thanks to EU central bank they don't have common fiscal policy. It means that each country is independent to rule their own policy decisions so national fiscal policies can no longer fulfill their role for stabilization. The incoordination between monetary and fiscal policies results with differentiation on interest rates. Therefore countries become vulnerable to demand shocks. Especially stock market indicators badly affected from it. Actually for specific occasions, the econometric analysis does not answer all the questions raised by theory between real and financial development, but still guides a good basis for reflection.

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ABDELFETEH BITAT¹

ENVIRONMENTAL REGULATION AND ECO-INNOVATION: INSIGHTS FROM DIFFUSION OF INNOVATIONS THEORY

Abstract

The paper analyses the relationship between environmental regulation and environmental innovation based on the diffusion of innovations theory. The relationship is tested using a German firm-based panel and a Count Data model. We estimate the propensity of firms to innovate in response to five initiating factors, namely the fulfilment of legal requirements, expectations towards legal requirements, public funding, demand for environmental innovations and self-commitment. We also control for R&D intensity, the region and the sector of the company and filter for companies that account for their environmental impact. The results answer the central question concerning the design of environmental policies in order to foster innovation. We show that only dynamic and market-based policies are positively associated with environmental innovation. Conventional regulatory tools, namely technology-based command and control, are not effective for triggering innovative behaviour at the firm level. Lastly, we show that environmental regulation is a necessary condition for eco-innovation.

Keywords: Porter hypothesis, environmental regulation, cco-innovation, diffusion of innovations, count data

Jel Code: C23, H23, O31, O38, Q55

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ISSOUF OUARMA¹

**ESSAY ON GOVERNANCE AND DEVELOPMENT. INSTITUTION, HUMAN CAPITAL,
LIVING CONDITIONS: ROLE IN DEVELOPMENT**

Abstract

Basically institutions are thought to be out-market measures that are imposed as market laws or principles to participants in order to shape behaviors towards a definite aim. Authority and constraint are two determinant characteristics of institution. However, when such measures can be imposed to market as laws, they often fail to shape behaviors. When one questions the links between Governance and growth, he can find that, the relation is reversal and can have three senses: by moments the one impacts the other positively, sometime it exerts on it a negative effect or neutral. To improve comprehension of this complex link, taking to account, relationship structure that exists between government and population or agents propensity to risk defined by their living conditions is significant. This is the technical approach adopted in this paper. This first part is theoretical: a simple and comprehensive approach. The next step is empirical in order to get new evidences. The paper presents successful governance as a composite unit of essential factors: human capital(as well schooling, fairness), economic resources (potential and valorization) and institutional resources (sovereignty, competitiveness, organization). Governance principally consists in coordination, orientation, conception (imagination) or definition, implementation. Its role can be more significant for a precise time context than another or in space context than another. Governance role is also linked to economics players relationship structure and to economic dynamics. Governance relationship with growth is questioned in the literature. But the direction and the magnitude of the relation remain on table. Then the question remains interesting mostly to highlight the contribution of some specific factors. The approach of this paper shows that human capital, players relationship structure, living conditions such inequality or poverty that determine players willingness to take on risk, are essential factors for useful governance. By this approach, the paper examines the relationship of growth and institution from one to another with a focus on living conditions role besides human capital's one. Living conditions have a static effect and a dynamic effect. Results difference in the related economic literature relay in part but significantly on the way living conditions are taking to account in the indicators. Living conditions effects cannot be understood out of players relationship structure. It is a key factor of efficiency and one of the doorways to spatial dependance that is briefly addressed in the paper. Human capital and institution are sometime presented as endogenous or not. And there is a capital question about their compared effect on growth and development. The paper also addresses these questions.

Keywords: Governance, relationship structure, human capital, living conditions, growth

Jel Code: H11, I25, O43

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JACEK GAD¹

**INTERNAL CONTROL AND RISK MANAGEMENT SYSTEMS IN RELATION TO
FINANCIAL REPORTING: THE PERSPECTIVE OF THE POLISH AND GERMAN
CAPITAL MARKETS**

Abstract

This article aims to identify, based on the reporting practices of companies listed on the Polish and German capital market, the pillars of internal control and risk management in relation to the financial reporting process. The survey examined disclosures concerning the control systems over financial reporting included in the consolidated annual reports drawn up in 2013 by the WIG 30 and DAX companies. Eleven main categories of information have been identified. They were presented within disclosures about control systems over financial reporting. The research results indicate that the examined companies presented largely similar information on the control systems over financial reporting. It seems, however, that in the case of the DAX companies, the practice of reporting in the area of disclosures about control over financial reporting has been developed to a greater extent, i.e., the repeatability of certain items is greater.

Keywords: Financial reporting, control over financial reporting, DAX, WIG 30

Jel Code: G34, M41, M40

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HULİSİ BİNBAŞIOĞLU¹ AND SÜLEYMAN NİHAT SAD²

TURKISH TOURISM STUDENTS' INTERNATIONAL POSTURE

Abstract

Teaching foreign language(s) is an inevitable and critical part of vocational education and training of tourism students. Having students gain favorable intercultural attitudinal objectives is also an important goal of foreign language education. Thus, it is desired that tourism students, who the foreign visitors encounter the most, gain favorable language skills and attitudes towards foreigners, foreign cultures, or rather the international community. In this respect, Yashima & Zenuke-Nishide (2008) defines a specific international attitudinal construct called International Posture referring to “a tendency to see oneself as connected to the international community, to have concerns for international affairs and a readiness to interact with people other than Japanese” (p.568). To this end, the present study aimed to investigate the Turkish tourism students' levels of International Posture with regard to some variables including gender, grade, employment background in jobs requiring contact with foreigners, perceived proficiency in languages including English, German, and Russian. The participants were 254 tourism students studying at vocational schools (n=40) or faculties (n=214) at four universities (Ankara Gazi University, Malatya İnönü University, Tokat Gaziosmanpaşa University, Edirne Trakya University) during 2011-2012 academic year. The data was collected using Turkish adaptation of Yashima's (2009) International Posture Scale. The data were analyzed using descriptive statistics (mean and standard deviations) t-test, ANOVA, and Pearson correlation analysis. The findings are to be presented and discussed in the light of relevant literature on language teaching and tourism education. References: Yashima, T. and Zenuke-Nishide, L. (2008). The impact of learning contexts on proficiency, attitudes, and L2 communication: Creating an imagined international community. *System*, 36, 566–585. Yashima, T. (2009). International posture and the ideal L2 self in the Japanese EFL context. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 144-163). Bristol: Multilingual Matters.

Keywords: Tourism students, international posture, foreign languages

Jel Code: L83, I23

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NICHOLAS DIMMITT ¹

PROJECT-BASED CLASSROOM ACTIVITIES TO EMPOWER STUDENT LEARNER AUTONOMY

Abstract

How can we assist first-year university students to take charge of their own learning with meaningful, dynamic student centered activities? This presentation will start with an example of a team-based research project which encourages learner autonomy. Freshmen students at the presenter's university find it challenging to manage academic tasks in English. Some students find it difficult to independently understand course requirements, identify appropriate sources of information and present the result effectively. Because of these challenges a communication course was developed to enhance skills in learner autonomy through project-based classroom activities. Examples of the skills focused on include team-building, decision making, problem solving and group cooperation. A student analysis was conducted to understand and assess participant reaction and opinion. Results indicate the pedagogical approach for this course provides students with a motivating and useful method of learning. The pedagogy has encouraged students in the development of their autonomy and equipped them with skills necessary for carrying out independent study and research. This has assisted them in being more successful in managing their academic tasks. Recommendations for best practices will be suggested. This presentation should be of particular interest to university teachers. The participants will be encouraged to discuss how the example coursework could be adapted to their own context. It is hoped that this will become a dialogue as much as a presentation.

Keywords: Learner autonomy, academic literacy, project-based learning, team-building, critical thinking

Jel Code: I20, I29

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ÖZLEM ENGİN¹ AND RENAN SEZER²

A COMPARISON OF COGNITIVE DEMAND LEVELS OF TASKS IN 7TH GRADE MATHEMATICS TEXTBOOK USED IN TURKEY WITH THOSE IN SINGAPORE, AND THE UNITED STATES

Abstract

The purpose of this study is to compare the cognitive demand levels of tasks from activities in mathematic textbooks which are used in Singapore, the United States, and Turkey. These countries were chosen based on their varying levels of success in the Trends in International Mathematics and Science Study (TIMSS). The topics compared are based on the topics which were covered in both the 8th grade 2011 TIMSS and the 7th grade National Curriculum of Turkey. Qualitative methods were utilized in collecting and analyzing the data. The tasks were coded according to four levels of cognitive demand; lower-level demands of memorization and procedures without connections, and higher-level demands of procedures with connections and doing mathematics. None of the countries studied had tasks that were classified as memorization. For mathematics textbooks in Singapore, the United States, and Turkey, the percentage of tasks requiring cognitive demand level - procedures without connections was 19%, 46%, and 12%; tasks with cognitive demand level - procedures with connections was 69%, 48%, and 72%; and tasks with cognitive demand level - doing mathematics was 13%, 6%, and 16%, respectively. In addition, the percentage of tasks requiring all four cognitive demand levels was also analyzed for TIMSS 8th grade mathematical content domains. In mathematic textbooks from Singapore, the United States, and Turkey, for the content domain of number, the cognitive demand level for the percentage of tasks requiring procedures without connections was 50%, 52%, 0%; procedures with connections was 50 %, 39%, 75%; and doing mathematics was 0%, 9%, 25%, respectively. Likewise, for these textbooks, in the content domain of algebra, the cognitive demand level for the percentage of tasks requiring procedures without connections was 0%, 48%, 0%; procedures with connections was 80%, 52%, 86%; doing mathematics was 20%, 0%, 14%, respectively. In the content domain of geometry, the cognitive demand level for the percentage of tasks requiring procedures without connections was 14%, 52%, 20%; procedures with connections was 64%, 38%, 63%; doing mathematics was 21%, 10%, 17%, respectively. For all countries studied, in the content domain of data and chance, no task was determined requiring a cognitive demand level for procedures without connections or for doing mathematics. All cognitive levels of tasks in the content domain of data and chance required procedures with connections. For Singapore, the United States, and Turkey, a national comparison of these cumulative findings demonstrate that the percentage of tasks requiring a higher cognitive demand level in the representative textbooks is 81%, 54%, and 88%, respectively. Furthermore, for all countries studied, the majority of tasks requiring a higher cognitive demand level were categorized in the area of procedures with connections. Based on these results, it is recommended that the percentage of tasks requiring the cognitive demand level of doing mathematics be increased. Finally, it is strongly recommended that professionals using and/or writing textbooks should familiarize themselves with cognitive demand levels.

Keywords: Mathematical tasks, cognitive demand levels, 7th grade mathematics textbooks, QUASAR

Jel Code: I20, I21

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YASER ALADWAN¹

**THE EFFECT OF USING CALL PROGRAM ON TEACHING ENGLISH COURSES AT THE
WORLD ISLAMIC UNIVERSITY AND THE STUDENTS' ATTITUDES TOWARDS CALL**

Abstract

The Effectiveness of using A proposed Computer Language Learning Assisted program. The paper shows that there is a good achievement within the experimental group that used CALL program in teaching English better than Traditional way in teaching. Also the paper shows that there is a positive attitude toward using CALL.

Keywords: CALL 'Achievement ,attitudes

Jel Code: I20, I21, H75

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ROSA MARÍA VELÁZQUEZ SÁNCHEZ¹, JESÚS GÓMEZ VELÁZQUEZ² AND ARMANDO PEREZ DELGADILLO³

ORGANIZATIONAL CLIMATE ELEMENTS IN A MEXICAN TECHNOLOGICAL HIGH SCHOOL

Abstract

Organizational climate is defined as the set of properties that affect the work environment based on perceptions that the worker has the structures and organizational processes when interacting personal and organizational characteristics that directly and indirectly affect the behavior of people in organizations and that respond to the administrative behavior and organizational conditions (Cardenas Child, Arciniegas Rodriguez Barrera & Cardenas, 2009). The objective of this research was to diagnose and analyze the organizational climate of the Administrative Staff of a Technological High School in Oaxaca. The research was carried out based on the dimensions used by Bustamante Ubilla, Hernandez Cid & Yanez Aburto (2009). The results reported that collaborators of the Educational Center analyzed, have a general perception of the organization fairly favorable, identifying the dimensions identity, responsibility, supervision styles, support, warmth, work motivation, risk and structure were more favorable in relation to opportunity development, rewards, communication, job security as well as equipment, personnel and equipment distribution, influencing negatively on the organizational climate.

Keywords: Organizational climate, organization, high school

Jel Code: I00, I20

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ALINA ALMASAN¹, CRISTINA CIRCA², JUSTYNA DOBROSZEK³ AND EWELINA ZARZYCKA⁴

THE MANAGERS' PERCEPTION ON THE USEFULNESS OF MANAGEMENT ACCOUNTING: A COMPARATIVE STUDY

Abstract

The purpose of this paper is to provide a comparative study on the managers' perception of the usefulness of the information produced by management accounting (MA), in two countries located in the Central and Eastern part of Europe, i.e. Romania and Poland. In order to achieve the objectives of the paper, we performed a questionnaire-based survey, aiming at identifying factors that might alter the managers' perception on the usefulness of the information provided by management accounting. Our investigation showed that, in both countries, management accounting is oriented towards providing suitable information for budgeting and cost control; on the other hand, there is no interest in preparing and communicating information meant to support the implementation of the strategy. Also, we found that the information delivered to the management is seldom employed in supporting the decision-making process, whereas its usefulness is rated as relatively low.

Keywords: Management accounting, Poland, Romania

Jel Code: M41, M10

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PATRICK LEONI¹ AND ALVARO SANDRONI²

CAN PATENT DURATION HINDERS MEDICAL INNOVATION?

Abstract

We argue that, in the pharmaceutical industry, excessive patent duration can deter investments in innovative treatments in favor of me-too drugs. The point is that too-long durations foster incentives to collude to delay investments in R&D for innovative treatments. We give a set of sufficient conditions for which collusion is a subgame-perfect equilibrium. We then show that reducing current duration always breaks down market discipline, and so does an increase in duration for innovative treatments.

Keywords: Medical innovation, patent innovation, market collusion

Jel Code: I10, I15, I18

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AHMET MURAT ÖZKAN¹ AND ALİ OĞUZ BAYRAKÇIL²

MANAGEMENT STYLE AND COLLECTIVISM AT TURKISH SME

Abstract

Collectivism and individualism are two edges of a scale and can be interpreted as important concepts for workplace. Embracing the first or latter might affect employee satisfaction, organizational climate, organizational communication and work style. Management style also is an important aspect of organizational studies. Managerial decisions and communication can be handled in numerous ways. Management style can be defined as behaviours, attitudes and decision making processes that dominate at a workplace. In this paper we take a glance at Turkish SMEs. We investigate a relationship between collectivism and management style at Turkish SMEs. We have gathered data from 310 SMEs located in republic of Turkey, using a 13 item questionnaire. For collectivism, we are using a 4 item scale developed by Zhang et al (2014). For management style, another 4 item scale from Lavie et al (2012) is used. These scales are smaller portions of bigger scales from above papers. We bring these items together to investigate the relationship between collectivism and management style. Rest of questionnaire items are related to demographic information of participants. This study is a descriptive one and no hypothesis are configured. There are significant results regarding the relationship between management style and collectivism. Individuals are more likely to work within a group and formal organizational structures and management policies are implemented. Frequency results and a classification of the results based on business sectors are also included.

Keywords: Management style, collectivism, smes

Jel Code: M10, M14

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ALİ OĞUZ BAYRAKÇIL¹ AND AHMET MURAT ÖZKAN²

WORKPLACE SAFETY: AN EMPIRICAL STUDY REGARDING ACADEMIC EDUCATION

Abstract

Workplace safety is a very popular issue in Turkish business. Despite the development of economy in last decades, almost 1500 workers are killed at work related incidents each year, and many more remains wounded. Workplace safety issues in Turkey is a rising concern of government, academics, worker unions and media. In this paper, we focus on workplace safety mentality on academic education. We take Business Administration and Industrial Relations students as our study population. From freshman students to senior ones, we investigate the change on how students percept workplace safety phenomenon. We build this study over some assumptions : (1)business administration studies are more likely to keep profits in mind, (2) senior students are more likely to strengthen their stance on the phenomenon and (3) senior students should have deeper knowledge regarding workplace safety and act more sensitive. Results are classified according to academic departments, students' year spent at school (senior-freshman) and frequencies. We believe this study can contribute to the role of academic education on workplace safety and raise awareness.

Keywords: Workplace safety, education, academics

Jel Code: J01, J28

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LUKASZ WSCIUNIAK¹

STRATEGIC USE OF PATENTS AS A NEW DIRECTION IN INTELLECTUAL PROPERTY MANAGEMENT

Abstract

The main purpose of the patent system is to ensure protection of valuable technological knowledge and thus to provide incentives to creative effort and investment in R&D. However, patents are more intensively used by enterprises for various other strategic reasons, eg. attracting potential investors and partners, blocking competitors, generate licensing revenues or creating a positive image of the company. What's more, very often such possibilities provide not only the exclusive rights owned by the company, but even the fact of applying for patent. As a result, the patent strategies of innovative enterprises are becoming broader and more complex. The aim of the paper is to present the major opportunities and challenges related to the use of patent protection mechanisms as a strategic tool for modern enterprises. In fact, patent protection has ceased to be a purely legal problem and now is becoming an important managerial issue. The study provides also a literature review on strategic use of patents and indicates the most promising directions for further research in this area.

Keywords: Innovation, intellectual property management, patents, patent strategy

Jel Code: O30, O31, O34, O38

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KATARZYNA SKORUPIŃSKA¹

EVALUATION OF THE ACTIVITY OF WORKS COUNCILS IN THE POLISH LABOUR RELATIONS

Abstract

Works councils in Poland are a new institution of employee representation operating under the Act implementing the Directive 2002/14/EC. The range of rights granted to the councils include: 1) information on activity and economic situation of the company; 2) information and consultation regarding situation, structure, probable development of employment and decisions which can lead to substantial changes in work organization. In the situation of weakness of trade unions in Poland, works councils were to fill the 'representation gap' and effectively represent workers. The findings I would like to present are a result of a research project funded by the National Science Centre in Poland. There were two main stages of the research: 1) Questionnaires sent to chairmen of works councils and directors of companies with these institutions. 2) In-depth interviews carried out with chairmen of councils, company management and chairmen of trade unions. It turned out that there are many problems and barriers constraining the activity of works councils in Poland (e.g. lack of substantive support, imprecise provisions of the law, atmosphere of distrust between employer and workers). The surveys have shown that employers 'always' or 'often' conduct consultations with works councils only in 43% of analysed cases. Meetings of councils take place relatively rarely, the role of these institutions is marginalized in many cases, and their activity is not always highly valued by workers. According to the opinions of the directors of the analysed companies with works councils, in 30% of cases the council is passive and does not actually work. The introduction of works councils to the Polish system of labour relations formally changed the system of employee representation into a dual one, but in fact trade unions are still the main representative of the employees in workplaces.

Keywords: Labour relations, works councils, trade unions

Jel Code: J53, J83, J81

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ADEEL AHMED¹, MOHD ANUAR ARSHAD², ARSHAD MAHMOOD³ AND SOHAIL AKHTAR⁴

EMPLOYEES ORGANIZATIONAL CITIZENSHIP BEHAVIOR THROUGH THE LENS OF AL-GHAZALI THEORY OF SOUL: A HOLISTIC PERSPECTIVE

Abstract

This review paper intends to uncover the implication of Al-Ghazali theory of soul for the improvement of employee's organizational citizenship behavior (OCB). The interest in OCB in the body of knowledge has been established in depth which assures that OCB embedded in the fabric of the fields of organizational behavior and industrial psychology. Indeed, there is vital influence of OCB on bottom line of the organization, whereby, employees can meaningfully contribute towards organization with improved performance. Conventionally, in past the fundamental theories on employee's behavior has widely discussed and validated with multiple theoretical explanations. Since, the concept of OCB has not been explored in the literature from the view of AL-Ghazali theory of soul. The central theme of the theory is dynamic in nature which focuses on the acts of human devotion in purifying the soul for personality development and achieving highest aims of conduct. The acts of devotion regarded as mindfulness that will be significant in the process of transformation of the inner self, or else it becomes a mechanical performance. Further, the theory inculcate that without considering spiritual development of employees the logic could not be only ample source for human being to perform utmost citizenship behavior. Based on theoretical exploration on the subject this paper reveals that theory of Soul is also one of important theoretical paradigm in understanding the workplace behavior which proposes a holistic framework in explaining employees OCB. The authors conclude with suggestions and implications for future research.

Keywords: OCB, performance, spiritual development, OCB, holistic

Jel Code: M10, M14

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RIAZ AHMED¹

SOCIAL INFRASTRUCTURE AND PRODUCTIVITY OF MANUFACTURING FIRMS- EVIDENCE FROM PAKISTAN

Abstract

Does investment in social infrastructure affect the productivity of manufacturing firms in developing countries? To test this question, I empirically investigate the impact of social infrastructure indicators at district level on firm productivity using firm level data from Pakistan. I split my sample into rural and urban regions to capture the effect of regional disparities in investment on social goods while controlling for a potential selection bias from firms' decision to locate in regions with better infrastructure equipment. My findings reveal that indicators of health and education are positively and significantly related to firm level productivity in manufacturing industries in Pakistan. However, these results hold for urban districts only. For rural regions, both health and education show a negative impact on firm productivity.

Keywords: Firm productivity, social infrastructure, health and education, Pakistan

Jel Code: D24, H51, H52, I15, I25

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JOANNA DZIAŁO¹

FISCAL RULES INDEX AS A MEASURE OF QUALITY OF FISCAL RULES – EVIDENCE FROM THE EUROPEAN UNION COUNTRIES

Abstract

The global financial crisis which started in 2007/2008 has resulted in many negative economic consequences. One of them was a drastic deterioration of public finances in most countries all over the world. As a result, many governments have begun to pay more attention to the use of fiscal rules, which are an important factor of strengthening the effectiveness of fiscal policy conducted in a country. Therefore, the primary objective of fiscal rules in the times of crisis became the consolidation of public finances, primarily reduction of the budget deficit and public debt (in absolute and relative terms). The aim of the article is to analyze empirically the evolution of national fiscal rules in the European Union in the period 2000-2014, with particular emphasis put on changes in the quality of these rules in time. To achieve such a defined goal, indices of fiscal rules were constructed for 28 countries of the European Union for the years 2000-2014. These indices measure the quality of fiscal rules using various criteria (and the features within each criterion), which characterize the rules in use in different countries. Various levels of those indices reflect the diverse quality of fiscal rules used in the EU countries in the period of investigation. The hypothesis was formulated that in the analyzed period in the European Union countries the indices of fiscal rules were increasing systematically, which means that those countries were improving quality of fiscal rules in use, especially after the beginning of economic crisis.

Keywords: Quality of fiscal rules, fiscal rules index, economic crisis, public finances

Jel Code: H30, H39, H62, H63

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NIHAN İÇÖZ¹

MİNA URGAN: AN ACADEMICIAN, A WRITER, TRANSLATOR AND HUMAN

Abstract

The importance of translation was realized especially with the World War II and it became an independent discipline towards 1980s with its own paradigms and models away from the shade of adjacent disciplines such as literature, linguistics and philology. Nevertheless, such an independency does not mean that translation studies has no cooperation with other disciplines. On the contrary, its independency is also the beginning of its interdisciplinarity. In addition to literature, semiotics, linguistics or cultural studies, sociology is among disciplines that have contribution to translation studies with various perspectives and methods it provides. As the French linguist and translation studies theorist Daniel Simeoni puts it in his study “The Pivotal Status of the Translator’s Habitus”, translation is a practice that is part of social life, so we need to examine it in terms of sociology (1998). In this context, this study aims to analyze the Turkish writer, academician and translator Mina Urgan and her works in terms of sociology. It looks into the factors determining Urgan’s translator “habitus” and their influence in the books she wrote and translated. Keywords: Translation, sociology, habitus, capital.

Keywords: Translation, sociology, habitus, capital

Jel Code: Y30, Y92, Z11

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MANAF BASHIR¹

**PUBLIC RELATIONS IN A SOCIAL MEDIA ENVIRONMENT: IDENTIFYING DISCOURSE
EVOLUTION IN KUWAITI ORGANIZATIONS**

Abstract

The increasing numbers of breast cancer cases around the world have led to various efforts to find ways of prevention, treatment, and diagnosis. Media campaigns have been utilized to spread breast cancer awareness, increase knowledge, change attitudes and behaviors. However, previous research has highly focused on measuring the effects of media campaigns rather than people's awareness toward the campaigns. This research study addresses a different question: how aware are targeted audiences to media awareness campaigns? This study attempts to investigate Kuwaiti women's media awareness toward breast cancer awareness campaigns and whether or not age, level of education and media use contribute to the awareness. On a sample of 500 Kuwaiti women, the study found the sample to be highly unaware of the awareness campaigns. Different levels of education and media use did not contribute to the awareness. Only age was found to be significantly related to breast cancer awareness campaigns with older age groups being more aware than the younger. This low level of awareness suggests ineffective media campaigns and/or personal factors pertaining to Kuwaiti women hindering their awareness toward the campaigns.

Keywords: Breast cancer, awareness campaigns, media, Kuwait

Jel Code: I10, I12

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MARIYA SERGEYEVNA LYASHENKO¹

DEPLOYMENT OF SOCIAL MEDIA IN THE UNIVERSITY EDUCATIONAL ENVIRONMENT

Abstract

The idea of implementing social media as a web based technology into the educational environment is described in the paper. Social media deployment is considered at three levels within the university structure. The attention is paid to formal, semi-formal, informal levels. The examples of technologies at each level are presented, the advantages and disadvantages are analysed. In particular, the implementation of social networks at an informal level as a means of teacher-student collaboration for educational purposes is depicted. Special attention is paid to the psycho-pedagogical aspect of the problem under consideration. The results of the students' survey regarding the attitudes to the variety of social media are presented. The outcome of the research is believed to help implement social media as a platform for teacher-student collaboration in the university.

Keywords: Social media, blended learning, Moodle, wiki-site, social network, psycho-pedagogical conditions, participative approach

Jel Code: I23

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VEYİS NACİ TANIŞ¹, İLKER KEFE² AND İREM KEFE³

QUALITY COSTS: A COMPARISON OF TWO CASE STUDIES

Abstract

Effective cost management makes a company stronger, more stable and helps in improving the potentials of a business. Cost management also helps in optimizing resources, which will improve overall efficiency of the company and help the companies to achieve their objectives. Many companies have attempted to develop methods for effective cost management and improving the quality of their end products and services. Quality-related costs arise from a series of activities performed in order to maintain the quality of product or service. Hence, quality cost concept constitutes an important part among management accounting approaches. The aim of this study is to compare two manufacturing companies that using quality costs. For this purpose, comparative case study method is used. The researchers participate -directly and indirectly- in the implementation of quality costs at the case companies. The data of two companies are collected. The research process comprises iterative cycles of gathering data through documentary reviews, observations of company operations, discussions with operatives, analyzing data, and evaluating results. The research also shows the similarities and differences between two companies' view about quality costs.

Keywords: Quality costs, PAF model, internal failure costs, external failure costs

Jel Code: D24, L67, L62, M41

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OLGA IRODENKO¹

THE DETERMINANTS OF INTERNAL AUDIT EFFECTIVENESS: THEORETICAL STUDY

Abstract

The scope of internal audit activities is clearly growing and the skill set and attributes that internal auditors need are also expanding. These changes are needed to respond to the complex external and internal environment of the contemporary organization, due to the impact of regulation, technology, and other factors. The increasing complexity of business transactions, a more dynamic regulatory environment, and significant advances in information technology have resulted in opportunities and challenges for internal auditors. Internal audit is regarded as a value adding service to the organisation, that improves organisational processes. The purpose of the study is to provide insights into the current roles and responsibilities of the internal audit function and to synthesize relevant theoretical and empirical literature to identify factors impacting the effectiveness of internal audit services. The paper shows the main approaches that develops a scale to measure the effectiveness of internal auditing and a model of its determinants in different countries. The theoretical findings are discussed in terms of how they can help guide and encourage the researches on determinants of the effectiveness of internal auditing in public sector in Poland.

Keywords: Internal auditing, effectiveness, management.

Jel Code: M41, M42

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MURTAZA AYKAC¹ AND DEVRİM ERDEM KEKLİK²

THE CONTRIBUTION OF THE ACTIVITIES OF CREATIVE DRAMA FICTIONALIZED WITH CHILDREN'S LITERATURE TO THE SPEAKING SKILLS OF PRESCHOOLERS

Abstract

In this study the effects of children's literature products and creative drama activities on preschoolers' speaking skills are discussed and one sample activity is presented. Preschool education is the backbone of the education process. The healthy and constant development of culture and community is directly connected to the education provided to children at an early age. The books prepared with artistic sensitivity have the utmost responsibility in fulfilling children's needs. Starting from the preschool stages, children's literature texts give children the opportunity to meet heroes that they can emulate. It shouldn't be forgotten that language is a skill and skills are to be taught through learning by doing. During creative drama activities, by communicating, children have dialogues with fictional characters and they utter sentences about their imagination. Via activities, fictionalized with children's literature texts and creative drama techniques, you can raise all-rounders who are really able to speak and express themselves in a far more clear way.

Keywords: Children's literature, speaking skills, creative drama.

JEL CODE: I20

Introduction

Preschool education is the backbone of the education process. The healthy and constant development of culture and community is directly connected to the education provided to children at an early age. Preschool period, the ages between 0 and 6, is one of the fastest period in terms of cognitive, affective, psychomotor development of children. These developments are highly important for children's future life.

Children's success in education and daily life mostly depends on their competence in using language. Expressing ideas, feelings, dreams, and desires in a proper way requires a great deal of vocabulary set and language accumulation. It is really hard to communicate for the people not having that kind of ability in language (Adalı, 2009). For children, being able to express their thoughts and feelings is engaged to speaking skills and the development of their vocabulary set. Children learn their mother tongue by imitating their families and people around them.

Mother tongue is the language starting with the family and people in the inner circle and continuing with the dialogues around the outer circle and it is the language people learn and have the connections with their unconscious mind and their society at the same time by transferring all the bounds from generation to generation (Aksan, 2000). While teaching mother tongue the situations we face every day should be taken into consideration. Building skills, such as communicating with people and talking in front of a group, is essential (Yıldız, 2003). In fact any activity in learning-teaching process is also a communicational activity. Children are in need of using their language in order to gain social, cultural values and expressing themselves as well.

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It is necessary to create a suitable environment for children to express themselves in an easy way. Besides, a desire to speak is to be built in children. Being able to use the language accurately and fluently is one of the first and basic skills to be taught (MEB, 2009). Children's literature serves a crucial function in developing children's speaking abilities and using the language accurately and fluently. Children's literature also triggers children's aesthetic concern, helps their imagination to improve and broadens their horizons.

Oral language proficiency is critical for early childhood literacy development (Roberts & Neal, 2004; Snow, Porche, Tabors, & Harris, 2007; Uccelli & Páez, 2007), children's future reading comprehension and academic success (August & Shanahan, 2006; Hoff, 2013), as well as improvement social dispositions (Spira, Bracken, & Fischel, 2005). Research suggests that reading comprehension depends most strongly on oral language (August & Shanahan, 2006; Roth, Speece, & Cooper, 2002). As the large part of children's oral language development is completed in preschool period, art, art education, children's literature has an important role in raising consciousness of social, cultural issues in children's lives.

Functions of Children Literature

Works of children literature consists of every single written and verbal work related to children's imagination, emotion and thoughts. Tales, stories, novels, poems, biographical works, travel writings, the writings telling all about science and nature and etc. are all considered in the same frame. Works of Children's literature must be as pleasant and effective as the works prepared for adults (Oğuzkan, 2006). These works for children ought to be written in a suitable, artistic language covered with children's sensitivity. The author must see the world in the eyes of children and handle the situation with children's perspective.

Children are not samples of adults and you cannot expect them to behave as adults, either. They have their own worlds and a different perception of life. Every child has his/her own pace of growth. This growth may not be the estimated as average one. Educating and raising them start with knowing them. The main thing is to raise children by taking their physical, mental, social and emotional states into account. To achieve this you have to know children and their psychology well (Nas, 2004). As in the growth, every single child has his/her own cognitive, linguistic, social and physical development. Parents, teachers and children books writers have to know about these development processes.

To meet children's needs in their development process books prepared by artistic sensitivity has a great deal of responsibility. From the ages 1-2 books help children improve their interaction with visual and written means of communication. In addition, books show the first fragments of life and reality with their unique language shaped by colors and lines. Qualified books provide children with a great start for visual and written culture and also as long as they are written according to children's needs and interests these books shape children's affective attitudes towards books in general. In the period of learning about life and other people through playing qualified books serves children with natural environments to feed them in terms of their sociability, linguistic skills, imagination, creativity and cognitive learning (Sever, 2007). Works of children's literature are strong tools contributing a lot to children's cognitive, affective, personal, social development from their early childhood to adolescence. Although the specialists of children's literature describe it differently, children's literature can be inferred as the works that urge children, their realism and appropriateness for children and have an artistic value.

One of the fundamental functions of children's literature is to make children love reading and get used to read. This kind of literature is supposed to lead children to qualified works and allow them to gain some certain reading habits. It also has to present opportunities letting children practice their cognitive, affective behaviors via written and visual materials. If a book for children repeats the things they experience every day with common and ordinary words, it turns into an insignificant communication tool. Teachers and parents should considered that literal publications having very unpleasant, childish

language and unnatural way of teaching principal will never meet children's needs and worse still these type of publications will weaken children's connection with books (Sever, 2008). The very first thing to make children gain the habit of reading is raising them in a healthy environment. This environment, mainly formed by parents, teachers, schools, general culture and other surroundings, directs children's development and future. It means when this environment covers negative or positive factors related to its components, it will affect the children inside.

Children's literature introduces human, nature, love and life. It reflects the conflicts between children and other people or social environment. With the help of the characters and their relationships and the settings in books children have the opportunity to both improve their senses and have a better understanding of human, nature and life. Allowing children to meet stories, tales and poems at a very early age will give them the chances to improve their imagination, creativity and personality.

Children Literature and Creative Drama

Creative drama helps children walk around the gardens of stories. With the opportunities of both games and stories children can mirror art forms with new meanings. Creative drama enriches children understanding and commenting. By means of creative drama children's experience quality increases and creative drama offers children art awareness which enables them to be clear about what they want in their lives.

Creative drama helps students to gain important experiences via their daily life, to think independently, to express their ideas and to develop their creativity. Moreover, creative drama method helps students to grow in terms of emotional maturity by recognizing the emotions (Ward 1960).

If the teaching and learning environment at school satisfies the child's needs and requirements, he/she will have an enriched curriculum consistent with individual characteristics and exhibit active participation in the process through group discussions. Such an environment will support the child in his/her way to success (Yavuzer, 2008). Creating an effective and productive learning environment depends, first of all, the teacher's ability to take his/her students' individual characteristics and needs into account and to use different methods collectively to ensure their active participation in the process.

When all these points taken into account, creative drama can be described as a method which includes students directly to an effective learning process and provides them with a great learning environment full of experiences not just in schools but in their life as well. It also creates opportunities for students to have effective communication which will bring them a great deal of success. The drama activities arranged by children's literature texts could be seen as a highly effective method for their speaking skills.

The tales, stories taking place in creative drama feed children's imagination, make them more creative and ready for real life. As Dorothy Heatcothe (1984) states creative drama means learning and expanding life experiences before going on the real stage. According to Courtney (1989) creative drama is a process in which imaginative thoughts become actions. Polisini (1994) describes creative drama as creating real life conflicts in-group activities with the directions of a teacher. Creative drama expands children's language skills fields and their language quality. It creates new opportunities for children to practice their speaking skills.

Creative drama having its own language form allows student to be critical both to themselves and to others (Nixon, 1987). Creative drama, as a teaching method raising individuals' learning interest, makes students be more sophisticated by empathizing with others, take more part in learning, express themselves better, creative, have a broad life perspective and lets them be more interested in searching (Güneysu, 1991: 84). One of the principal features of creative drama is providing students with chances of exploring themselves and empathizing with others. Besides this, creative drama activities can be an

effective way for teachers to improve children's oral language use throughout early childhood years (Podlozny, 2000).

Creative drama aims to render the individual conscious of her own body, feelings, opinions and what goes on in her environment. Moreover, another main objective of creative drama is to create an environment in which the implications, emotions, knowledge and experiences in game pedagogy are liberated. In a group effort, it is also of importance as it provides the opportunity of learning by doing and obtaining knowledge, as well as of improving verbal communication and socialization (San, 1990).

The main objective of creative drama studies is to raise individuals capable of being creative and self-sufficient in any field, knowing themselves and, having interactions with other individuals and improving these interactions and expressing themselves in a far more developed way. Furthermore, creative drama serves for education in many ways including creativity, developing esthetic perspective, critical thinking, social development and cooperative learning, creating opportunities for children to discover ethical values, feeling self-confident, making their own decisions, having language and communicative skills and expanding children's imagination. Creative drama introduces both children and adolescences their own identity and culture and enables them to change their ideas and attitudes while communicating with others (Adıgüzel, 2000).

In dramatic games they play with their peers, children put themselves into different people's shoes. By acting the role of a father, teacher or others, children are able to know their own personality better in one way and become aware of what distinguishes themselves from others. They test their strengths and attempt to get involved in an enterprise; in this way, their senses become sharpened, their abilities are developed and their skills get improved (Yavuzer, 2008). With the help of these kind of games children can learn and express themselves faster.

Individuals who take part in creative drama acquire and improve their communication skills. Participants gain the skills of thinking, speaking, listening and narrating through these activities. Besides, they are involved in dialogues with imagined characters through communication, and they speak naturally based on their imaginations. Communication is a concept that is embedded in drama's scope, objectives, methods and dimensions, and it is of importance for drama participants. Communication is the first objective that the group is supposed to achieve in drama activities (Adıgüzel 1993). The main tool in educational drama is the child himself or herself. They should be directed to use all stimuli by knowing their limits.

Starting from the preschool stages, children's literature texts give children the opportunity to meet heroes that they can emulate. It shouldn't be forgotten that language is a skill and skills are to be taught through learning by doing. Via activities, fictionalized with children's literature texts and creative drama techniques, you can raise all-rounders who are really able to speak and express themselves in a far more clear way.

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Sample Lesson Plan

Duration: 30+30 minutes

Group: 12 Pre –School 6 years old children

Place: Drama Classroom

Method: Creative Drama(Role play, Improvization,Dramatization)

Equipments: CD player, CD, nature sounds, animal costumes, flower costumes, a tale by Aytül Akal ‘Who had the forest’s colors?’.

Objectives: At the end of the lesson students will be able to;

- pronounce the words better.
- set the tone of voice so that it can be heard well.
- set the pace for their voices.

Warm Up

1st Activity

Teacher tells the children that they are in a forest and hearing the sounds from it.’While you are walking take breath from your nose and release it through your mouth and spell the names of the surroundings in this forest’ s/he adds.

2nd Activity

Teacher asks children to draw things and animals in this forest by using their body parts.Children draw trees using their noses, flowers by shoulders, bunnies by feet, birds by their heads.In the final part they paint the drawing by their breath.

3rd Activity

The teacher tells children that the living things in this forest sometimes speaks quickly and sometimes slowly and asks them to be the flowers in the forest and with her /his instructions called ‘night’ and ‘day’ children speaks fast or slow as if they are the flowers.

Intermediate -Evaluation: Teacher and students sit down in a circle and talks about the feelings when they speak fast and when day speak slowly.

ANIMATION

4th Activity

In this activity teacher reads the tale ‘Who had the forest’s colors?’ While s/he is reading, children dramatize the roles they chose wearing the costumes and accessories.

Who Had the Forest's Colors?

Once upon a time there was a forest where animals lived happily and with great companions. These animals got wet with the same rain, played under the same sunlight and fell asleep under the same moonlight. In this forest every single tree had fruit and every single seed flowered.

The bear was the only one who wasn't pleasant in this forest. He got angry with the animals doing different jobs. He got angry with the caterpillars eating weeds, worms ventilating the soil and he underestimated the bees making honey all day like that 'Huh, Is that a real job? Get a real job to make money!'.

One morning when the animals woke up they got shocked because all the red flowers disappeared. There were no red tulips, poppies, claries. They looked all around yet all these lovely flowers were gone in just one night. Where did they go, then?

The next morning when they woke up again that time all the yellow flowers gone. They all disappeared. There weren't any single yellow tulip, daisies. In another morning purple tulips, purple violets, purple lilies and in one last morning, white daisies, white convallarias disappeared.

As all the colors were disappearing day by day animals were all helpless and didn't know what to do about it. Suddenly the rabbit came and talked breathlessly 'Come on follow me I found all the flowers. I found all of them.' the animals followed the rabbit and they saw. What?

All the flowers were there. Red tulips, poppies, and yellow daisies, purple violets, white convallarias... The bear had opened up a flower shop while everyone was asleep. 'That's not fair' all the animals cried. 'How can be a forest be a forest without flowers? Give our lovely flowers back' they begged.

The bear disagreed and said 'While you were all sleeping, I was working hard to pick up all these flowers. Instead of being lazy, work hard and get a job for yourselves.' All the animals were shocked and frozen by the bear's words. What would they do? Could they live in a forest without flowers?

As there were no flowers, there were no colors left in the forest. Only brown and green colors were everywhere. There was no pollen left to insects to carry any and so there were no new flowers to blossom. Bees couldn't make honey, fruits couldn't grow any bigger; caterpillars and worms couldn't find homes.

The animals fed with fruits couldn't find any food. They were not the only hungry ones in the forest. 'I want honey.' the bear cried.

Bears love honey indeed. There were no flowers and no honey either. The bear felt so hungry that he went down to the supermarket near the forest. He bought a jar of honey for himself.

The supermarket owner asked the bear curiously 'Your forest was full of flowers and honeycombs. All of the animals could eat and drink whatever they needed.' So, what happened and you started to shop here in my store?' the supermarket owner asked.

The bear thought for a while. What brought him here to the supermarket? What had happened? What? What? What? The bear stole the colors of the forest. However, all these colors belonged to everyone in the forest, didn't they?

The bear immediately went to the flower market and spent all the money he earned from the flowers on flower seed, bulbs and seedlings. When he returned to the forest, all animals helped him and they planted all these seeds, bulbs and seedlings together.

The forest got back its colors again. Flowers blossomed. Trees produced fruit. The bees made honey again. And all the animals in this beautiful and colorful forest began to live happily again.

Overall Evaluation

Teacher asked children to go back to places in the forest and talk about the roles they acted while talking children are supposed to use the right words and set their tone of voice.

ÖZKAN ZÜLFÜOĞLU¹

BUDGET DEFICITS IN EUROPEAN UNION AFTER EURO

Abstract

The budget and fiscal deficits' problems in Greece, Ireland, Portugal, Spain, Italy (highly indebted countries) and other countries in last decade, especially end of 2000's have become an important research area in the literature. Many researchers and academicians focus on the effects of euro, (independent monetary policy) for explaining the budget deficit problems at such countries. It could be accepted as one of the trigger factor of debt crisis after euro. At this research we try to analysis and explain the budget performance and public debt problems of european countries after monetary union.

Keywords: Monetary union, budget deficit, public debt

Jel Code: E62, H61, H62, H63

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LENKA JANOŠOVÁ¹

EXTENDING THE AGE OF THE ECONOMICALLY ACTIVE POPULATION AS A WAY OF ADAPTING TO AN AGEING WORKFORCE

Abstract

This article introduces age management as a tool for supporting economic activity into a later age. Most developed countries are currently confronted with increasingly ageing populations and are consequently raising the retirement age. This is related to a structural change in the age composition of the whole workforce on the labour market. Demographers predict that this will reach a peak in the sixth decade of the 21st century, when one third of the population is likely to be composed of people over 65 years old. On both a political and a business level, how to cope with an ageing workforce will undoubtedly be a key issue in the coming decades. Several solutions are possible, but not all are realistic. Firstly, we can rely on a sufficient flow of immigrants of working age capable of immediate participation in the European labour market, thereby compensating for the decline in the economically active population. Alternatively, we can attempt to change people's behaviour in order to increase the birth rate, either by changing government social policy or by influencing the preferences of potential parents. Thirdly, we can keep older workers in the labour market for a longer period than is currently the norm. This paper puts forward reasons in favour of the third option, while acknowledging the possible limits and drawbacks of this solution.

Keywords: Age management, ageing of population, employment, ageing workforce

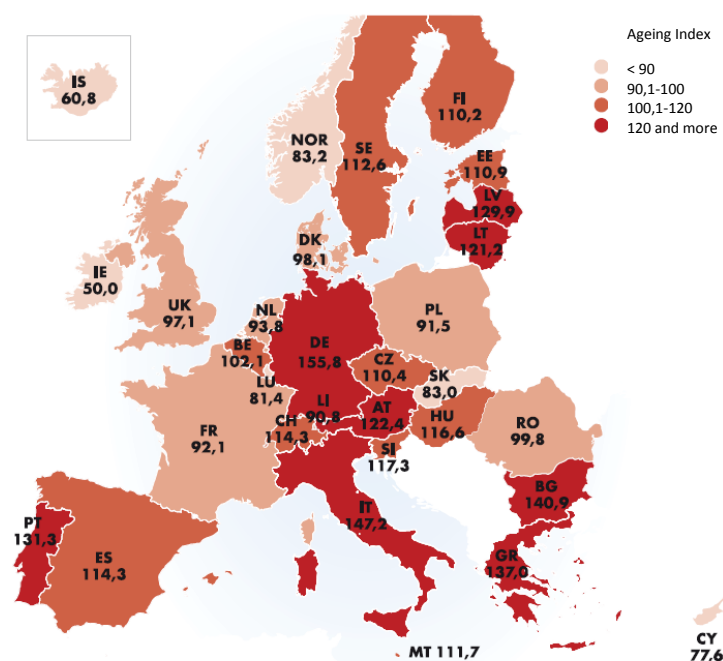
Jel Code: J14, M12, M14

Demographic changes in society

Most developed countries currently face ageing populations and an increase in the retirement age. This relates to the structural change in the age composition of the labour force. This trend is also confirmed by increasing values on the aging index. This reflects the characteristics of the age structure of the population, especially its ageing. This is determined by the population of over 65 years-old per 100 of those aged 0-14 years-old. If the resulting value is higher than one hundred, the number of people aged over 65 prevails over the number of children under 14. Therefore, in order to maintain the currently existing state of the population, a maximum value of one hundred would be necessary, preferably, lower. Unfortunately, according to the results and predictions of the CSO (Czech Statistical Office), the trend is in the opposite direction (Vaňková, 2013). In 2011, the index reached a value of 110 (in the comparison with all 27 EU countries, the highest index value was for Germany at 156, and the lowest was for Ireland with 55). That is to say that for every person under 15 years of age there is more than one pensioner. This can be contrasted with the index value for 2004 which was only 94.

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Figure 1 Ageing Index in the EU27 for 2011



Source: Vaňková, 2013.

No major change can be expected in the future. While the child population is expected to continue to fall during the 21st century, the proportion of senior citizens will keep on increasing. Demographers predict this to reach a peak in the 2060s, when for every 100 children there will be 277 elderly people. This situation will most likely persist throughout the century. Increases in population will only be achieved due to migrating populations. Towards the end of the century we may see a fall of up to 40 percent in the overall population and an increase in the proportion of people over 65 years up to one third of the population. Neither a slight increase in the birth rate (CSO estimates an increase from 1.45 to 1.56 children born to one woman, and an increase in the average age of mothers at birth from 29.8 to 30.8 years), nor migration (estimated to grow from 8.6 thousand to 17.6 thousand annually) is likely to stop this trend. Some unexpected external factors such as long-term economic crisis, significant changes in the system of social support, epidemics or natural disasters, which can result in short-term fluctuations in population development, might have a certain influence (Štýglarová, Němečková, Šimek, 2013).

All of the factors mentioned above will have an impact on the age structure of the Czech population this century. It is not just a matter of growth or decline in population, these demographic changes will be reflected in the whole development of society, which will be influenced by irregular fluctuations in the age composition caused by historical events (World War II, the population boom in the 70s). These irregularly occurring fluctuations of strong and weak years, along with the predicted changes in rates of birth, mortality and migration will create a radical ageing of the age structure of the Czech population. When strong years go into retirement, there will be a problem with continuous financing of the pension system. Reproduction in itself will not meet demands of the labour market, due to the declining birth rate, not even if the age of retirement is changed (Tichá, 2015).

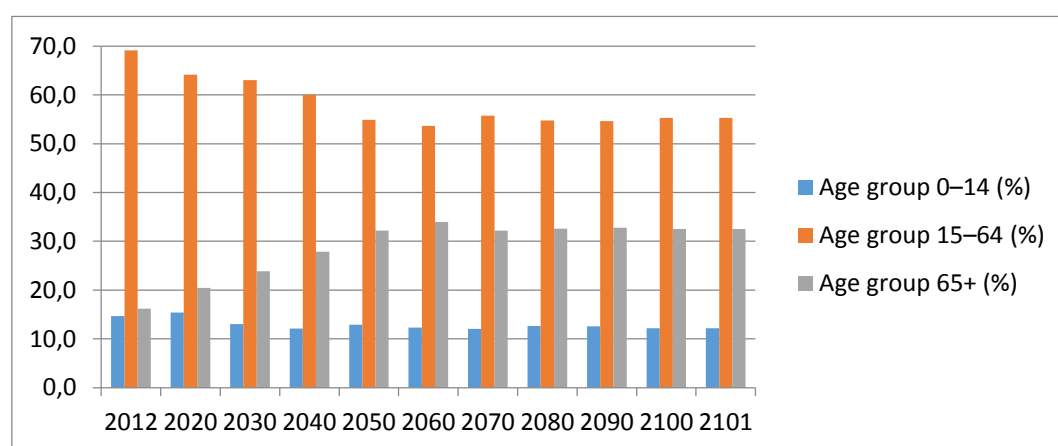
From the above it follows that there will probably be dramatic changes in the senior citizens category (65+), which will grow, according to CSO predictions (2013), from currently one sixth to one third of the population. The total number should peak in the late 2050s at an estimated 3.2 million people, compared to the present 1.8 million. Despite a decline in the number of seniors in the following years, by the end of the century they will still constitute the largest age group. This is due to an expected fall in the number of people in the category 15-64 years and children under 15 years. According to the

medium variant of the predicted development (Graph 1), the percentage of 15-64 years old in the population will fall from 68.4% to 55.3%, and the proportion of children will decline from 14.8% to 12.2%. The average age of the Czech population will thus increase from 41.3 years to 50.0 years.

This demographic development is directly linked to the structure of the economically active population. A direct consequence of this is, therefore, the inability of the population to self-reproduce and maintain, at least, its current state. This raises the question of to what extent these changes will be reflected in the labour market.

From the results of the forecasts, it is evident that an increasing number of elderly people of up to one third of the population along with an associated increase in life expectancy will necessarily lead to a reduction in the size of the economically active population and to an increase of the average age of the economically active population. Developed societies, which rely on ongoing pension systems, will probably react to this development by raising the retirement age to maintain the desired standard of living. This will be enacted by government policy and by people voluntarily extending their economic activity into normal retirement age.

Graph 1 Predicted representations of individual groups in the population of the Czech Republic 2012-2100



Source: CSO, A projection of population in the Czech Republic – medium variant (2013)

The aforementioned demographic projections clearly indicate that, on a political and business level, a key issue to address in the upcoming decades will undoubtedly be how to cope with an ageing workforce. There are several options, of which none is very realistic: A) We can rely on a sufficient flow of immigrants of working age immediately capable of participating in the European labour market, thereby compensating for the decline in the economically active population. B) A dramatic increase in the birth rate is achieved, either by means of governmental or social policy changes, or by means of a change in the preferences of potential parents. C) We successfully engage and keep older workers in the labour market for a longer period than is currently the norm. Let us now look at each option in detail.

Solutions to an ageing workforce

a) Migration

One of the solutions is migration. However, predicting the evolution of migration is extremely difficult, as we can see in the current situation in the EU27, where within a period of few months, there was an influx of millions of immigrants into the European Union. Several factors have an influence on the number and structure of immigrants. These include mainly the legislation (the period of time it takes to obtain a residence or work permit), the social situation in the Czech Republic (the amount and structure of social benefits, support from state institutions while searching for work). An important role is also

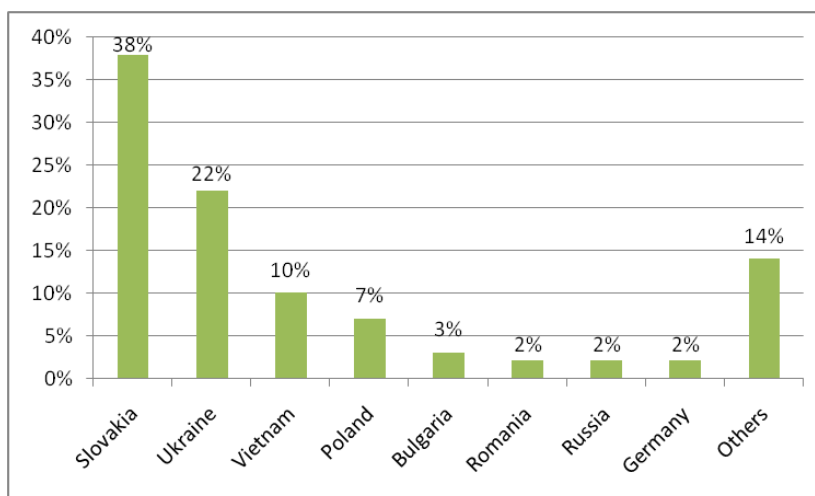
played by the security, economic and political situation in potential source countries. For reasons of uneven development we cannot rely too much on the long-term time series of migration indicators published by the CSO or Eurostat (Bansak et al., 2015).

The Czech Republic, for historical reasons, does not have as much experience with the employment and integration of immigrants into the labour market as western European countries. Before 1989 the options for migration were considerably limited by the political regime of the time. After 1989 and the reopening of borders, the conditions for migration changed dramatically. First, there were Czech citizens returning from exile, and then, after the split of Czechoslovakia, there was an influx of Slovak inhabitants. In the 1990s, citizens of the former Soviet Union, Ukraine and Vietnam prevailed among immigrants. Another turning point came with the Czech Republic's accession to the EU and the Schengen area, which greatly facilitated the movement of labour (Bartoňová et al., 2010).

The main reason for the majority of foreigners who come to the Czech Republic is to undertake employment, mostly in the lower-paid occupations (construction site workers, health care), in jobs which are not attractive to Czech workers (the salaries which are estimated to be 60% of the average wage). These foreigners (mostly men of working age) reside in the country only temporarily, they do not create ties with their surroundings or start families. It is typical that they provide ongoing financial support for family members living in the homeland, and after a certain period of time, they return to their country of origin. (Tichá, 2015). The risk for these immigrants is the strong connection between the number of available job opportunities and the economic cycle and the economic performance of the country. When there is a boom, the demand for labour grows, while during a recession there is a decline in demand. The result of these fluctuations and the lack of family support mean that these people are often forced to leave the Czech Republic during a recession and go back to their homeland. During a boom it is vice versa, they then return to the country. These re-migrants are reflected in the statistics repeatedly as emigrants and immigrants (Drbohlav, 2010).

The largest represented group on the Czech labour market are Slovak citizens (CSO, 2015a). This can be explained by geographical proximity, a common past or by a minimal language barrier. Lately, there has been a trend of young Slovaks studying at Czech universities, which they consider to be of higher quality and more promising with regard to future employment. After graduation they already have ties to the Czech environment, which creates a space for them to stay on the Czech labour market. The higher salaries on offer may also play some role.

Graph 2 Structure of foreign nationals on the Czech labour market between 2010-2011 (%)



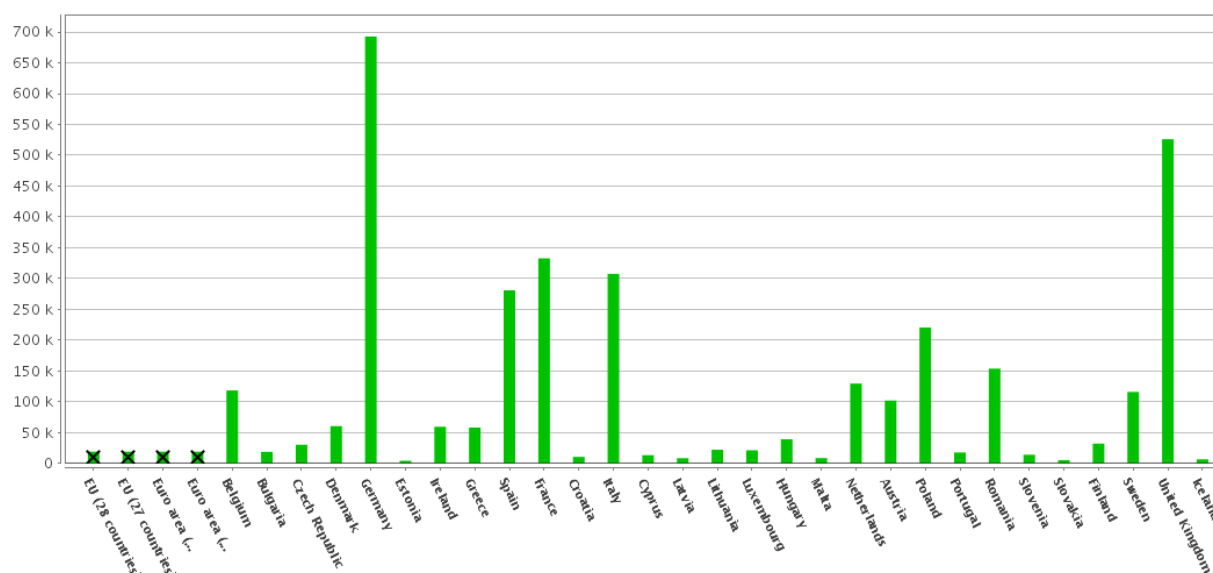
Source: CSO (2015a), *Foreigners in the Czech Republic*.

The Czech Republic is a member of the European Union and the EEA and belongs among the countries that have only a small proportion of foreigners in the population (around 4%, as of January 1, 2013), only Portugal, Finland, Hungary and Slovakia have fewer foreigners. Conversely, the biggest proportion of foreign nationals can be seen in Luxembourg (45%) and Switzerland (23%), i.e. the countries with the highest GDP in Europe, which are characterized by high living costs and a complicated process of obtaining citizenship (Eurostat, 2014).

The CSO in its projections of the evolution of the Czech population (medium variant) estimates that the size of the foreign population living in the country will rise to 1.26 million (thus representing 22% of the population by January 1, 2101). However, we have to take into account that some foreigners will obtain Czech citizenship and therefore will no longer be counted as foreigners in the population statistics (Štýglarová, Němečková, Šimek, 2013).

It was stated above that the Czech Republic is currently a target mainly for working immigrants, who after some time return to their homeland. However, in the last year we have seen, and will probably continue to see, an influx of economic immigrants from the Arab world, arriving from politically unstable areas with plans to acquire citizenship and bring along whole families to Europe, including the Czech Republic. The integration of these immigrants into the labour market is likely to be problematic. They are not coming because of a demand for labour or for a certain type of professional, as is currently the case with immigrants from Slovakia, Ukraine or Vietnam, but because of their own needs for economic prosperity and political stability. This brings problems regarding a mismatch between labour market needs (currently lacking in especially technical professions and craftsmen) and offer and requirements of this group of immigrants. It is also necessary to take into account a different culture and mentality, which, for example, restricts female participation in the labour market. It is also necessary to consider the fact that, due to its less generous system of state support and historically smaller overall number of foreigners in the population, the Czech Republic is not a final destination for non-European immigrants. It therefore cannot be assumed that it will be possible to substantially increase the economically active population with such immigrants.

Graph 3 The number of immigrants in the EU27 and the EEA (in thousands)



Source: Eurostat (2014).

Eurostat has not so far released the exact figures on the number, structure, or education of immigrants for 2015. The latest data comes from 2013, when about 30,000 immigrants came to the Czech Republic. At the moment, we can only rely on the estimates of NGOs, the European agency Frontex, which ensures the protection of EU borders, the International Organization for Migration (IOM) or the statistics of asylum applications in the individual countries, which may though provide distorted data. As the graph

shows, the majority of immigrants head to Germany and Great Britain. We can find several reasons for this: a) these are the countries with an already a strong base of past immigrants. The newcomers may, therefore, join their family members, or utilise the support of a circle of immigrants from the same region. b) the social system supports immigrants in the form of benefits for children, housing and living needs, which is higher than their potential wage in the country of origin, which means they remain in the country, although not always integrated into the labour market.

For example in Germany, Professor Andreas Müller (2016) at the Karlshochschule International University under the project DIVERSE (Diversity Improvement as a Viable Enrichment Resource for Society and Economy) is engaged in researching the integration of immigrants. Its main objective is to develop a new and efficient model for the integration of migrants from third countries. He intends to achieve this by means of adapting and improving the stakeholder approach connected to the ability to predict and assess the potential of immigrants with regard to socio-economic aspects. Particular emphasis is then placed on recognizing informal competences and the relative relationship between diversity management practices in organizations. Overall, the integration of immigrants is an under-researched area that lacks primary and secondary statistical data. All claims are thus built merely on the assumptions and suppositions of various institutions.

For example, Katseli, Lucas and Xenogiani (2006) consider the impact of the arrival of immigrants into the labour market. They argue that in the early stages of immigration, there appear negative shocks regarding the job offers in the country of arrival. These shocks, however, can in the longer term be positive, if the economic migrants return back to their country of origin after a certain period of time. In the case that they remain in the country and their ability to substitute for the original population on the labour market is low, then the immigration has a negative impact on productivity and output.

In the present circumstances, I do not see a real possibility of replacing the loss of economically active persons with immigrants who meet the requirements of the Czech labour market in terms of education and experience. I also see as problematic their potential integration into Czech society, which, perhaps for historical reasons, does not favour the arrival of large numbers of immigrants. In the long term, it is also necessary to realize that the growth of population will only be irregular. It can be expected that the descendants of immigrants would adopt a European stance on family planning (delaying starting a family until a later age, fewer children per family, changing priorities of the young generation), which would again lead to a deviation in the size of the individual components of the age structure. This view is shared by Rabušic (1995), who, after the opening up of the Czech labour market in the 1990s, drew attention to the fact that to even up the low natural birth rate with immigrants, it would be necessary to establish precise quotas which allowed the acceptance of only those immigrants who perfectly fit the needs of the market without any additional spending on their integration. Unfortunately, the experiences of France, Germany and Great Britain show that the arrival of large numbers of immigrants brings a whole range of hard-to-solve problems.

b) Increasing the birth rate

The predictions issued by the CSO (2013) do not foresee a sharp increase in birth rate in the future unless there are some dramatic changes in population policy. A population policy is considered to be any strategy that encourages specific population changes. In developed countries, there is a long term tendency towards having fewer children and postponing parenthood to a later age. Due to technical innovation and economic development, there is no longer a need for a high number of children per woman. The vast majority of children born today live into adulthood and there are also some social relations changes in families. Having a high number of children as a form of security for old age is no longer typical (Weeks, 2011). This may be due to the changing values of the younger generation, which, thanks to higher education (and with it, higher income), has changed its priorities. The behavior of the younger generation has certainly had an influence. In the past, it was external conditions that led to declines (the economic situation, wars), whereas currently the key factor is the change in the behaviour and values of the younger generation. This is also confirmed by the research of Professor Petr Macek from the Institute for Research into Children, Youth and Family, Faculty of Social Science, Masaryk University (2013).

The research compared the values and attitudes of adolescents in the years 1992, 2001 and 2011. The conclusions show an increasing importance of earning money, building a career, succeeding in employment, and delaying the acceptance of responsibility associated with adulthood. This correlates with the declining importance of marriage and the need to start a family. Young people prefer building a career and enjoying their free time as they like. The willingness to start a family is postponed to later years, which can be seen in the CSO statistics on the average age of mothers (Population movement 1st-3rd quarter of 2015, 2015), which has been increasing continuously since 1992. In 2013 it reached 29.2 years, while in 2004 it was only 26.5 years (Population movement 4th quarter of 2004, 2005).

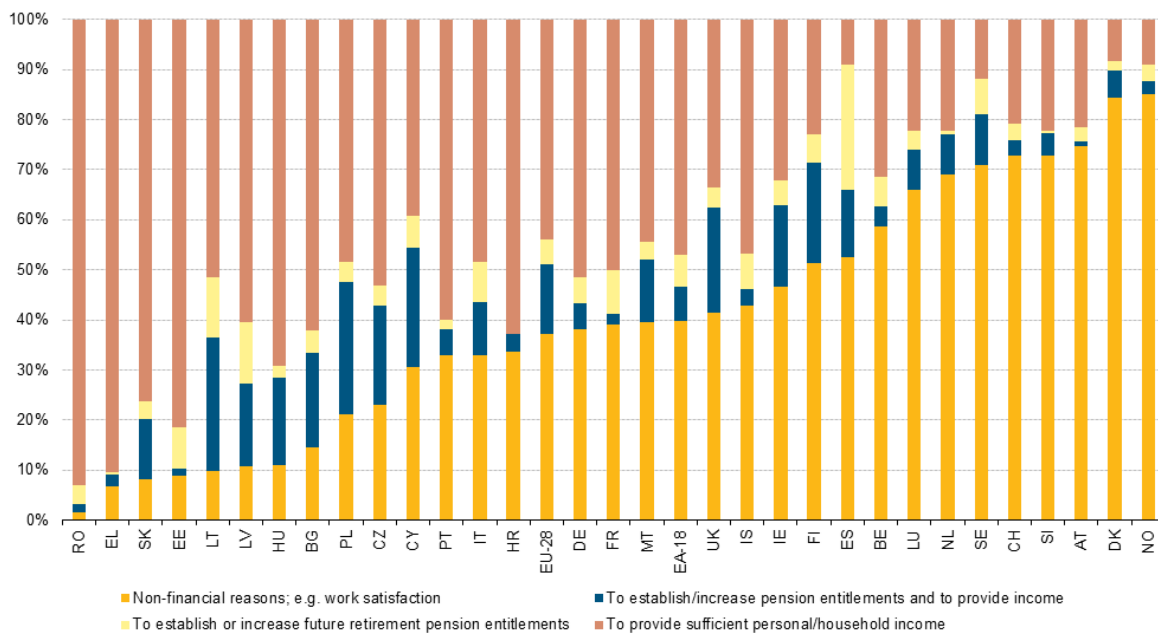
Political representation has sought to encourage an increase in the birth rate by means of pro-family policy, such as financial incentives (parental or maternity allowances), or tax relief for having children. However, it does not seem that the implemented policy measures have a significant long term impact on parents' decisions as to the size of their family. Therefore, we have to look for other motivation variables regarding the decision to have children (Rabušić 1995).

Only a high and stable birth rate could alleviate the ageing of the population. As we do not yet know how to successfully convince potential parents to have a large number of children over the long term, it is not very realistic, under current conditions, to achieve a higher number of children per woman.

c) Extending economic activity into old age

The only realistic option, in my opinion, seems to be to extend economic activity into later age. With the change in the demographic structure and the shift of the average age of the economically active population, there has been an expected increase in the age of retirement and the gradual unification of the age of retirement for men and women, regardless of the number of children born. The OECD foresees in its report Pensions Outlook (2012), that in most European countries both men and women will have retired at the same age by the year 2020. The rate of increase in the age of retirement in OECD countries is different. These countries can be divided into three groups, depending on whether the age of retirement will already be above 65 years in 2020. In the first group of countries is, for example, Norway, which in 2020 will have a statutory age of retirement of 67 years. In the second group are the other Scandinavian countries (Denmark, Finland and Sweden) with a retirement age of 65 years. In the third group is the Czech Republic, where people will retire around the age of 63. At the same time there will be an increasing financial disadvantage of early retirement and a transfer of funding from state pension provision to individual citizens. A reduction in state support in retirement age will increasingly lead to the use of the early retirement option, which, of course, puts a greater demand on one's own financial resources. This, together with increasing life expectancy, will lead to a greater involvement of people of retirement age in economic activities.

Figure 2 Reasons to continue working after reaching retirement age



Zdroj: Eurostat (2013), *Labour force survey statistics–transition from work to retirement*.

The above figure shows that in the Czech Republic, the main reason for senior citizens continuing on the labour market is the need to provide enough income (over 50%). Secondly, there is the desire for satisfaction from work and other non-financial reasons such as social inclusion, a sense of importance and social benefit.

On the other hand, it is not possible in all professions to continue into later age. For this reason, there is an increasing importance of lifelong learning. The European Commission's White Paper on Pensions (2013) specifies measures to ensure adequate pensions in a sustainable manner. Member states should link the age of retirement with expected life expectancy, reduce early retirement and other ways out of the labour market. Member states should also encourage longer working lives for older people by ensuring better access to lifelong learning, by modifying the working environment for people of different ages, by developing employment opportunities for older persons and promoting active and healthy ageing. They should also unify the age of retirement for men and women, promote the development of complementary retirement savings and thus boost retirement income. The Paper also proposes tools for achieving the aforementioned objectives on a European level.

The European Year for Active Ageing and Solidarity between Generations (The European Commission, 2012) aimed to raise awareness of what older people can contribute to society. The aim was to encourage the policymakers and relevant participants at all levels to take measures to create better opportunities for active ageing and strengthen solidarity between generations. Active ageing means ageing in good health and as a full member of society, as independent as possible in everyday life, in working life and as a citizen. The challenge is to use as much of the human potential of older people as possible. The European Year 2012 supported active ageing in three areas: a) Employment - improving the possibilities of older people in the labor market; b) Participation in society - promoting greater recognition of the contribution of older people to society and supporting the creation of conditions for their deployment as volunteers; c) Independent life - by changing relations in society to allow seniors to have maximum independence to the latest possible age.

The promotion of active ageing is one of the key issues to address. If we want to include and retain older workers in the labour market, they should be able to achieve such productivity that is sufficient for the businesses. Productivity cannot be reduced to specific tasks. It is influenced by experience, ability to work and health. Studies show that productivity growth and technological change are never caused by

just one person but consist of many individual steps, in which participate the proposals and experience of a whole diverse range of employees (National Research Council, 2012).

Avolio and Waldman (1994) examined the ability to work of 25,000 employees between the age of 16 and 74 using the General Aptitude Test Battery (GATB). They did not find significant differences in the results of different age groups when the researched employees were of the same education. A completely new approach is called Cross-sectional-employer-employee-data. This observes diverse trends and patterns in achieving peak productivity. For instance, case studies of Kotlikoff and Wise (1989) show that the productivity of businessmen, measured by the number of signed contracts, increases with age. The same trend is also confirmed by Boersch-Supan, Duezguen, and Weiss (2007), who examined the productivity of manufacturing workers in German car companies. They measured the productivity by the error rate during assembly. While the older employees showed a higher frequency of small errors, younger workers showed smaller frequency of major errors. Compared with one another, the older employees showed higher productivity. It is therefore surprising that stereotypes still prevail regarding the lower overall productivity of older workers. Generally, age stereotypes are one of the main problems in the age structure of employees in enterprises and these are the reasons for the lack of diversity. Studies (Outtz, 2010; Kunze, F. Boehm, S.A, Bruch, H., 2011; Nelson, T.D, 2004; Ng, T.W, Feldman, D.C 2012) are more or less in agreement on the six major age stereotypes about older employees: a) lower productivity b) lower motivation, c) less willingness to further one's education, d) rejection of change, e) less fit to work for reasons of health, f) sensitive to deviations in the work-life balance.

The conducted studies clearly demonstrate the positive effects of age diverse teams. Van Knippenberg and Schippers (2007) states that in the process of generating information and decision-making the diversity of team members increases the richness of information obtained. This is especially important in isolated, non-routine tasks that require a high degree of creativity in solving them. Additionally, the diverse backgrounds of individual team members contribute, through various external and internal networks, to a greater complexity of the obtained information.

Diversity in teams can have also negative impacts. The similar-attraction paradigm assumes that individuals prefer dealing with people similar to themselves, be it gender, age, ethnicity, values or attitudes. The cause of this preference is the expectation that such individuals will be more likely to approve of their opinions and decisions, which reduces uncertainty (Byrne, 1971).

Another potential problem of age diversity refers to the concept of inequality. It focuses on the distribution of wealth in the group, especially on income. The organizational and psychological literature also pays attention to power, status or prestige (Harrison and Klein, 2007). Inequality means that resources are distributed unequally among group members, resulting in varying degrees of power and influence. As a result of this, there arise communication problems within the group. Keltner et al. (2003) argues that powerful members advance their own opinion, interrupt others, and reduce the utility of views of members of a lower level of power.

Research on the impact of diversity in the workplace is the focus of, for example, Kunze and Boehmz from the University St. Gallen or the Centre for Economic Studies in Mannheim (ZEW) - Goebel and Zwick (2009, 2011). The Max Planck Institute for Demographic Research (MPIDR) in Rostock, which publishes annual reports with statistical indicators regarding the labour market and demographic development, looks at the impact of demographic change in Germany and promotes measures to deal with it. It also seeks to design policy measures relating to the distribution of work over the life cycle.

Based on the above facts, I believe that the best way to deal with the ageing of population is to prolong working lives, which entails the necessity of solving age diversity in the workplace. Age management measures may help us to achieve this. They deal with 'creating conditions that take into account age at the political and organizational level, while managing the work processes in the physical and social environment' (Cimbáľníková, 2011). Age management thus takes into account the age, abilities and potential of workers when planning work activities, performing specific processes in the workplace and creating work conditions, in order to develop such strategies and practices that promote age diversity in

the workplace, knowledge transfer, a relaxing atmosphere, and the good health of employees. Age management involves the management of all ages with regard to their diverse needs.

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DİLARA ZORLUTUNA¹

THE NOTION OF PRIVATE LIFE AND THE THEORY OF THREE SPACES

Abstract

The notion of private life has emerged in an era that bourgeoisie was trying to distance itself from its neighbours for the sake of its own privileges. As a consequence of this, private life is a notion that has emerged due to the bourgeoisie' efforts to prevent public from noticing the privileges that were provided to it. Since the 16th century, communication among people became more intensified and they started to live closer to each other. This did result in their better acknowledgement of each other's lives. A person's private life is accepted as the life that is maintained within his household. This is the reason why the right to respect the household was put under protection primarily. The right to private life is traditionally different from the other rights, because it is formed via the legal precedents that are connected with the technologic developments. In the field of private law, the source of this right was in some countries the acts of injustice and in some others it was the personal rights. Later in the 20th century, the right to privacy was vested². Today, private life and its privacy are the principles of the constitutional law that are adopted in all of the modern democracies. Together with the developments in the technology, this notion is attributed with new meanings. A person's life space is divided into three as the secret life, the private life and the public life by the Federal Court and the teachings of law. Because of this, the theory that explains these spaces of life is called "*the theory of three spaces*". The space theory is brought about by the German professor Hubmann. According to the federal court, dividing these spaces of the life of a person allows drawing the lines of the space that is under the protection of law. It is an important method in this respect. In this context; private life, its privacy, and the theory of three spaces will be evaluated in detail³.

Keywords: Law, private law, secret life, The Theory Of Three Spaces.

Jel Code: K36

Introduction

In etymology, persona which corresponds to the person in Latin, in the beginning, while expressing the mask he wore while playing the role of the actor, then began to express the actor and the role that actor plays. In this sense, role played by individuals in the legal scene is intended to mean⁴.

When we hear the name of person, the first thing that come to our mind is human, because person express the human in the old Turkish language. However, person does not state only the human in the sense of law. In addition to this, as a part of public life, law accepts the people that have certain qualifications or property groups as a person. In this context, person in legal sense is an asset that can take debt and may

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² AG HUKUK BÜROSU, <http://www.aghukuk.org/makale-detay.php?id=136>, *Özel Hayata ve Hayatın Gizli Alanına Karşı Suçlar*, date accessed:03.05.2016.

³ Mustafa DURAL/ Tufan ÖĞÜZ, *Türk Özel Hukuku Cilt II Kişiler Hukuku*, Filiz Kitabevi, 12. Bası, İstanbul 2012, p. 5; Serap HELVACI, *Türk ve İsviçre Hukuklarında Kişilik Hakkını Koruyucu Davalar*, Beta Yayınları, 1. Bası, İstanbul 2001, p. 12, 13, 14.

⁴ Helvacı, 2001, p. 14.

have rights. Legislator decides which assets will be qualified as a person. In the Turkish Civil Code, person is divided into two; natural person and legal person⁵.

People who have the attention of the public became public knowledge because of their status in society. These can be both real person and legal person. Examples of legal person are labor union, political parties, and sports clubs. A person who attended the event on the agenda is people who have the attention of the public⁶.

Some people constantly, some people draw the public's attention temporarily. To be a person who have the attention of the public temporarily, there must be an event that preserves its activity and concern the public opinion. Media can not make statements about the such people's life. According to these explanations, we can classify the people who became public knowledge into two; people who have the attention of the public temporarily and people who have the attention of the public constantly respectively⁷.

Officials, deputy, diplomats, famous authors, athletes, artists, journalists, and scientists are examples of people who have the attention of the public constantly because of their social-political situations, jobs, and activities⁸.

Statements which are contrary to dignity and honor must be indirectly or directly related to their tasks. Moreover, public figures must be open to criticisms because of their status and situation that they are included. The second type of people draw the attention of the public because of they are concerned with public issues. This statement of compliance with the law exists only in case of continuing the topicality of the issue⁹.

The perpetrator of a homicide a long time ago does not draw the attention of the public due to it is not a current event¹⁰. Ordinary citizen who is not interested in the event that falls directly or indirectly into media's area of responsibility so they are beside the point¹¹. However, ordinary citizen is discussed at the press in the event that falls into media's remit. These explanations are accepted as compliance with the law¹².

Private rights are different from the traditional rights, the reason is that it is formed by case law depending on technological developments. In the area of private law, the source of this right has tort in some countries, has personal right in other countries¹³. It was then granted the right to respect for privacy in 20th century. In today's world, private life and its privacy is the principle of constitutional law in all

⁵ Öztan, Bilge, **Şahsın Hukuku, Hakiki Şahıslar**, Ankara, 1994, p. 5; Dural/ Ögüz, p. 5; Helvacı, 2001, p.14; Hatemi, Hüseyin, **Kişiler Hukuku Dersleri**, İstanbul, 2001, p. 8; Hatemi, Hüseyin/ Kalkan, Burcu, **Kişiler Hukuku**, İstanbul, 2014, pp. 1, 2; Akipek, Jale G. / Akıntürk, Turgut/ Kahraman Ateş, Derya, **Türk Medeni Hukuku, Başlangıç Hükümleri, Kişiler Hukuku Cilt-I**, İstanbul, 2011, pp. 229-230; Oğuzman, M. Kemal /Seliçi, Özer /Oktay-Özdemir, Saibe, **Kişiler Hukuku**, 2015, p. 2.

⁶ Kılıçoğlu, Ahmet, **Şeref Haysiyet ve Özel Yaşama Basın Yoluyla Saldırılarından Hukuksal Sorumluluk**, Ankara, 1982, p. 154; Oğuzman, M. Kemal /Öz, Turgut, **Borçlar Hukuku Genel Hükümler**, İstanbul, 2009, p. 50; Taşkın, Pelin, **Temel Hukuk**, http://acikders.ankara.edu.tr/pluginfile.php/1595/mod_resource/content/1/11.HFT_Ki%C5%9Filer%20Hukuku.pdf, (2016), p. 5; <http://alonot.com/medeni-hukukta-tuzel-kisiler-dernek-ve-vakiflar-ders-notu/>, **Medeni Hukukta Tüzel Kişiler**, <http://www.hakhukukozgurluk.com/ozelhukuk/medenihukuk/kisilerhukuku/ki%C5%9Filerhukuku.html>, **Kişiler Hukuku**, (2016).

⁷ Kılıçoğlu, 1982, p. 155; www.istanbulbarosu.org.tr/images/haber/medyayoluylayapilankisilikhakkihlalleri.doc, (2016), **Medya Yoluyla Yapılan Kişilik Hakkı İhlalleri**.

⁸ Kılıçoğlu, 1982, p. 156.

⁹ www.istanbulbarosu.org.tr/images/haber/medyayoluylayapilankisilikhakkihlalleri.doc, (2016), **Medya Yoluyla Yapılan Kişilik Hakkı İhlalleri**.

¹⁰ Kılıçoğlu, 1982, p. 156.

¹¹ İstanbul Üniversitesi Hukuk Fakültesi Mukayeseli Hukuk ve Araştırma Merkezi, **Medeni Hukuk Hocalarına Saygı Günleri-Medeni Hukukta Güncel Sorunlar Ve Önemli Gelişmeler Sempozyumu**, İstanbul, 2011, pp. 90, 91; Kılıçoğlu, 1982, pp. 163, 164.

¹² Zafer, Hamide, **Özel Hayatın ve Hayatın Gizli Alanının Ceza Hukukuyla Korunması(TCK m.132-134)**, İstanbul, 2010, p. 6.

¹³ Kaya, Esra, **Özel Hayata “Gizli” Bakış**, <http://www.ankarabarusu.org.tr/siteler/ankarabarusu/hgdmakale/2006-3/9.pdf>, (2016), p. 32; Zafer, 2010, pp. 6,7.

modern democratic systems. This concept is loaded with new meanings with technological improvements¹⁴.

Private life is people's unique lifestyles and attitudes and behaviors that are only interest to themselves. The private life space is a person's unique, hence person can take out the people who they want from this field, because the area can not be entered without person's permission. A desire to share with others and personal life components that we do not hear creates this field. In general expression, the right to private life is the same thing with the right to protecting the information about themselves from others¹⁵.

Person's life is divided into three by federal court and law doctrine as secret life, private life, and public life respectively. Therefore, this theory that explains life spaces called theory of the three fields. The field theory is German professor HUBMANN's invention. According to federal court, separating the areas of human life allows to demarcate the personality field which is protected by the law. In this respect, it is a very significant solution¹⁶. However, the field theory has been criticized by some authors because of providing insufficient protection in some cases such as storing the sequence information. Border area of person's life should be determined precisely. Thus, field theory may be regarded as an usable theory examining this phenomenon occurred and concrete event¹⁷.

Many events occur in person's life everyday and the problem of which of these events can be explained come to the fore. Moreover, as part of personal right, determining the values of personal boundaries which are under protection is important and necessary. Therefore, person's life area can be examined under three main headings; secret life, private life and public life¹⁸.

In secret life, person only share the events and motions with people that they have confidence in. It consists of the events and documents that are undesirable to be known by others. For example, family relations, letters, memory book, account and business books, and person's home life. Sharing the events with a few people does not change the nature of privacy field exceptionally¹⁹.

Two objective and subjective conditions must be realized in order to occur the event within the scope of secret life. Event should be known or can be viewed by anyone objectively. An event or behavior kept secret from others can be related with person's inner and outer life. Therefore, kept secret faith of the people, thoughts, plans, feelings, and intra-family relationships are the examples of the area of the secret life. The important thing here is that the event is not unknown. If this event has become known by the people's will or not is no longer under the secret life.

It is not essential for the honor or dignity of the person to come under the secret area, if an event or behavior is related with both inner and outer life or not. However, it is possible that the events interest both dignity and honor at the same time. In this case, the attack would have violated both personal presence. For example, explaining that there is a person's criminal record would violate both the honor and dignity of his private life. On the other hand, the letter of a person containing a relationship with a girl, and explaining the bank or business secrets of a person constitutes an attack on his secret field. Thus, it is almost impossible to accept the thought of '*quite unknown and explaining the issue is in danger of harming the honor and interests*'²⁰.

¹⁴ Ag Hukuk Bürosu, (2016), <http://www.aghukuk.org/makale-detay.php?id=136>, **Özel Hayata ve Hayatın Gizli Alanına Karşı Suçlar**; Zafer, 2010, pp. 6,7.

¹⁵ Zafer, 2010, p. 12.

¹⁶ Dural/Öğüz, 2012, p. 135; Helvacı, 2001, pp. 61, 62, 63; Zafer, 2010, p. 12.

¹⁷ Dural/Öğüz, 2012, p. 135; Helvacı, 2001, pp. 61, 62, 63; Zafer, 2010, p. 12.

¹⁸ Acabey, Mehmet Beşir, **Basın Özgürlüğü ve Bu Özgürlüğün Bir Sınırı Olarak Kişilik Hakkı**, <http://journal.yasar.edu.tr/wp-content/uploads/2014/01/1-Be%C5%9Ffir-ACABEY.pdf>, (2016), p. 12-15; Ayan, Mehmet/Ayan, Nurşen, **Kişiler Hukuku**, Konya, 2015, s. 77; Zafer, 2010, p. 16.

¹⁹ Zafer, 2010, pp. 20, 21.

²⁰ Research techniques;

1) physical techniques: mechanic devices, thermic devices, optic devices, acoustic devices.
2) Psychological techniques: personality assessment tests, hypnotism, sleep deprivation.

As a rule, whether something secret depends on the will of the person and an event or behavior to be considered secret, it should not monitored or known by everyone. “Everyone” refers to the concept of the person and third person other than the people they trust. Incident or behavior is not enough to be viewed by everyone, it must also be an event or unknown behavior at the same time²¹. If a certain life event is known by everyone, this event ceased to be a secret anymore. This incident may come under the private life or common living area learning on the number of people in the narrow sense²². However, if it remains an event known by everyone in the past, it can come under into the secret field in time. For example, the person’s past criminal record can lose its currency so it can enter his secret area.

After serving a sentence, it remains in the past and enters into person’s private life. Otherwise, people who suffer the punishment would be deprived of the honor and dignity because of this act for an indefinite period. Keeping the secret purpose of criminal punishment based on equating the guilty with other people and reintegration into society. Therefore, the person’s criminal record can be announced only when the superior public interests available. Press statements made in cases other than that they are unlawful²³.

In this triple distinction, as a reflection of personality, private and confidential living area are considered worthy of protection of personal assets. Indeed, privacy in one’s public life is out of the question because, these events are considered in society²⁴.

Going for a ride by a person, watching the match, suffered an accident, or even commit a crime is an event seen by all known. In this regard, there is nothing to undermines a person’s life or detect these incidents by someone else. However, if these events are explained in a way that would harm the honor and dignity, the honor and dignity can be violated. On the contrary, interventions to private and secret life are violation of personal rights against the law, because people do not want to be known the events in this area by the society²⁵.

Subjective requirement is to keep secret the will of a person’s life events, because the will of hiding this event from discreet should exist to come under the secret area of a live event. The will of keeping secrets of a person can be easily understood from his declarations. Such a will sometimes can be understood from the descriptive behavior of discreet. Person can put some financial obstacles with intent to prevent people from entering the secret area. For instance, a person holding his door open does not mean to enter his house and observe the secret life. The will of keeping secrets of discreet can be removed from the benefits. For example, keeping the secret of the financial situation of one’s business for the good of person²⁶.

It covers the events and movements that wanted to share with people’s family, and relatives. Sitting together, working, talking, and life events that are common with his close people and want to know by that people are experienced in this field and private area benefits from protection as a part of personal rights²⁷. The incidents that open everyone’s knowledge and occurring in public places are included in the common areas. For example, the people go to the theater, to go to the game, to attend the meeting

²¹ Dural/Öğüz, 2012, p. 135; Reisoğlu, Safa, **Basın Özgürlüğü ve Kişilik Haklarının Korunması**, İstanbul, 2008, p. 24; Helvacı, Serap, **Gerçek Kişiler**, İstanbul, 2012, p. 113; Zafer, 2012, p. 3.

²² Dural/Öğüz, 2012, p. 136; Helvacı, Gerçek Kişiler, 2012, p. 115; Kılıçoğlu, 1982 p. 86; Hafizoğulları, Zeki/ Özen, Muharrem, **Türk Ceza Hukuku Özel Hükümler Kişilere Karşı Suçlar**, Ankara 2013, p. 280.

²³ Serdar, İlknur, **Radyo ve Televizyon Yoluyla Kişilik Hakkının İhlali ve Kişiliğin Korunması**, Ankara, 1999, p. 41; Kılıçoğlu, 1982, p. 87,88.

²⁴ Dural/Öğüz, 2012, p. 136; Kılıçoğlu, 1982, pp. 87,88; Ö. Kaboğlu, İbrahim, **Özgürlükler Hukuku**, Ankara, 2002, pp. 291-292; oğuzman, M. Kemal/ Özer, Seliçi/ Oktay Özdemir, Saibe, **Kişiler Hukuku(Gerçek ve Tüzel Kişiler)**, İstanbul 2012, p. 177.

²⁵ Dural/Öğüz, 2012, p. 136; Kılıçoğlu, 1982, p. 86.

²⁶ Dural/Öğüz, 2012, p. 136; Kılıçoğlu, 1982, pp. 90,91.

²⁷ Dural/Öğüz, 2012, p. 136; Helvacı, Gerçek Kişiler, 2012, p. 115.

takes place in public areas. Public life does not benefit from the protection of personality rights as a personal value. However, all public life is not publishable²⁸.

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²⁸ Sevimli, Ahmet, *İşçinin Özel Yaşamına Müdahalenin Sınırları*, İstanbul, 2006, p. 8; Dural/Öğüz, 2012, p. 135; Helvacı, Gerçek Kişiler, 2012, p. 116.

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TAREK ABDELFAHAT MOURSI¹ AND NOHA S. OMAR²

DETECTING NATIONAL AND SUB-NATIONAL ECONOMIC PERFORMANCE USING WEATHER SATELLITE PICTURE COMPOSITES: THE CASE OF EGYPT

Abstract

Egypt, like many developing countries, suffers from deficiency in GDP time series at the sub-national level. This paper presents Nighttime Light (NTL) as a potential instrument for forecasting GDP within Egypt when data are not satisfactory. NTL involves a remote sensing technique, captured by the U.S. official are unavailable Air Force Defense Meteorological Satellite Program reflecting artificial human lighting on Earth. To the best of my knowledge, the study is the first to construct regional GDP dataset for Egypt over an extending period of time. Another innovation of the study involves the estimation of the association between NTL and real regional GDP in Egypt. In doing so, the paper uses two constructed balanced panel datasets for regional GDP and NTL for 27 Egyptian regions over the period FY08-FY13, and estimates log-log equations using Panel-Corrected Standard-Error method. From NTL dataset, three variables are extracted: Sum of Lights, Top-coded Cells and Unlit-coded Cells. The study found that, in unconditional and conditional regressions, real regional GDP is positively correlated with Lights intensity, and Top-coded Cells; while negatively correlated with dim Cells. Also, accounting for regional differences, light intensity shows that it can predict the economic performance at the regional level in Egypt, on average. These findings affirm most previous research that NTL could be a good proxy for regional GDP when or time infrequent in developing countries.

Keywords: Nighttime lights; sub-national GDP; economic activity

Jel Code: E01, E23, O11

1. Introduction

Regional GDP³ is an important indicator for the analysis of economic performance at the sub-national level and an important reference for political decision making. It is useful for many reasons; GGP data can help policymakers in knowing economic growth source and distribution across regions and economic activities, and hence putting sectoral strategies that can boost regional and national economic growth. They also help in recognizing the governorates that are lagging behind, which enables policymakers to take necessary measures for improving the economic performance of these governorates. Also, they can help in identifying poverty by spatially and activity, which should help in the distribution of subsidies on households and investment efficiently and save the public budget from leakages. In addition, regional GDP dataset can adjust national GDP data.

However, GGP data are usually deficient in developing countries. This paper aims at finding a good proxy for estimating economic performance at the sub-national (governorate) level in Egypt to overcome the unsatisfactory official regional GDP dataset. It suggests Nighttime light (NTL) as a good predictor of GGP in Egypt.

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³ Throughout the thesis, the GDP at the sub-national level is referred to as "Gross Governorate Product" (GGP) and GDP is meant by GDP at the national level.

NTL involves a special remote sensing technique that is conducted by the U.S. Air Force Defense Meteorological Satellite Program (DMSP) at the National Oceanic and Atmospheric Administration (NOAA). It represents the artificial human lighting at night. Once NTL data have been cleaned and filtered out lights due to forest fires, moon shine etc., they may prove useful. It has numerous advantages such as light emission is measured objectively and systematically at a fairly high resolution for specific geographic location. However, there are some drawbacks to this technique. Sensors have different detection limits and saturation radiances that saturate luminosity at bright urban cores. Also, optical sensors degrade overtime. Despite NTL technique drawbacks, they could be overcome and its advantages outweigh.

As early as Croft (1978), it was shown that NTL can reflect human development and settlement. Most studies concerned with the application of NTL, argue its predictive power in estimating many socio-economic variables, such as the estimation of population density (Sutton et al. 1997 and 2003; Zhuo et al. 2009). NTL also proved to be good measure of urbanization (Bhandari et al. 2011; Zhang and Seto 2011). In addition, NTL showed a good predictive power in estimating economic performance.

Using NTL, Doll et al (2000) introduced the first GDP global map using NTL. Ebener et al. (2005) showed how lighting information can predict income per capita at the national and sub-national levels. Considering a long time series, Chen and Nordhaus (2011) and Henderson et al. (2012) concluded that light can be used as a good proxy for GDP for low-quality data countries more than high-quality data countries (Elvidge et al. 2014).

This paper investigates if NTL can approximate the spatial distribution of economic performance within Egypt. It adds to previous research as being, to the best of my knowledge, the first in constructing GGP dataset in Egypt for an extending period FY08-FY13 due to GGP data unavailability. Also, this paper is the first to study the potential relationship between NTL and real GGP in Egypt. In exploring if NTL can play a role in forecasting GGP, the paper uses two constructed balanced panel data for 27 Egyptian governorates over FY08-FY13. Log-log equations are estimated using Panel-Corrected Standard-Error method. Year and regional dummies are included in the model to account for satellites' light data capturing sensitivity and governorates' differences, respectively.

In line with literature, the paper finds a positive significant association between real GGP and light intensity and top-coded pixels while negative relation with dim pixels within Egypt. Accounting for regional differences, light intensity shows that it can predict economic performance at the governorate level in Egypt, on average. This suggests that NTL might be a good proxy for economic performance at the sub-national level when regional GDP data are deficient in developing countries.

The paper is organized as follows; section II gives an overview on NTL data. Section III presents NTL literature with its application on economic performance. Section IV explains how GGP database is estimated for Egypt. Section V analyses analytically the relation between GGP and NTL. The sixth section attempts to examine empirically the relation between GGP and NTL in Egypt. Finally, section VII concludes.

2. What is NTL?

In the mid-1960s, the U.S. Air Force started a research project called the Defense Meteorological Satellite Program (DMSP). It was originally designed to detect moonlit clouds and weather data to support Department of Defense. Surprisingly, satellites were able to capture night lights from human settlements, which have been used since then extensively in research. Until 1992, scientists had access to DMSP data only from film archives (Doll, 2008).

Since 1992, satellites' images have been systematically digitized at the National Oceanic and Atmospheric Administration's (NOAA) National Geophysical Data Center (NGDC). Each satellite-year dataset is a grid reporting the intensity of lights as a six-bit digital number (DN), for every 30 arc-second output pixel (approximately 0.86 square kilometers at the equator) spanning -180 to 180 degrees longitude and -65 to 75 degrees latitude. Some parts of Greenland, Alaska, Canada, Scandinavia and Antarctica are missing, counting about 0.0002% of the world population lives there.

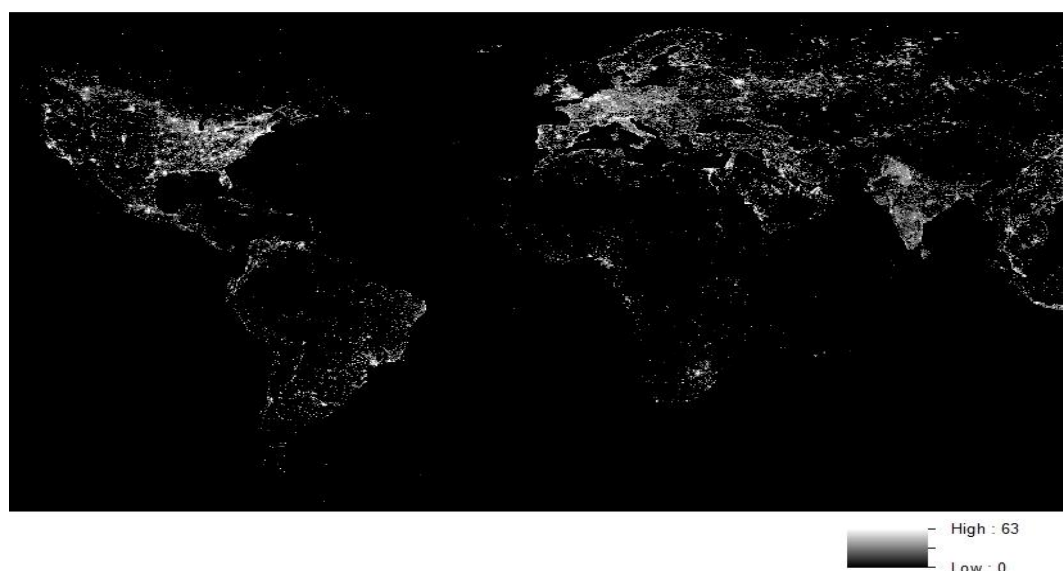
Satellites have been circling Earth 14 times per day, such that each satellite should have a global night light coverage every 24 hours. Usually two satellites orbit together, where each satellite observes every location on Earth every night between 8:30 and 10:00 pm local time. The lifespan of a satellite is limited from 6 to 8 years, and overtime satellite deteriorates and needs to be replaced to ensure data continuity and accuracy (Elvidge et al., 2009). Also, satellites' sensor that is called Operational Linescan System (OLS) degrades overtime optically (Doll, 2008).

NOAA's satellites composites provide different lights products: Average Lights X Pct, Radiance Calibrated datasets, and Average Visible Stable Lights and Cloud Free Coverage. This paper works with the latter dataset, which is widely used in research and for simplicity is called "Stable Lights". Night Lights raw data are processed by scientists at NGDC. In processing, they remove all noise background such as ephemeral lights from forest fires, fishing boats, and other sources are removed. They also discard places experiencing the bright half of lunar cycle, the summer months when the sunsets late, auroral activity, and cloud cover obscures the earth's surface. This action leaves NTL data with mostly human-made light, except the gas flare that comes as a byproduct of Oil production. Finally, data from all orbits of a given satellite in a given year are averaged over all valid nights to produce a satellite-year Stable Lights dataset.

Stable lights dataset is quantized in 6-bits and gives different light intensities with an integer DN ranging between 0 and 63, referring to no light and maximum light, respectively. Figure (1) presents the World Stable Lights Map, where two observations can be deduced. First, the dark area indicates the unlit area with zero DN, and the light appears with an increasing intensity from gray to purely white reaching the maximum 63 DN. Second, one gets a sense on the distribution of human settlement, urbanization, and income distribution.

The DMSP Stable light provides time series spanning twenty-two years for the period 1992-2013 for six satellites F10, F12, F14, F15, F16 and F18. The composite is represented as a satellite number and year, such as F182013. NTL data can be downloaded freely from the NOAA's website: <http://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html> quickly and conveniently.

FIGURE (1): WORLD'S LIGHTS AT NIGHT, 2013



Source: Image and data processing by NOAA's National Geophysical Data Center. DMSP data collected by the United States Air Force Weather Agency

3. Literature Review

As early as Croft (1978), it was shown that NTL reflect human well-being, as they represent the artificial human illumination. NTL was used in a number of applications. The most intuitive application was in mapping urban areas (Doll and Muller 1999). NTL data had also successfully estimated population density (Sutton et al. 1997 and 2003; and Zhuo et al. 2009) as well as urban population size (Elvidge et al. 1997; Doll et al. 2006; Small et al. 2011). It is also a reliable measure of energy consumption and greenhouse gas emissions (Doll et al. 2000; and Letu et al. 2010).

In addition, NTL found successful in estimating human economic activity. Using only one year snapshot, Elvidge et al (1997) was the first to find a positive correlation between NTL and real GDP in a log-log regression for 21 countries in 1994-95. Subsequently, this was broadened by Doll et al. (2000) introducing the first global map of GDP-PPP (Purchasing Power Parity) at a resolution of 1°x1° using NTL datasets in a log-linear relationship (see also, Sutton and Costanza 2002; and Doll et al. 2006).

Ebener et al. (2005) proposed a global model testing the correlation of NTL with income per capita. They found that total and mean frequency of observed lights is more correlated with per-capita income than lit-area. This result was more reliable at the national level than sub-national level. Later, Sutton et al. (2007) improved this model by adding estimated urban population as GDP predictor at the sub-national level to solve the saturation problem of luminosity images and applied the new model on China, India, Turkey, and U.S in 1992-93 and 2000. Authors concluded that “spatial disaggregation of estimates dramatically improves aggregate national estimates” of GDP (Zhao, et al., 2011 and Bhandari et al., 2011).

During last decade, research tried to consider the whole NTL time span to make use of all available data. Chen and Nordhaus (2011) and Henderson et al. (2012), using the same statistical framework, found that NTL can play the role of proxy for economic activity at the national and sub-national levels, but light data has more value-added in low-quality income data countries than high-quality income data countries (Addison and Steward, 2015). Bundervoet et al. (2015) had the same conclusion on Sub-Saharan African countries. These findings encourage the potential use of NTL in forecasting economic performance at the national and sub-national levels in developing countries.

To the contrary, Kulkarni et al. (2011) argued that NTL are good proxy for developed more than developing countries on a within country analysis on U.S., India and China over 2001-2007. On the other hand, Bickenbach et al. (2013) found that NTL long-term growth is unstable in estimating long-term growth of GDP at the sub-national level in Brazil, India, U.S., and Western Europe since point estimates differ overtime. This conclusion is not correct since the countries’ different point estimates might be statistically not different if point estimates’ confidence intervals are overlapping.

Later, Elvidge et al. (2014) adopted the inter-calibration approach on Stable Lights data to overcome sensors’ saturation problem and time aging. They studied the association of sum of lights with GDP on a country by country basis. They found in most countries positive significant correlation. For countries with no or negative correlation, authors suggested that this might be due to electrical technological advances for more efficient lighting or to reduce light pollution.

This paper studies the relationship between NTL and real GGP in Egypt overtime (FY08-FY13) using the same statistical framework as Chen and Nordhaus (2011). Its contribution to current literature is twofold, to the best of my knowledge: it is the first in studying the relation between NTL and the spatial distribution of economic performance within Egypt. Second, in exploring this relation, it is the first in constructing regional GDP over an extending period FY08-FY13.

4. GGP Processing

The paper investigates if NTL could play a role in forecasting real GGP within Egypt over the period FY08-FY13. Since GGP data are not available for a time span, this study computes the GGP over the studied period. Official GGP data are computed from the Egyptian Economic Census that is conducted by the Central Agency for Public Mobilization and Statistics (CAPMAS).

Egypt has a long history in the field of economic censuses, extended back to 1942. Starting FY92, the first comprehensive Egyptian economic census was held, followed by three others in years FY97, FY01. After eleven years, in FY13, CAPMAS had conducted the fourth Economic Census, covering a large sample of public, formal private and informal private establishments. This census helped the Ministry of Planning (MoP) in estimating different economic indicators by governorate, such as the economic value-added at market price and at factor cost, among other economic variables (Abd El-kader and Ismail, 2014).

The census' regional GDP estimate of FY13 gives the opportunity for checking the discrepancy between the thesis constructed GGP estimates and official GGP data. Though thesis's estimated GGP covers mainly the formal sector except informal Agriculture activity, a strong positive correlation is found between both measures of GGP, with a correlation coefficient of 0.94.

The paper computed GGP⁴ for 18 economic activities -out of 23- over 27 Egyptian governorates during FY08-FY13. The computed GGP accounts for 70.6 percent of nominal GDP at factor cost, on average. The five activities, that haven't been calculated, have no available data that enable the computation of their economic value-added in the Egyptian economy. These activities are treated as residuals. The paper could not calculate the GGP for a longer period because needed data for the calculation of regional value-added of some economic activities are not available before FY08.

In computing GGP, the paper follows the same definition and national account approach as official national GDP. According to OECD, national GDP at factor cost is defined as the value of all final goods and services produced in a country in a given year at the factor cost of the producing unit, excluding product taxes and including subsidies⁵. Egypt follows the Production approach in estimating its national GDP based on the System of National Accounts (SNA) 2008⁶. GGP formula becomes *Total Production at market price - Total Intermediate Commodity and Services Expenses - Indirect Tax (minus taxes plus subsidies)*. This formula is applied on all activities with only changing the definition of total production at market price. For Industrial activities, the definition of total production at market price holds the same. In Agriculture activity, total production at market price is defined as total output at farm gate prices, while in services activity it is equal to total current revenue of providing the service in these activities. For all activities, intermediate goods expenses for production include commodity expenses and services expenses only.

Following official GDP data source, data are extracted from CAPMAS, Ministry of Agriculture (MoA), and MoP to construct GGP dataset. CAPMAS data are available for the public and private sectors. Data for both sectors are added together to find the total value-added of each economic activity. Since both sectors have different accounting years, private sector data are converted from calendar to fiscal year by taking yearly average of the period 2007-2013 to get it in fiscal year FY08-FY13.

Some economic activities have no data enabling the estimation of its GGP. So, proxies are used. For *Education; Health; Insurance; Communication; Transportation and Storage* economic activities, the proxy is household's expenditure shares in each of these sectors to its total expenditure by governorate. Also, *Real Estate* uses each governorate's value-added share to GDP in the Construction and Building activity. For *Insurance Pensions* activity⁷, salaries' distribution across governorate is used as a proxy. For Suez Canal, since it starts in Port Said ending in Suez passing by Ismailia, its GDP is distributed among these three governorates by each governorate share to their total geographical areas.

Since MoP is the official GDP source, the paper's aggregate GGP computations have to equal MoP's national GDP. Hence, the calculated total production of each governorate is divided by the computed aggregated production for each economic activity. These shares are multiplied by the National Production data from MoP for each economic activity. Similar approach is adopted on regional

⁴ For further elaboration for GGP estimation, please contact the author

⁵ "OECD". Retrieved 14 August 2014.

⁶ It sums the national outputs of every production stage to arrive at the total, and then deduct Intermediate consumption (Lee and MacCree, 2014).

⁷ It is meant by the part of workers' salaries paid to the government in the public and private sectors to be taken back after retirement as pensions.

commodity and services expenses. Finally, the computed Production Requirements is deducted from the computed Production by governorate across economic activities to get the economic value-added by regional economic activity.

Now, nominal GGP at factor cost data by economic activity over the studied period are available. To get them in real terms, they should be deflated. There are no GGP deflator data. However, CAPMAS releases data on Consumer Price Index⁸ (CPI) for eight Egyptian regions: Cairo, Alexandria, Lower Urban Egypt, Lower Rural Egypt, Upper Urban Egypt, Upper Rural Egypt, Canal Cities, and Frontier Cities. Governorates' CPI is estimated according to their corresponding regions.

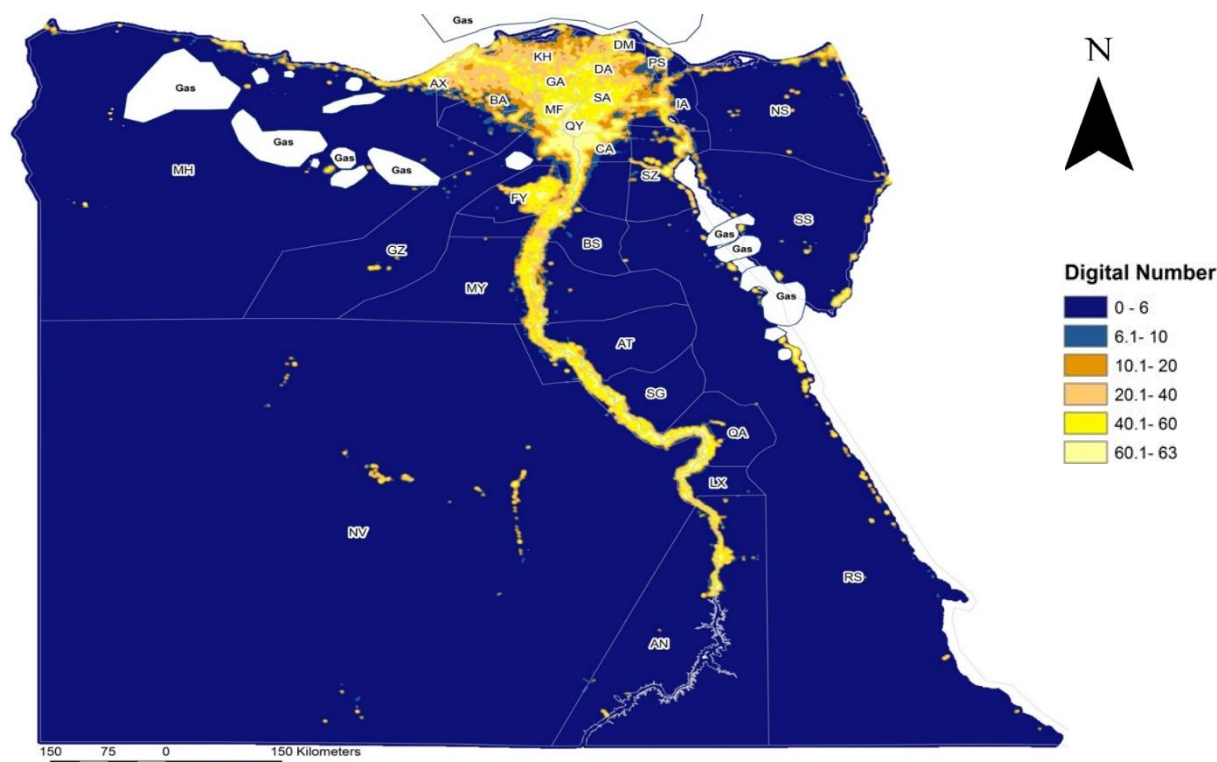
At last, real GGP data over the period FY08-FY13 are estimated and available. These data can now be used to investigate the relationship between real GGP data and night luminosity, and examine if night luminosity can play the role of GGP proxy to predict the economic performance in Egypt at the sub-national level over the studied period.

5. GGP and NTL Evolution

Egypt night lights' map in figure (2) suggests that lights do indeed reflect human settlements and human economic activity. Five more observations are worth mentioning from the map: *first*, Delta/Nile is lighted while the rest of Egypt is almost dim; *second*, Frontier governorates are almost unlit. *Third*, the top-coded pixels are fewer than other lighting ranges. This is understood as Egypt is a developing country. *Fourth*, Matrouh, Red Sea and South Sinai have white holes indicating the removed gas flares that would otherwise overestimate the lighted pixels in these sites. *Fifth*, spatial distribution of light suggests that population is not equally distributed over the whole Egyptian territory and not within the same governorate; especially in Upper Egypt and Frontier governorates. Egyptian population is mainly concentrated around Nile.

⁸ The CPI is defined as a measure of changes in the price levels of a basket of goods and services purchased by households.

FIGURE (2): EGYPT'S NIGHT LIGHT, 2013⁹



Source: Done by Author

Table (1) gives some sense of NTL data, using the average of the studied period, describing the distribution of pixels across different DN intervals for some selected governorates with a broad range of GGP and population densities. Many governorates have a high fraction of dim pixels with DN 0-6. This is explained by the fact that Egypt is a developing country with frequent electricity cut-offs in 2011 due to 2011 revolution and the global energy crisis that started in 2012. No governorate has any pixels with DN of 1 or 2. This observation was explained by Henderson et al. (2012) as the consequence of the algorithms used to filter out noise in raw data.

The governorates that have most unlit pixels are located in Upper Egypt and Frontier governorates. For instance, Beni Suef and Qena have 78.4 percent and 75.1 percent unlit pixels, respectively. Egypt has special case with its Frontier Cities that have the highest unlit pixels' frequency among all governorates and they are almost dim, ranging from 93.4 percent in North Sinai to 99.5 percent in New Valley. This might be due to their low GGP and low population density. Also, their main economic activity is the Extraction of Crude Oil and Natural Gas, and the Manufacture of Crude Oil Petroleum that do not need for lighting or intense lighting at night.

⁹ AN Asswan, AT Assuit, AX Alexandria, IA Ismailia, LX Luxor, RS Red Sea, BA Beheira, GA Giza, DA Dakahlia, SZ Suez, SA Sharqia, FY Fayoum, CA Cairo, QY Qalyubia, MF Menoufia, MY Minya, NV New Valley, BS Beni Suef, PS Port Said, SS South Sinai, DM Damietta, SG Sohag, NS North Sinai, QA Qena, KH Kafr El Sheik, and MH Matrouh.

**TABLE (1): NIGHT LIGHTS DATA FOR SELECTED GOVERNORATES,
AVERAGE FY08-FY13**

DN	Alex	Beni Suef	Gharbia	Kafr Sheik	Menia	New Valley	North Sinai	Qalyubia	Qena
0-6	21.8	78.4	0	5.1	85.4	99.5	93.4	0	75
6.1-10	7.3	2.7	0	9.2	2.7	0.2	2.3	0	3.7
10.1-20	14.7	3.2	0	26.1	3.0	0.2	2.3	0.4	3.2
20.1-40	19.7	5.6	32.1	47.2	2.5	0.1	1.4	1.2	3.7
40.1-60	17.8	8.7	60.2	11.7	5.6	0.0	0.5	31.6	8.1
60.1-63	18.8	1.5	8.6	0.9	0.8	0.0	0.1	67.5	6.2
63	12.8	0.6	3.4	0.3	0.3	0.0	0.02	44.8	2.94
GGP	831.4	177.36	412.8	425.6	330.3	56.3	88.4	374	260.3
Pop Density	1852	2895	1098	78	2362	1	39	505	2502

Source: Calculated by Author

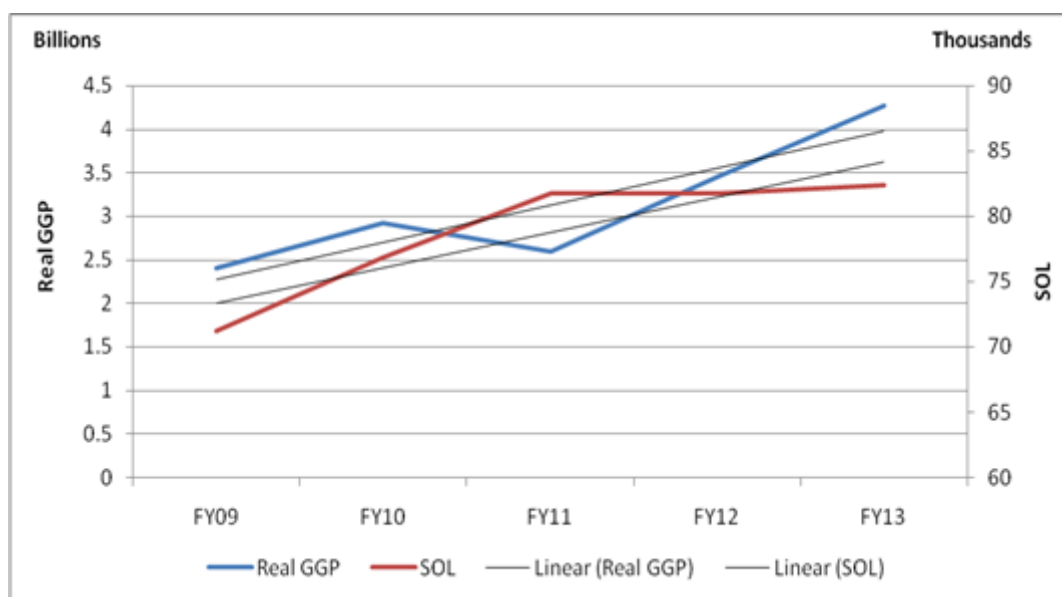
Note: GGP are in millions LE and base year 2010. Pop Density data are extracted from MoP.

Spatial distribution of NTL by governorate can meet GGP distribution in Egypt, holding population constant. For instance, Menia is more populated than Alexandria but the latter has a higher GGP share in the economy 6.7 percent versus 2.7 percent. The densely populated poor governorate has more unlit pixels, where Menia has 85.4 percent of its pixels unlit while Alexandria has 21.8 percent.

Governorates are divided into five quintiles based on their GGP, and on average one can say that high (low) luminosity is concentrated in governorates with high (low) GGP and/or high (low) population density. The following governorates aim at explaining this assertion:

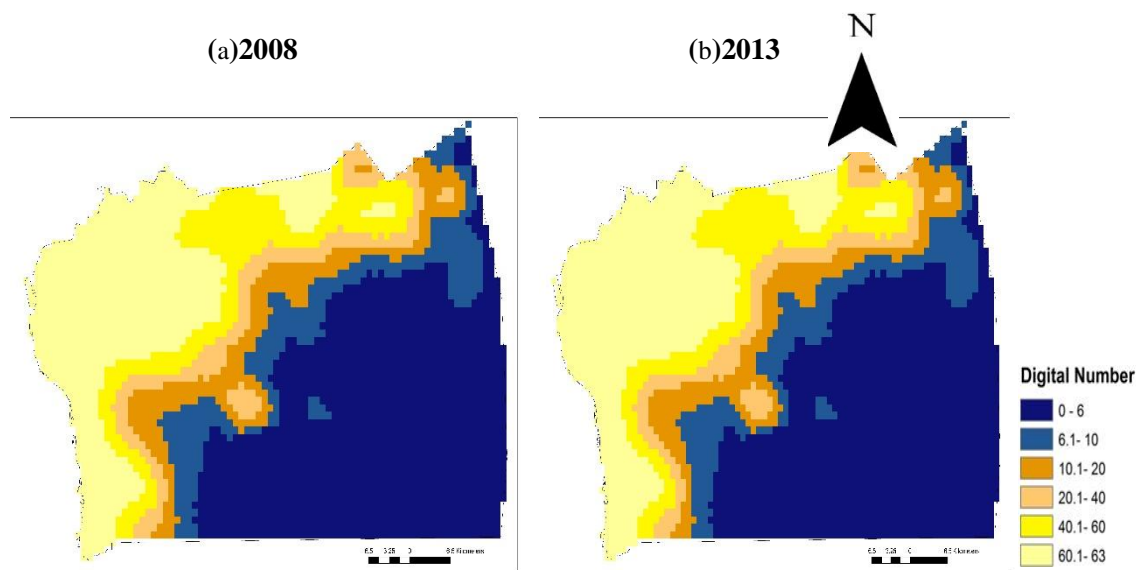
Cairo—At the 1st GGP quintile, Cairo comes with the highest GGP that is reflected in its light intensity and growth. Its GGP grew by 12 percent per annum during FY08-FY13 that is driven by “Other Manufacturing”, Trade and Real Estate economic activities. Cairo’s economic performance and structure is reflected in the emitted light intensity with the growth of Sum of lights by 3 percent. Night luminosity coincides with real GGP in Cairo having the same increasing trend over the studied period with a correlation coefficient of 0.65 (figure 3). Cairo’s illumination coverage and intensity increase overtime, with expanding areas of different observed light intensity at the expense of dim pixels that declines overtime (figure 4). Though Cairo has the highest contribution in the national economy, parts of it are dim because it has low population density of 145 per km² and high income inequality.

FIGURE (3): REAL GGP AND SOL IN CAIRO



Source: Calculated by Author

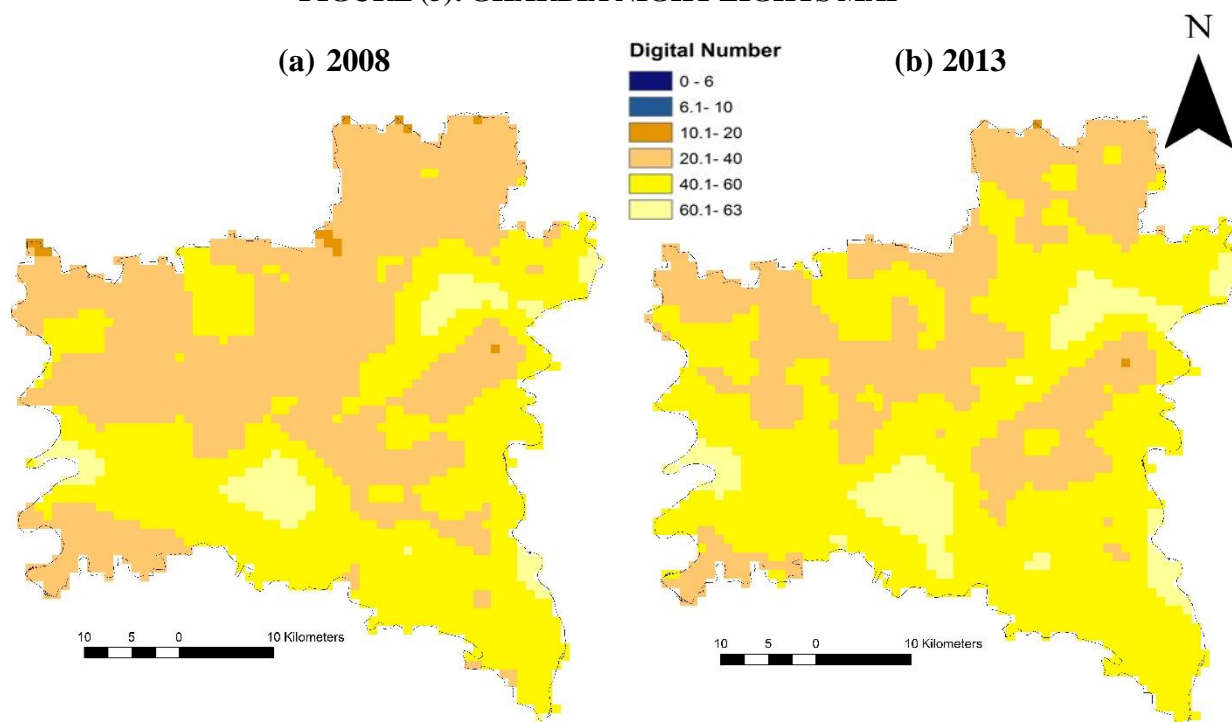
FIGURE (4): CAIRO NIGHT LIGHTS' MAP



Source: see Figure 1, processed by Author

Gharbia—In the 2nd quintile of GGP, *Gharbia* is totally lit from medium to high light intensity with digital coding 20.1-40, 40.1-60 and 60.1-63. This is understood in light of its relatively high contribution in the national GDP and its high population density of 1098 per km². Also, the economic structure of *Gharbia* explains its light pattern. More than one third of *Gharbia*'s GGP comes from “Other Manufacturing”, “Wholesale and Retail Sale Trade” and Transportation activities that are light emitting. Figure (5) shows the light evolution for years 2008 and 2013. Map (a) shows that in 2008 *Gharbia* was mainly lighted with medium and relatively high light intensity, with very few pixels with highest intensity. By 2013, light intensity increases with digital codings 40.1-60 and 60.1-63. Light pattern can sketch GGP trend in *Gharbia* with a relatively high positive correlation coefficient of 0.74.

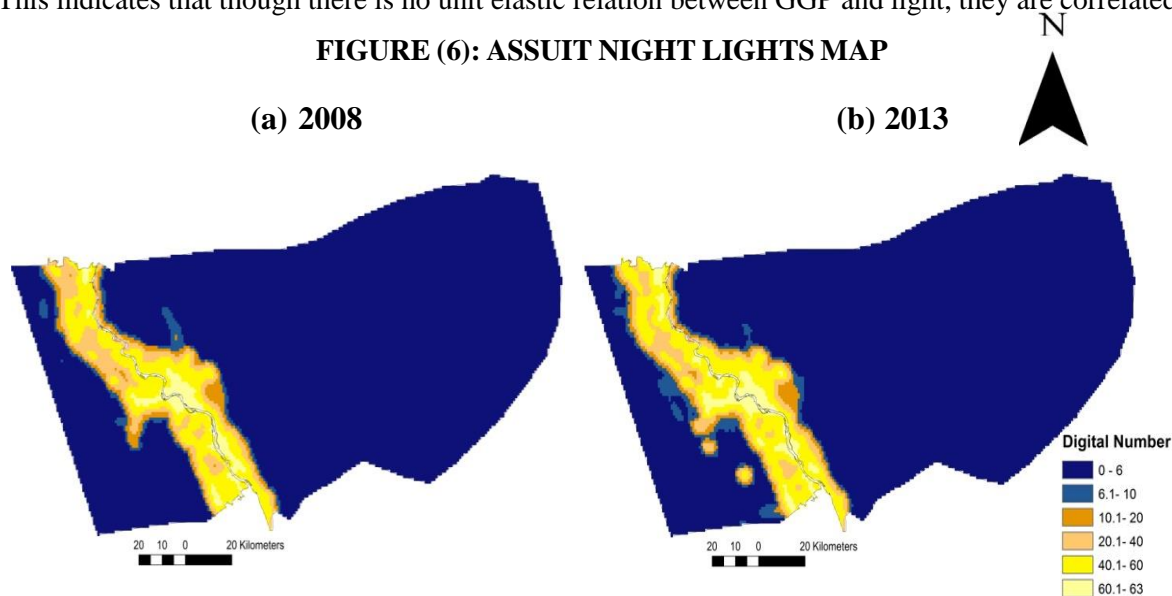
FIGURE (5): GHARBIA NIGHT LIGHTS MAP



Source: see Figure 1, processed by Author

Assuit—The governorates that belong to the 3rd quintile of GGP contributes to the economy between 2-3 percent and their lights intensity is lower than the governorates with higher GGP. For instance, Assuit is located in Upper Egypt, contributing with 2.1 percent in the Egyptian economy. Its dominating activity is Agriculture accounting for 26 percent of its GGP. Agriculture in Assuit takes place in field, which does not emit light and so 82.8 percent of Assuit's area is dim. This is explained by the weak positive correlation between GGP and luminosity trends over the studied period, with a correlation coefficient of 0.22. Also, both indicators growth have the same trend but with different rates (figure 6). Lights expanded the unlit area in 2010 by 2.2 percent corresponding to the GGP growth of 66 percent. By 2013, lights coverage and intensity decreased by 7.3 percent as a response to the GGP drop by 25.1 percent. This indicates that though there is no unit elastic relation between GGP and light, they are correlated.

FIGURE (6): ASSUIT NIGHT LIGHTS MAP

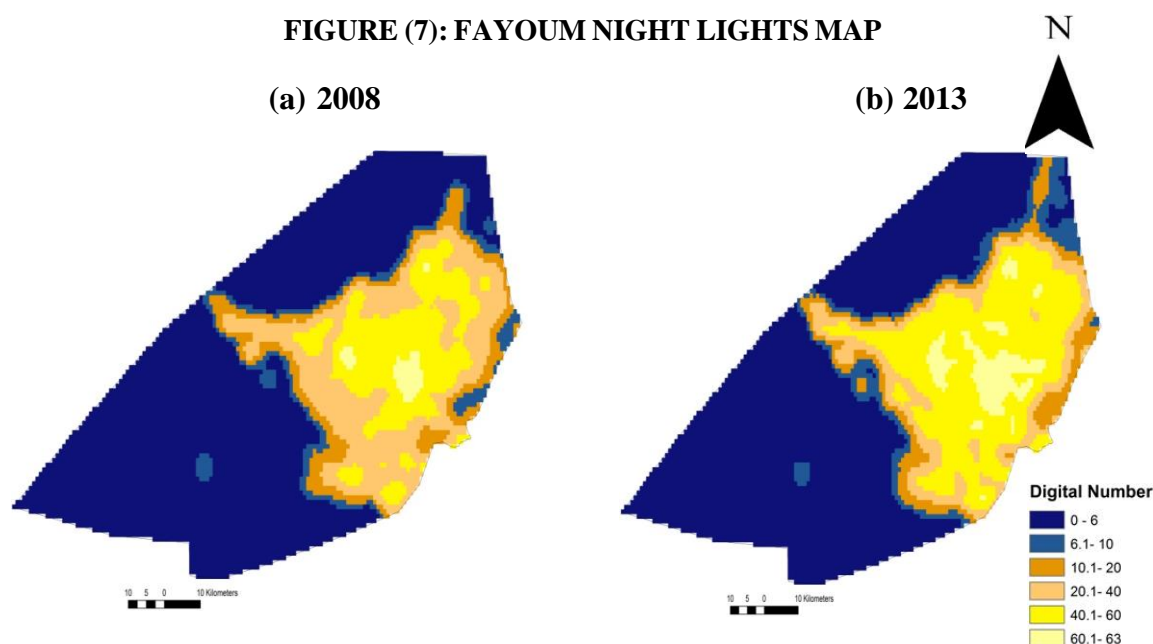


Source: see Figure 1, processed by Author

Fayoum—The 4th quintile comprises governorates that have relatively low GGP. Fayoum contributes with 1.85 percent in the Egyptian economy and 30 percent of its GGP comes from Agriculture activity. This can be clearly seen from figure (7) where, on average, 55.5 percent of Fayoum's area is dim and the lighted area has mainly 10.9 percent with light intensity coding 20.1-40, 18.6 percent with DN range 40.1-60 and only 3.1 percent top-coded cells. With time the relatively high and high light intensity codings 40.1-60 and 60.1-63 expanded and the dim area slightly decreased. Luminosity and real GGP in Fayoum are moderately correlated with positive coefficient of 0.5

On average, night light grew by 3.9 percent per annum capturing partially the GGP growth of 6.9 percent per annum. Both variables are not growing with the same rate as one third of the GGP is not captured by the DMSP-OLS satellites as these satellites only record agricultural activities from towns that emitted light and not from the agricultural fields which occupied a significant portion of land usage. Night light pattern in Fayoum could also be explained partly with its low population density of 89 persons per km².

FIGURE (7): FAYOUM NIGHT LIGHTS MAP

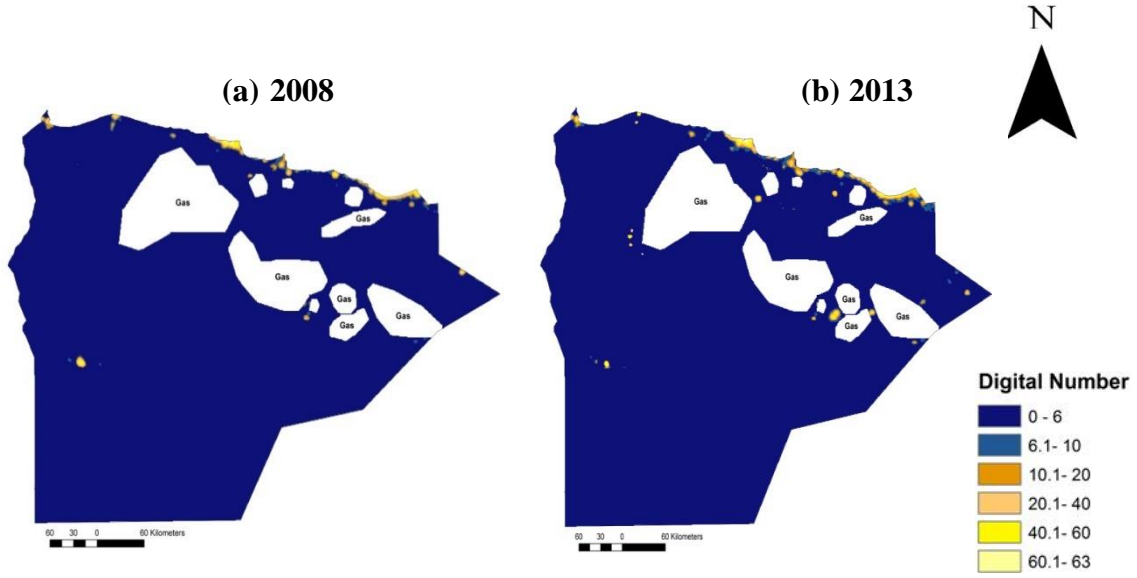


Source: see Figure 1, processed by Author

Matrouh— As expected, Frontier governorates belong to this GGP category. For instance, Matrouh is almost dim, with 96.4 percent of its pixels unlit (figure 8). This is confirmed by the low GGP share of 1.1 percent that 19 percent of it is generated from the Agriculture activity. Also, it has low population density of 13 persons per km², on average. Over the studied period, real GGP and NTL in Matrouh had the same positive trend, with correlation coefficient of 0.3. From visual inspection, one can suggest light to represent real GGP.

The descriptive analysis of different governorates with their various economic performance (GGP levels) and economic structure was fruitful in giving a preliminary inspection about the relation between GGP and night luminosity. It suggests that, on average, there is a positive correlation between GGP and light; as one moves from a low to high GGP governorate, light increases. On average, high (low) GGP governorates have high (poor) intense luminosity. Also, the nature of the economic activity generating the GGP plays a role in the extent of coverage and intensity of lights. Manufacturing and/or Services activities are the predominant activity in upper and middle-upper GGP governorates that generate relatively high GGP levels and have high luminosity, while governorates with GGP extracted mainly from Agriculture in-filed activity usually have medium to low light intensity as these activities are not captured by DMPS-OLS satellites.

FIGURE (8): MATROUH NIGHT LIGHTS MAP



Source: see Figure 1, processed by Author

6. Examining NTL predictive power of GGP in Egypt

A. Modeling the relation between NTL and GGP

This section presents the methodology adopted to investigate whether luminosity can predict GGP within Egypt overtime. The structure of the model estimation is similar to that of Chen and Nordhaus (2011) with the difference that Chen and Nordhaus (2011) tackled the relationship between GDP growth and NTL growth, while this paper investigates the relationship at the variables' levels to study the long relationship between variables.

The Allometric growth model is used with three assumptions; the first assumption is that GGP measures are computed with error. The measurement error is due to possible systematic growth in incorrect measurement because of the different sources in calculating the GGP by economic activity, the subjective response of the responders in ground surveys and most of the informal sector activities are not counted (equation 1). The second assumption is the existence of measurement error in luminosity that might occur from the difference between the true light and what a satellite records due to the saturation problem; and the satellite aging effect on light records (equation 2). The third assumption is the existence a structural relationship between the true GGP and observed NTL with constant elasticity (equation 3), signifying that observable lights increases at the same rate as economic performance.

$$GGP_{it} = GGP_{it}^* + e_{GGP_{it}} \quad (1)$$

$$NTL_{it} = NTL_{it}^* + e_{NTL_{it}} \quad (2)$$

$$NTL_{it} = \alpha GGP_{it}^* + u_{it} \quad (3)$$

Where GGP and NTL stands for Gross Governorate Product at factor cost and Nighttime light, and an asterisk denotes the true values. e_{GGP} is the measurement error of regional output with variance σ_{GGP}^2 that is allowed to vary with governorate; e_{NTL} is the measurement error of luminosity with the variance

σ_{NTL}^2 ; and u_{it} reflects the noise in the light-output structural relationship. Also, the subscripts i and t stands for governorates and time, respectively.

Since the paper is concerned with studying if lights can predict the economic performance, GGP is regressed on NTL. After some derivations thoroughly explained in Chen and Nordhaus (2011) and Henderson et al. (2012), and to make the coefficients' interpretation with elasticity, log-log equation is used:

$$\ln(GGP_{it}) = \beta + \delta \ln(NTL_{it}) + v_{it} \quad (4)$$

Where v_{it} is the error term of predicting the observed GGP using observed NTL. Estimating equation (4), two constructed panel data are used; Stable light dataset and GGP for 27 Egyptian governorates over the period FY08-FY13. Using Stable light dataset, three variables are extracted; Sum of Lights *SOL* which is the sum of the multiplication of location's pixels by its digital value of light's intensity. Top-coded Cells *Top* is the number of pixels that have highest light with DN 62 and 63. Unlit-coded Cells *Unlit* variable indicates the number of pixels that are dim with DN 0-6.

There are seven regressions; three simple unconditional regressions are run for GGP regressed on each NTL variable. Then, a multiple regression equation regresses the GGP on the three NTL variables together. In addition, the relationship between GGP, luminosity and electricity consumption¹⁰ is explored to see if it is better to use luminosity or electricity in GGP prediction.

In all regressions, year dummies are used to control for satellite aging problem, with base year 2008. Also, accounting for governorates' differences in light coverage, light intensity and GGP, a regional dummy variable is added in a multiplicative way. The regional dummy variable is only considered with light intensity *SOL* variable to show the differences in governorates NTL-GGP relation if exists. Governorates are divided into six regional categories: Cairo, Alexandria (*Alex*), Lower Egypt (*Lower*), Upper Egypt (*Upper*), Canal Cities (*Canal*), and Frontier governorates where the latter is the base category. Each category comprises the governorates that have more or less similar characteristics in economic structure.

By definition, panel data are expected to suffer from heteroscedasticity, autocorrelation and cross-sectional dependence. The linear regressions are estimated using Panel-Corrected Standard-Error Model assuming disturbances to suffer from these problems. The models' parameters are estimated using Prais–Winsten regression and they are consistent, with the standard-error and the variance-covariance matrix of the parameters are asymptotically efficient.

B. Can NTL forecast GGP?

Columns (1) to (3) in table (2) give unconditional simple regressions of GGP on each NTL variable, with all regressions giving the expected significant relationship. Column (1) shows that GGP and light intensity are highly positively significant with elasticity of 0.62. This indicates that as night light usage increases, the economy gets more prosperous and people richer. Column (2) shows the positive significant relation between GGP and Top pixels with elasticity of 0.31, suggesting that as highest light intensity grow GGP increases too. Also, as expected, column (3) reveals the negative significant correlation between GGP and Unlit variable -0.15, meaning that as the number of dim pixels increases, governorates' GGP decreases and people get lower income. Figure (9) shows all unconditional relations. Note that the high R^2 of all three regressions with more than 80 percent suggests that NTL could explain much of the variation in GGP.

¹⁰ *Electrical Power Distribution in Industrial Sector* is the electrical power distributed to consumers for industrial purposes at Super, Moderate and Weak Efforts, measured in million Kilowatts per hour. Data are available at the "Electric and Power Statistics" Yearly Bulletins issued by CAPMAS.

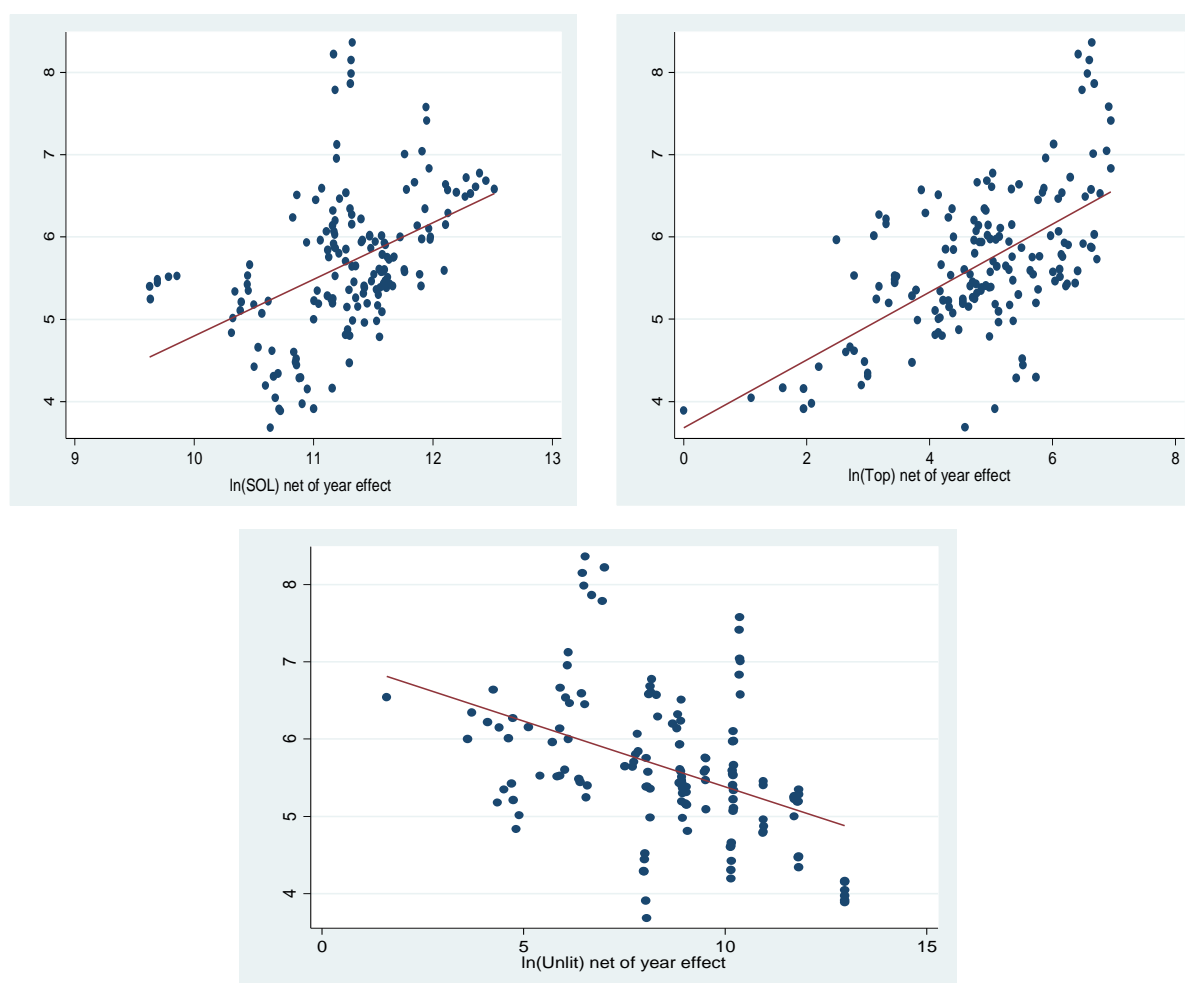
TABLE (2): RESULTS OF THE VALIDITY OF NTL AS A PROXY FOR REAL GDP-FY08-FY13

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>ln(SOL)</i>	0.62***			0.31**		0.52***	0.68***
<i>ln(Top)</i>		0.31***		0.28***			
<i>ln(Unlit)</i>			-0.15***	-0.10***			
<i>Ln(KWD)</i>					0.19**	0.17**	
<i>Cairo</i>							0.27***
<i>Alex</i>							0.15***
<i>Canal</i>							0.11***
<i>Lower</i>							0.07***
<i>Upper</i>							0.02
<i>Constant</i>	-1.49	4.09***	6.71***	1.57	3.96***	-1.62*	-2.69***
<i>Observations</i>	162	162	141	141	162	162	162
<i>R-squared</i>	0.86	0.88	0.81	0.88	0.78	0.79	0.87
<i>Number of Gov</i>	27	27	24	24	27	27	27

Note: p-value is in parentheses, where *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. In Column (3) and (6), the inclusion of unlit variable decreased the number of observations to 141, because of the missing values mentioned above.

Column (4) estimates the correlation between GGP and all three NTL variables together conditionally. As mentioned above, GGP is highly significant with all NTL variables and with the expected correlation direction. SOL and Top are positively significant at the 5 percent significant level with elasticity of 0.31 and 0.28, respectively; while unlit is negatively significant at 5 percent significant level with very inelastic coefficient of -0.096. Though point estimates of all different NTL variables in the conditional regression decreased compared to unconditional regressions, they are statistically not different since their confidence intervals overlapped. All NTL variables together explain strongly the variation in GGP by an R^2 of 88 percent.

FIGURE (9): GGP VERSUS LIGHTS-OVERALL PANEL



Source: Calculated by Author

Note: All figures' Y-axis is $\ln(GGP)$

In column (5) and (6), the relationship between GGP, lights, and electricity power distribution¹¹ is explored. Most lights observed on earth are from electric illumination. In column (5), electricity distribution is positive significant and can predict GGP across governorates. When the two measures of lights *SOL* and *KWD* are added together in column (6) both are positive significant, indicating that they may be capturing different aspects of economic activity. The explanatory power of including both measures is higher than that of just using electric consumption but slightly lower than that of *SOL*. Though electricity has a predictive power in explaining the economic performance at the sub-national level, still night lights have better predictive power and also electricity power consumption is usually not available for developing countries such as Egypt where electricity power distribution is used instead as a proxy.

The Sum of Lights' regional effect is explored in column (7). After the inclusion of regional dummies in an interactive form with *SOL*, the coefficient of *SOL* is still statistically significant at 1 percent level of significance and has a positive relation with GGP. Cairo has a higher impact of lights on its GGP than Frontier governorates, on average. The dummy variable *Cairo* has a statistically significant positive differential effect of 0.27 at the 1 percent significance level. This is understood in light of the high GGP

¹¹ as proxy for electricity power consumption

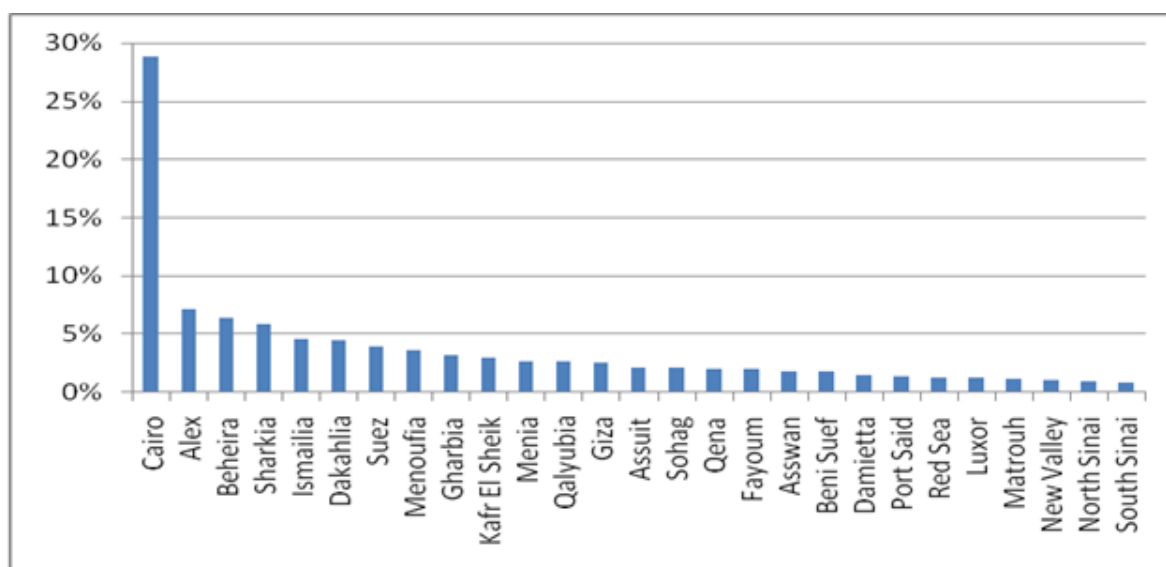
in Cairo that is generated from Manufacturing and Construction Activities that use and emit light intensively. To the contrary, Frontier governorates have low GGP -as shown in the previous section- that is generated from non-emitting light economic activity “Extractions”.

Alexandria also has a higher lights effect on GGP than the Frontier governorates but below Cairo, on average. Its differential effect over the Frontier governorates is 0.15 that is statistically significant at 1 percent level of significance. Also, Canal Cities and Lower Egypt governorates have a positive significant differential impact of lights on GGP than the Frontier governorates by 0.11 and 0.07, respectively. On the other hand, Upper Egypt governorates have no significant difference than the Frontier governorates. This very well confirms the GGP distribution of these categories of governorates.

The year dummy variable is significant except in column (1) and column (2) the 2010 Year dummy variable, and that of years 2010 and 2011, respectively are insignificant. This suggests that from year to year there is significant difference in satellite capturing data and models succeeded to account for this difference. These empirical results go in line with previous papers’ findings (Chen and Nordhaus 2011; Henderson et al. 2012; and Bundervoet et al. 2015) and suggest NTL as a good proxy for measuring economic performance in developing countries at the sub-national level.

Using regression (7), NTL has shown a considerable predictive power in estimating GGP. At the governorate-level, it is found that Cairo has the highest GGP, on average, (LE3,371.8 million), followed by Alexandria (LE835 million), Beheira (LE747.2 million) and Sharkia (LE683.3 million). Governorates with low GGP are those with low population and are mainly Frontier Governorates; Matrouh (LE138.2 million), New Valley (LE126.4 million), North Sinai (LE104.8 million), and South Sinai with least contribution of (LE94 million). Cairo has the highest contribution to national GDP with 28.8 percent, while South Sinai has the lowest contribution with 0.8 percent, on average (Figure 10 and Appendix).

FIGURE (10): GOVERNORATES’ PREDICTED GGP CONTRIBUTION IN GDP



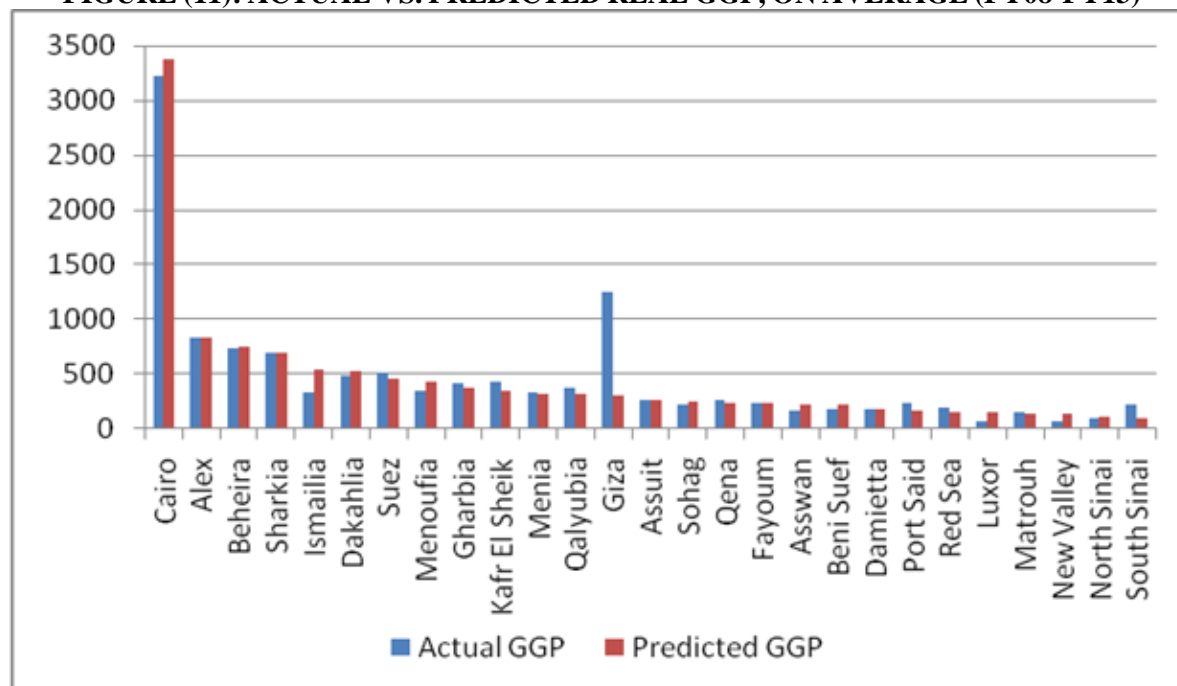
Source: Author's calculation

Figure (11) shows NTL-GGP prediction performs reasonably good with actual GGP values, on average. NTL-GGP prediction has higher and lower values than the actual GGP values. These deviations are mainly explained by the night luminosity pattern across governorates. The overestimated prediction of actual GGP might be attributed partially to the informal sector that most of it is captured by night light while not included in traditional GGP estimates. GGP generation by light emitter and generator economic activities like the industrial and services sectors might explain part of the higher predicted

GDP values than its actual values. In addition, populated governorates will have relatively high night light intensity that would overestimate the actual GDP values.

To the contrary, NTL-GDP prediction might underestimate actual GDP due to low night light intensity that could be attributed to low population, a big part of governorate is located in the desert, and the governorate GDP is mainly generated from low night light user and emitter economic activity like in-filed agriculture and mining activities as Doll et al. (2006) concluded. In addition, according to Chen and Nordhaus (2011) and Henderson et al. (2013), in low-output density regions the level of stable lights are too low to be distinguished from the background light and is set to zero. Consequently, NTL prediction of GDP will be the lower than the actual GDP values.

FIGURE (11): ACTUAL VS. PREDICTED REAL GDP, ON AVERAGE (FY08-FY13)



Source: Calculated by Author

Note: GDP are calculated in millions LE.

These findings go in line with those previous studies. Like Elvidge et al (1997c), Doll et al. (2000), Chen and Nordhaus (2011), Henderson et al (2012), Bhandari and Roychowdhury (2011) and Bundervoet et al (2015), the above findings suggest that NTL may be a good proxy for measuring and forecasting economic performance in developing countries at the sub-national level.

7. Conclusion

This paper uses one of the remote sensing techniques NTL in estimating GDP at the sub-national level in Egypt over the period FY08-FY13. It has two main contributions in current literature; first, due to GDP data deficiency in Egypt, the paper works on computing it based on SNA 2008. The second contribution is that it is the first, to the best of my knowledge, to investigate the predictive power of NTL in estimating regional GDP in Egypt.

Regional GDP are important for several reasons; such as identifying the source of national economic growth by region and by economic activity and the growth distribution across regions. It also helps individuals such as investors and employment-seekers to form expectations and make decisions where and what to invest, and at what size. It also helps identifying the level and extent of inequality and thereby the efforts needed to reduce it. Importantly, regional GDP data can adjust national GDP indicators.

In estimating the relation between real GDP and NTL across governorates and overtime, panel data is estimated using Panel-Corrected Standard Error Method to account for heteroscedasity, autocorrelation

and cross-interdependence problems of the data. The paper finds positive correlation between GGP and light intensity, and GGP and highest lighted pixels. On the other hand, a negative relation is found between GGP and unlit pixels. Overall, the paper concludes that the intensity of night lights captured by DMSP-OLS satellites can predict the economic activity of human well-being on Earth measured by GGP in Egypt.

This result confirms the findings of the literature and affirms the importance of night lights data especially for developing countries. NTL estimates of regional GDP could be the benchmark of official dataset when it is available. Also, if official data are unavailable, NTL can predict retroactively the historical values of regional GDP and forecast its future values to have timely frequent and consistent regional GDP estimate.

This paper paves the road for future research on the application of DMSP-OLS Satellite Night Light data on different socio-economic variables in Egypt. Studies on the association between lights and GDP by economic activity at the national and sub-national level are recommended. From this association, an estimation of the informal sector is very much recommended as there are no official statistics on its total contribution in the economy in most developing countries. Also, the relation between light and population density, rural population, urbanization and desertification, are all interesting and needed topics by policymakers in the Egyptian economy.

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Appendix

ACTUAL VS. PREDICTED GGP AND RESIDUAL, ON AVERAGE

(FY08-FY13), IN MILLIONS LE (CONSTANT 2010)

Governorates	Actual GGP	Predicted GGP	Residual
Alexandria	831.40	834.95	-3.55
Assuit	261.33	253.60	7.73
Asswan	162.01	211.96	-49.96
Beheira	731.59	747.21	-15.62
Beni Suef	177.36	211.48	-34.12
Cairo	3227.27	3371.82	-144.55
Dakahlia	482.72	522.30	-39.57
Damietta	179.28	178.14	1.14
Fayoum	229.09	229.89	-0.80
Gharbia	412.76	371.98	40.78
Giza	1250.56	300.32	950.24
Ismailia	329.22	536.44	-207.22
Kafr El Sheik	425.56	345.14	80.43
Luxor	68.82	142.06	-73.24
Matrouh	140.20	138.22	1.99
Menia	330.31	314.15	16.16
Menoufia	336.22	420.17	-83.95
New Valley	56.27	126.44	-70.16
North Sinai	88.45	104.83	-16.38
Port Said	230.70	161.54	69.16
Qalyubia	374.00	310.98	63.02
Qena	260.32	236.05	24.27
Red Sea	181.34	145.81	35.53
Sharkia	683.26	683.25	0.01
Sohag	209.46	243.38	-33.92
South Sinai	210.04	93.98	116.06
Suez	512.50	455.41	57.09

ANNA-STEPNIAK KUCHARSKA ¹

THE ECONOMIC POTANTIAL OF THE SME SECTOR IN POLAND

Abstract

The process of socio-economic transformation started in Poland in 1990, which involved replacing a centrally planned economy with a market economy, became the foundation for the development of entrepreneurship. As a result of initiated transformations, the position of private enterprises, particularly SMEs, has changed. Nowadays, companies from the SME sector play a key role in the Polish economy, significantly affecting the development of basic economic indicators – they constitute more than 90% of all business entities, generate almost half of GDP and provide employment for almost 70% of labour force. The aim of the paper is to present the stages of development of Polish entrepreneurship and to carry out an analysis of the economic potential of the Polish SME sector. The survey covered such issues as: the number of active enterprises, number of persons employed, the share of SMEs in GDP and the financial condition of SMEs (profitability and labour productivity). The final part of the paper presents effects of the development of Polish SMEs, measured as a place in the world rankings of entrepreneurship. The analyses were performed over the period 2003-2014.

Keywords: Enterprise, SME, entrepreneurship, transition, Poland Optimum

JEL Code: M00, M10, M20

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MOULIK KAPADIA¹ AND ABHIGNA CHAVDA ²

**INVENTORY OPTIMIZATION MODEL DESIGN ACROSS THE CHAIN OF A
HSAW(HELICAL SUBMERGED ARC WELDING) PIPE MANUFACTURING PROCESS**

Abstract

The purpose of my work is to manage, rationalize and optimize the holding and building up of inventory across the entire chain from rolling of coils to dispatch of the finished HSAW pipes in a general HSAW (Helical Submerged Arc Welding Process) pipe Manufacturing Industry. The method of production here is Make-to-Order, where in the pipes are produced as and when required, keeping in consideration the lead time for production. The Pull-System we have used here is to minimize the building up of Inventory which may be caused as a result of fluctuating orders or unstable and unpredictable situations. I have studied, examined and considered the requirements, capacities and inventory holding capabilities of each process involved in the HSAW pipe forming process. Accordingly I have developed a model to minimize the inventory holding costs taking into consideration the involved setup and production costs.

Keywords: Inventory optimization, Supply Chain Management, Industrial Engineering

JEL Code: L60, L70, L80

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ABHIGNA CHAVDA¹, MOULIK KAPADIA² AND SHIVAM SETH³

INVENTORY RATIONALIZATION OF HSAW PIPE MANUFACTURING PROCESS USING LINEAR PROGRAMMING

Abstract

The purpose of this work is to optimize the inventory buildup, taking into account each stage, of a HSAW [Helical Submerged Arc Welding] pipe manufacturing process. We have developed a mathematical model with the objective function of minimizing the inventory with subject to different factors which constraint the objective function. The requirements, capacities and inventory holding capabilities of each process involved in the HSAW pipe manufacturing process are taken into consideration. The mathematical model is worked upon and the optimized results obtained are compared to the results of an excel based model developed earlier for HSAW pipe manufacturing process. We have used the Make-to-Order method of production where the production occurs as and when required, keeping in consideration the lead time of production. And also the pull system reduces the buildup of inventory which could occur as a result of unstable and unpredictable demands or situations.

Keywords: Optimization, Inventory Management, Industrial Engineering

JEL Code: L60, L70, L80

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Masters International Research and Development Center

MIRDEC 2016

Thanks to:

all our participants, keynote speakers, conference team, conference scientific board, referee board and award committee.

**Conference on Social, Economics, Business and Educational Science
Budapest, Hungary, 24-26 May 2016**

ISBN: 978-605-83117-0-1

Masters International Research & Development Center, 2016

