



**Masters International
R&D Center**

MIRDEC 2017

MIRDEC-3rd 2017

Conference on Social Science, Economics, Business and Education,

Budapest, Hungary, 04-06 April, 2017

CONFERENCE PROCEEDINGS

Budapest, Hungary

Editors

**Kemal Cebeci
Slagjana Stojanovska**

HOTEL PRESIDENT, BUDAPEST

04-06 April, 2017

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 - Tourism

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Accounting: Auditing, business, social and environmental business – SMEs, MNEs, strategy, responsibility in accounting and accountants, environmental, sustainable and responsible business, IFRS, public-private cooperation in sound accounting, global trends in accounting strategies, international audit standards ·

Business&Enterprise: Business cycles, business planning, supporting SME, policies to promoting SME, e-commerce, women entrepreneurs education and development, strategic integration between innovation & entrepreneurship, entrepreneurship in developing countries, corporate and social entrepreneurship, leveraging digital skills for innovation in the society, high tech, research&development enterprises

Demography and Population: Migration studies, demography, population studies, etc.

Economics: Micro, macro, economic growth, fiscal and monetary policy, managerial, international, financial, public, regulatory, environmental, development, agricultural, natural resources, climate change, knowledge, etc.

Environment: Environment economics, fiscal policy for protecting environment, green production, sustainable growth, natural resource,etc. management, climate change, macro-micro issues in environment studies.

Education: Research&development in education, technology and education, education strategies for different age groups, life time education, pedagogy, learning and teaching, educational psychology, curriculum and instruction, e-learning, virtual learning, global internet courses, blended learning, flipped, pathway, enabling, work integrated learning, executive training, training and development, educational leadership, etc.

Entrepreneurship: Product, innovation, social, political, knowledge, etc. corporate venturing, digital media, etc.

Finance: Corporate, international, green finance, financial reporting, public finance, financial markets, financial services, financial instruments, capital movements, government budget, etc.

International Business – culture and business, regional-global business, entry modes, strategy, expansion, mergers & acquisitions, trade, franchising strategies, etc.

Internet and Social Media Studies: Social media, internet, future of communication, etc.

Management: Human resources, cultural problems in labor mobilization, international human resource, mobility of human resource, business, cross cultural, corporate governance, financial resources, gender issues, technological resources, natural resources, knowledge, etc.

Marketing: New media, social media marketing strategies, international, consumer research, market research, policy research, sales research, pricing research, distribution, advertising, packaging, product, media, etc.

Philology and Language Studies: Historical study of language, aspects and research of speech production, transmission, and reception, linguistics, etc.

Social Business: Socially responsible enterprise, environmentally conscious enterprise, non-government institutional activities, globalization and social business, care programs, etc.

Social Sciences: Anthropology, communication studies, new communication in new world order, demography, development studies, information and communication studies, international studies, journalism, library science, human geography, history, law, political science, public administration, psychology, sociology, etc.

Tourism: Developing sustainable tourism destinations sustaining culture and history: tourism and heritage preservation, tourism economics, tourism policies, hospitality, tourism management and marketing, tourism planning and regional development, protected areas and tourism, etc.

European Union: Euro crisis, monetary union, Enlargement process of EU, Tax issues in EU: tax harmonization, fighting tax competition, efficient taxation, tax equity, EU energy policy, competitiveness, Sustainable growth and development, Environment policy in EU, resource efficiency, EU social policy, fighting unemployment, income distribution, etc. Social and demographic issues: EU migration, understanding migrants and asylum in European Union, European migrant crisis, refugee crisis, social reflections of Syria crisis to EU area, etc., Future of European Union: Cooperation for improving EU, etc., Brexit, EU relations with third party countries, etc., MACRO issues in EU: inflation, unemployment, debt crisis, budget deficits, etc.

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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-3rd, 2017, Conference on Social Science, Economics, Business and Education, 04-06 April, 2017, Budapest, Hungary.**

MIRDEC thanks to all our participants for their academic and social contributions.

Special thanks to MIRDEC 2017 Budapest Keynote speakers:

Professor Warner Woodworth

NGOs worldwide, USA

Professor Slagjana Stojanovska

IBF, Macedonia

Associate Professor Tamer Budak

Inonu University, Turkey

Associate Professor Asmahan M. Altaher

MEU University, Amman, Jordan

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University of Carthage, Tunisia

Special thanks to:

Professor Slagjana Stojanovska

Associate Professor Asmahan M. Altaher

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Adelaida Ivanovic

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Education, 04-06 April, 2017, Budapest, Hungary

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AZIZ SAIR, *UNIVERSITY IBN ZOHR, MOROCCO*

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Masters International **Research & Development Center**

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BUDAPEST 2017

ASMAHAN M. ALTAHER¹

THE CULTURE DIFFERENCES AND APPROPRIATION

Abstract

The accelerating rate of advanced technologies is change the nature of work. It is creates new work arrangements, and present new challenges. The cultural differences are one of the challenges. It is refer to having respected each other's differences and variety of human societies in specific region or in the world as a whole. The researcher tries to explain the difference between people from deferent countries who work to gather. China and US, Arab countries have culturally different, so far it is make allot of misunderstand between the employee's that work in a teamwork. It is a kind of conceptual study aims to explore the spite of the culture dimensions and provides suggestions for different culture constructs, in order to explore how the peoples might be work to gather and accomplish abaci of work friendly. The researcher recommends that culture differences are very important and support sharing knowledge and the creativity will increases if the place has culture diversity.

Keywords: Cultural distance, diversity, GLOBE Model, Hofstede Model, appropriation

JEL Code: J61, J81, M1

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SLAGJANA STOJANOVSKA¹

**COMPARATIVE ANALYSIS ON THE EFFICIENCY OF INNOVATION PERFORMANCES
AMONG THREE NON-EU COUNTRIES AND EU COUNTRIES**

Abstract

The purpose of this paper is to make comparative analysis on the efficiency of the innovation systems among non-EU countries such as Macedonia, Serbia and Turkey and EU28 Member State. For this aim the European Innovation Scoreboard (EIS) 2016 database is used for 2013, 2014 and 2015 as well as methodological approach that was developed to measure the efficiency of the innovative performance for selected countries. So, from the 25 employed indicators by the EIS, only eight relative innovation indicators are selected and grouped into two sub-indexes (sub-index input and sub-index output) that then are captured by the framework of National Innovative System Efficiency Index (NISEI). The NISEI is calculated as a ratio between sub-index output and sub-index input. It shows how much innovation output a given country is receiving from its inputs i.e. the extent of efficiency (or productivity) of country's innovation performance. The findings suggest that the three non-EU countries realize high extent of transformation of the innovation inputs into innovation outputs compared to the average of the same innovative performance by EU countries. The comparison between countries provide interesting insight into the efficiency of their innovation system i.e. the efficiency of innovative performance.

Keywords: Innovation system, comparative analysis, efficiency, indicators, innovation performance, input, output

JEL Code: L2, M12, M19, M20, M54

¹ Professor, IBF, Macedonia.

TAMER BUDAK¹

DIFFICULTIES OF TAX REFORM IN DEVELOPING COUNTRIES

Abstract

Tax reforms have included different variables such as economic, social, political, technological variables, and globalisation. A successful tax reform should take into account all variables as possible. Tax reforms are affected by many factors. Due to the fact that there are some factors in relation to the tax reforms in the society. In generally, there may be differences between the targets of the initial tax reform and the targets achieved at the end of the tax reform. All factors have different aims and goals. So, all factors and groups aim to get some benefits the tax reforms but in real life especially in developing countries, it is very difficult to take into all variables to achieve tax reforms. In addition, in developing countries, some factors like political groups play an important role in tax reform process too. Developing countries need for more revenues to provide and sustain basic public services to community. However, especially ruling party supporters, and the other groups, do not want to pay more tax or resist a new tax. As a result, all tax reformers should have to meet all demands and they should take into account real variables and they act realistically to reach tax reforms targets.

Keywords: Tax reforms, developing countries, taxation

JEL Code: H20, H21, H26, H71, K34

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DANIELLE TRAN¹

REFLECTING CORRECTLY? CONCERNS REGARDING REFLECTIVE WRITING ASSESSMENTS

Abstract

This presentation considers general concerns expressed by colleagues working within the Higher Education sector discussed both inside and outside the classroom environment regarding reflective writing. The process of writing a critical reflection involves personal contemplation upon an event(s). By this nature, reflective writing is a very individual piece of writing, involving the expression of the thoughts and feelings of the writer. The use of reflective models are meant to help guide and structure these thoughts into a clear and concise narrative to aid with continuing professional development. However, the vast number of reflective models in existence can at times be viewed as challenging, as the choice of models available can sometimes cause those reflecting to feel as though they must select a particular model to use. This unintentionally leads to the models restricting the writer within a confined frame of reflection. Furthermore, while reflection is personal, it can be difficult for those unfamiliar with the process of submitting a reflective written assignment to decide on an event on which to reflect. Such a dilemma can lead to the reflector thinking more about what they believe their assessor would want them to reflect on, than what they themselves wish to critically reflect on. This under confidence relating to reflective writing acts to distance the reflector from the individual journey and personal process of writing which lies at the heart of reflective practice.

Keywords: Reflective practice, writing, Higher Education

JEL Code: I23

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KEMAL CEBECI¹

COMPARATIVE ANALYSIS ON ECONOMIC PERFORMANCE OF MEMBER AND NON-MEMBER COUNTRIES OF MONETARY UNION

Abstract

Monetary factors are the one of the main determinants of countries' economic performances. Monetary issues and effects of euro, (independent monetary policy) have been strongly discussed in the literature and accepted as one of the trigger factor of debt crisis and government budget deficits in European Union. For many countries, becoming a member of monetary union increases the pressure on governments and creates less elasticity over both fiscal and monetary policies. Difficulties on managing macro variables enhanced fluctuations in highly debted European Countries. As a result, effects of membership of monetary union on macro policies has become controversial topic in economic and political environment. At this research we try to observe the economic performance of European countries after monetary union and try to compare the differences between member and non-member countries of monetary union.

Keywords: Monetary union, growth, Euro, inflation, economic indicators

JEL Code: E50, E60, E58, E66

¹ Dr., Senior Lecturer, Marmara University, Turkey, kcebeci@marmara.edu.tr.

EMRE BASCI¹

NEO-CAPITALISM AND ISLAM: CROSS-SECTIONAL MODERNITIES AND PRE-MODERNITIES IN TURKEY

Abstract

Structured Abstract: Purpose- the main purpose of the article is to open a discussion about the interaction of neo-capitalism and Islam in Turkey since 1980s and to come up with a brand-new typology—in capitalist, cultural and political context—as an outcome of this interesting interaction. Design/methodology/approach – The paper utilizes literature survey to reach different varieties of modernities and pre-modernities in the context of production, culture and political ideology. Starting from the contemporary global roots of capitalistic influence on religion-related behavior, the author mainly aims to focus on the dynamics in Turkey. Findings – The paper is in the process of being written. The findings will be reached at the end of the process. Originality/value – The article could be deemed original as it pursues to introduce a new classification to business, sociology and political science literatures. The findings are expected to provide readers with research ideas about new production styles, cultural consumption, and political antagonism related to religion.

Keywords: Islam, modernity, neo-capitalism, religion, Turkey

JEL Code: Z12

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CHYI JAW¹

EXPLORING THE EFFECTS OF CO-CREATION ON COMPANY EVALUATIONS AND MARKETING PERFORMANCE

Abstract

The vast majority of new product development (NPD) research has examined how consumers respond to products that are offered on a basis by company internal design. Co-creation changes the rules substantially, allowing external participants (e.g. users, suppliers, intermediary, etc.) who are close to markets or with professional knowledge to have much more control over the product design, but a review of related research on co-creation reveals a lack of complete connection with company value and marketing performance. This study builds a two hierarchical mediated model to identify the relationship among co-creation, company evaluations, and consumer purchase intention. In addition, the proposed model includes both user co-creation and business partner co-creation simultaneously, because past literature has ignored the latter. An online between-design experiment with three treatment levels was used to collect empirical data. As results from the empirical study find, innovations from external sources evoke consumers' co-creation benefit perceptions, then raise their evaluations of company's innovation ability and product quality. The evidences support the first-level mediated relationship among co-creation, co-creation benefits, and company evaluations. The results of mediation regression analysis also show that co-creation benefits and company evaluations sequentially mediate between co-creation and consumer purchase intention which support the two hierarchical mediated effects of co-creation value model. Finally, the study finds the contributions of user co-creation on company evaluations and marketing performance are larger than business partner co-creation, even though the both of co-creation approaches lead to positive results.

Keywords: Business partner co-creation, Co-creation benefits, Co-creation value model, Company innovation ability, Product quality perception, Two hierarchical mediated model, User co-creation

JEL Code: M31, O39

¹ Professor, National Yunlin University of Science & Technology, Taiwan, jawc@yuntech.edu.tw.

MIHAELA MIKIC¹

ANALYZING THE ROLE OF INTERNAL FACTORS IN BUSINESS SUCCESS OF SMEs

Abstract

Paper is based on strategic approach and it shows influence of internal business factors: firm size, enterprise age, business activity, innovation and personal characteristics of entrepreneurs/managers on business success of SMEs. The business success in this paper is examined by a multidimensional approach, i.e. various dimensions of business success: financial performance, business performance and organizational performance. Results of analysis of conducted empirical research by multiple linear regression analysis confirmed that internal business factors have a positive impact on business success of SMEs. This paper thesis presents significant empirical contribution by integrating different types of connections and structural elements of the internal business factors and business performance.

Keywords: Business Success, Croatia, Entrepreneurship, Internal Business Factors, SMEs

JEL Code: L26, L25

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IOULIA PAPAGEORGIOU¹

A SIMULATION METHOD FOR GOODNESS OF FIT TESTING IN IRT MODELS

Abstract

Multivariate categorical data Analysis and Item Response Modelling (IRT) in particular is an important statistical procedure for specifying the relationship between individual's underlying trait levels. IRT model is a modern way to model data in Education, psychology and Social statistics. In the context of education IRT models are used to educational tests as an attempt to simultaneously assess responder's score and evaluate questions' special characteristics, such as difficulty. Therefore, IRT models offer a framework to study the interaction between examinees and test questions. Although advantageous this approach, as a model based approach, requires a goodness-of-fit testing process. Standard fit indices such as the Chi-square and G-square are greatly affected by the sparseness of the contingency tables and their empirical Type I error rates do not match their expected rates. Several alternative approaches have been proposed in the literature based on (i) pooling the cells of the table (ii) resampling methods and (iii) limited information statistics, but each alternative comes with its own limitations. We consider a new goodness of fit approach called calibrated simulation and we illustrate this method to a set of educational data measurements. This is joint work with Prof. Irini Moustaki and Dr. Takis Besbeas.

Keywords: Item response theory, quantitative research, measurement models

JEL Code: C15, C31, C38

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SRDJAN JANKOVIC¹

COMPARATIVE ANALYSIS OF THE FINANCIAL PERFORMANCE OF THE MICROFINANCE AND BANKING SECTORS

Abstract

Micro-crediting involves providing small loans and other financial services (such as micro-savings and micro-insurance) to the poorer parts of the population, for the purpose of self-employment or starting up own business. The mission of microcredit institutions is providing loans to the segments of the population that do not have access to banking services. In order to more fully understand the concept of microcredit, it is necessary to examine similarities, differences, and relative advantages and disadvantages of microfinance compared to banking services. The main objective of this study is thus to provide a comparative financial analysis of the microfinance and banking sectors in Montenegro. The main research method used in this study was a comparative analysis of the two sectors. The results of this research could potentially provide an answer to one of the most controversial questions in the field of microfinance studies, which is how the microfinance sector operates from the financial standpoint, considering that microfinance clients are “high-risk” and have previously been denied a bank loan.

Keywords: Microfinance, banking, poverty, loans, microcredit

JEL Code: O16, G21, D21, I32

1. Introduction

Financial sector has a vital role in a free market economy, enabling allocation of capital to those subjects and ideas that are expected to use it most efficiently. Banks have a key role in any country's financial system. The importance of the microfinance sector in a country depends on its development level. It is precisely the aim of this study to examine the importance of microfinance relative to the banking sector in our country, by conducting a comparative analysis of these two financial sectors².

Microfinance clients are high-risk, have very limited forms of guarantees, and their loan processing is costly. Those are the main obstacles that prevent them from accessing bank financing. The following are some of the key research questions addressed in this study: What are the main differences between the microfinance and banking sectors? What are the relative advantages and disadvantages of the microfinance sector? What are the relative advantages and disadvantages of the banking sector? How can the microfinance sector conduct financial business with clients who are considered “high-risk” and have been denied a bank loan? How do Montenegrin microfinance and banking sectors perform financially, regarding of profitability, risk and efficiency?

Five main similarities between the microfinance and banking sectors have been identified: The first similarity is that the core business of both sectors consists of providing credit services. Credit is based

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² The article supports the mini-thesis. It is noted in Chapter 4 of the planned content of the doctoral thesis that the author will deal with this analysis.

on the trust in the borrower's ability to repay the lent amount within the agreed period. Granting loans at appropriate interest rates is the main item in the asset structure of both microfinance institutions and commercial banks. Loans are their main source of income from business activities. Banks and microfinance institutions adjust their organizations accordingly, as their credit operations require. Both also engage in insurance and deposit operations. Where allowed by national law, microfinance institutions engage in deposit and insurance operations. In addition to their credit and deposit operations, banks also increasingly engage in insurance business. The third similarity is that each has in place "credit boards" and conducts credit analysis of their clients. To manage the process of granting or rescheduling loans and assessing client's risk, both microfinance institutions and banks have credit boards established within their organizational structure, as a body designated to make decisions regarding clients.

The fourth similarity is reflected in the basic organizational structure. Generally, the organizational structure of a microfinance institution is divided into: a) Business - tasked with offering services to clients through a network of branch offices and b) Support - (finance, risks, IT et al.) servicing the business.

Fifth, operation of both banks and microfinance institutions is overseen by the Central Bank. They have to operate their business in accordance with the standards established by the Central Bank. Depending on the requests of international creditors and donators, microfinance institutions must also adhere to the international standards of financial reporting.

The focus in this first part of the study will now be shifted from the similarities between the sectors, to their differences and the relative advantages and disadvantages of each sector resulting from those differences.

The second part of the study delves in more detail into the financial performance of the microfinance sector and the banking sector in Montenegro. Aggregate indicators are used to compare profitability and risks of the sectors.

The hypothesis of this study is as follows: The microfinance sector in Montenegro is more profitable and less risky in comparison to the country's banking sector.

2. Comparative advantages and disadvantages of the microfinance sector and the banking sector

As noted above, this section will examine differences between the microfinance sector and the banking sector and the relative advantages and disadvantages of these sectors which result from those differences.

2.1. Economic composition and financial ability of the borrowers

Operating on market principles, commercial banks are primarily concerned with increasing their profits and their respective market shares. As opposed to them, microfinance institutions aim to achieve their financial viability, and cover their costs, i.e. to make their operation sustainable³.

As a result of such differing goals, microfinance institutions and banks serve different market segments. Banks offer their services to creditworthy clients who they assessed as low risk regarding repaying the

³ Sustainability of operation implies that the microfinance institutions are financially independent and stable. This ratio is calculated as follows: (Financial income + Other operating income) / (Financial expenses + Loan loss reserves + Operating expenses + Profit tax).

loan⁴. To this group belong companies that operate successfully, and natural persons employed on a permanent basis, having their salary deposited to the bank.

Servicing clients whose loan applications have been rejected by the banks is taken over by microfinance institutions. Microfinance developed in response to the unserved demand for microcredits in the developing countries. Microfinance offers loans to micro-entrepreneurs, i.e. to unemployed people who apply for a loan to start up their own business. Those are usually family or small businesses, mostly handicraft, involving very little use of machinery and technology (small agriculture producers and processors, traders, shop owners, small services, craftsmen, street vendors etc.) While banks consider these groups as risky in terms of credit risk, microfinance institutions view them differently, considering them as a low-risk and profitable category of clients.

The poor are not taken into consideration by banks as clients for their business. They are not considered as creditworthy by banks because they do not have credit history and cannot offer any guarantees to cover the risk of non-payment of the loan. Also, they are often illiterate so they cannot fill in the loan application. The idea of lending to them is thus in complete contrast with banking principles and regulations⁵.

As a result of the differences in the economic composition and financial ability of clients microfinance institutions and banks have their respective advantages and disadvantages, as explained in the following paragraphs.

First, microfinance institutions are oriented towards achieving financial stability, whilst taking account of social considerations, because they finance the poorer segments of the population, whose loan applications have been rejected by the banks. Microfinance institutions thus provide poor people with an opportunity to invest the funds they are lent into the ideas which they believe can be profitable. This promotes entrepreneurship and enables profitable operation of micro-entrepreneurs. Banks, on the other hand, do not focus on the social welfare aspect and do not consider financing micro-entrepreneurs where there is a potential for financial loss. Their organizational structure allows banks to primarily focus on successful clients and finance more capital projects than microfinance institutions. Banks finance primarily small, medium-size and big enterprises and their entrepreneurial ideas, but they are not interested in financing micro-entrepreneurs. Because of their size and superior technical support, banks have knowledge and organizational capacity to finance and monitor projects which microfinance institutions are not able to service.

Secondly, through their activities microfinance institutions help their clients become self-employed, thus also contributing to reducing unemployment. The financed enterprises being family businesses, family members are also being employed. This in turn leads to a reduction in unemployment benefits payments, whilst at the same time increasing budgetary revenues through the taxes paid by the new businesses. Microfinance can therefore be considered as an alternative to the country's social benefits programs. On the other hand, because of the differences in the economic composition and financial ability of the borrowers, banks can grant larger loans which in turn may lead to an increase in employment through the growth of the borrowing company. This, however, will not have effect on the reduction of the social benefits payments because their clients are not from the poor segments of the population.

⁴ Credit risk or other counterparty risk refers to the risk of the client's failure to fulfil their responsibilities to service their loan in a timely manner, as agreed under the contract.

⁵ Yunus, M. (2007.). Creating a World Without Poverty: Social Business and the Future of Capitalism. Public Affairs p. 46.

2.2. Nature and structure of the services offered

The array of services offered by banks is wider than that of the microfinance institutions. In addition to loan and deposit services, banks offer a range of other services, such as services of money transfer, brokerage, insurance, planning, cash management and investment banking⁶. Banks also often offer service packages which consist of several individual services, e.g. loan, and savings, e-banking, cards etc.

On the other hand, loan services that banks provide are supplemented by small loans offers by microfinance organizations to unemployed persons who seek to start up a new business or expand a current business. Micro-entrepreneurs mostly look for loans to finance the working capital. Financing capital assets such as equipment is not typical of microfinance organization's operation⁷. This allows for great flexibility for entrepreneurs to recover the invested amount in case of business failure. The entrepreneur's flexibility is also increased by the type of business - micro-entrepreneurs mostly deal in services and trade, rather than in industrial and export-oriented businesses⁸.

Because of the narrower array of services in their portfolio, microfinance organizations are more specialized in the services that they offer. They are focused on a single type of service, i.e. microcredit. On the other hand, the wide scope of services banks offer allows them to be more adaptive and better satisfy the demands of different market segments. In this way they provide additional sources of income. They have not only loan interest income shown in their profit and loss statements but also a significant amount of other revenues from other services they offer as well as fee incomes. In addition, the main reason microfinance organizations cannot offer a wider range of services is because of their limited capacities and legal regulations which prohibit them from engaging in other financial activities⁹.

Speaking of different approaches in offering services, it needs to be pointed out that officers in the microfinance institutions specialized in consulting services prepare business plans and help micro-entrepreneurs conduct their respective businesses. Education and support in managing businesses provided to the entrepreneurs by microfinance organizations facilitate the development of entrepreneurship. Besides, educational, social, cultural and language barriers present in many developing countries, prevent companies and individuals from accessing modern banking services¹⁰. As opposed to microfinance institutions, a bank loan officer is not required to be as specialized and knowledgeable of the specific services as a microfinance officer. Banks do not provide consulting services to their clients in the management of their businesses. They have more of a supervisory role which mainly involves contacting clients regarding the timely repayment of the loan.

2.3. Business procedures

Banks have strict, formal and documented procedures which apply to all clients. Because of the complicated administration, banks' procedures for loan approval are rigorous. Clients often have difficulty complying with bank procedures. When a bank approves a loan, the loan officer is not required to look into the current status and development of the client's business and will make a decision on the

⁶ Rose, P. S (2003). Commercial Bank Management. Zagreb, Mate, p. 7.

⁷ Karlan, D. & M. Jonathan (2010). Financial Access, In: Handbook of Development Economics. Vol. 5.

⁸ Wagner, C. (2010). From Boom to Bust: How different has microfinance been from traditional banking. Frankfurt School, p. 5.

⁹ In some countries, microfinance institutions engage in micro-savings and micro-insurance, although their primary business is micro-crediting.

¹⁰ Baydas, M. M., D. H. Graham & L. Valenzuela (1997). Commercial Banks in Microfinance: New Actors in the Microfinance World, Microenterprise best practices. p.p. 2-3.

loan application based on the loan documentation provided by the client. Banks use computer applications (*scoring model*) which allow for automatic assessment of the credit risk, based on the input provided by the client. In the second stage, the credit board makes a loan approval decision. The following are the relevant inputs for legal persons: balance sheet, profit and loss statement, cash flow statement, cash flow projections, business plan, debt indicators etc. The main credit scoring data for natural persons are: client's salary, client's debt load, previous late payments/ credit history etc.

In contrast to banks, microfinance institutions have simpler and less conservative loan procedures¹¹. They usually do not utilize the scoring model, relying on the client's business and cash flow assessments. Procedures are simpler for the clients as well, and give flexibility to the loan officer in the process of loan approval. Loan is short-term, sometimes as short as 24-hours loans, especially for clients who have previously been given loans by the microfinance institution.

This difference in loan processing procedure helps microfinance institutions create a more open relationship with their clients, who are provided with an easier and faster access to loans. The loan process is more subjective, compared to the automated loan processing of banks. Although the flexibility of the loan process gives microfinance organizations a comparative advantage over banks, it can also prove to be their relative disadvantage. The loan process being based on the loan officer's subjective assessment of the application may lead to incorrect decisions. When to this is added the fact that clients of the microfinance sector are unemployed and poor, and are granted a loan with little or no guarantees, an incorrect business cash flow assessment (or business not performing as expected) may result in loan defaults and thus business losses for the microfinance organization.

2.4. Ownership and sources of loan capital

Montenegro's regulations prescribe the minimum initial capital amount required to found a bank or microfinance institution. Banks are joint-stock corporations. The ownership is therefore separated from the management function. The work of the managing director is overseen by the board of Directors, which is subject to the control of the shareholders. Banks are financed out of their own funds (share capital, reserves and undistributed profit), clients' deposits and borrowings. Main sources of financing for banks are deposits by legal entities and natural persons.

In contrast to banks, microfinance institutions are usually established as non-governmental organizations or as limited liability companies. The ownership and management of microfinance institutions are often not separated. The microfinance institutions that have donated capital included in their capital stock, and their ownership and management are functionally integrated, have no control over their management. The members of the board of directors and the management team of microfinance organizations are not responsible for the financial results of the organization. In addition to providing the capital and preferential loans, donors also provide training for the employees of the microfinance organization as well as technical support.

The different ownership composition of banks gives them a competitive advantage over microfinance institutions. The operation of the bank management is controlled, which is not the case with microfinance institutions. In contrast to banks, microfinance organizations lack functions of internal auditing, security, money laundering control, conflict of interests control etc., directly responsible to the shareholders and the board of directors, which serve to increase the control over the bank management. The organization of branch offices also differs between banks and microfinance institutions.

¹¹ Wagner, C. (2010). From Boom to Bust: How different has microfinance been from traditional banking. Frankfurt School, p. 5.

Microfinance branch offices are considered as separate and independent business subjects, which have their own financial reporting (balance sheet and income statement). With the help of “transfer price” methodology, it is ensured that each office is responsible for their own performance and profitability. The characteristics of banks and microfinance set out previously support the claim that banks, but not microfinance organizations, rely on corporate management and build a corporate culture.

On the other hand, the flexibility and expedited decision making process that the ownership composition and organization of microfinance institutions provide for may be their important comparative advantage over banks. Operating under free market conditions necessitates faster decision-making process. The management of microfinance organizations does not have to seek approval for their decisions, while, by contrast, all important and strategic decisions in banks are made by the board of directors or the shareholders at a general meeting. Even gathering the board of Directors or convening the shareholders’ meeting takes time, so making late decisions important for their business presents a real problem that banks need to address.

Thirdly, the difference in the ownership and borrowings composition constitutes a comparative advantage for banks, who can use their clients’ deposits as a source of financing, at interest rates defined by the bank's policies. This further means that banks can manage the amount of deposits and profitability by their interest rates policies, and interest expenses on deposits. This is especially important in volatile conditions and interbank currency trading at high reference interest rates. An additional advantage for banks is that they can use deposit transactions to attract clients, offer them the rest of the services from their portfolio, and thus increase their profit and non-interest income.

In contrast to banks, in most countries, microfinance institutions are not allowed to engage in deposit activities and are only licensed for loan business. However, not having deposits on the liabilities side of the balance sheet is not necessarily a drawback under low-activity conditions on the market, accompanied by the reduction of the credit portfolio and increased savings, because liquidity management under such conditions is less complex. On the other hand, under the same conditions banks will have a problem because of a surplus of liquidity, which can only be solved through the reduction of interest rates on deposits, and that only after the end of the deposit term.

Fourth, under conditions of increased loan activity the ownership composition of the bank gives it a comparative advantage in managing liquidity risks. Specifically, banks can more easily access money and capital market sources of funds, which financially supports their accelerated growth, and prevents potential liquidity problems. Also, lack of financial responsibility of the management in microfinance organizations is the main reason non-governmental organizations and limited liability companies have limited access to capital market financing¹². If the microfinance institution has been in business for a long time, and have proven its financial viability and profitability, it may gain restricted access to international bank financing and funds.

2.5. Risk management and forms of securing the loan¹³

Banks and microfinance institutions manage their loan, market, operational, liquidity and currency risks. The most prominent risk financial institutions face is credit risk. From the point of view of banks, poor clients are high risk because of the possibility that they will not be able to repay the loan and accrued interest in due time. Poor clients do not have a steady source of income transferred through bank, can

¹² Karel, S., M. Divišová & E. Svobodová, (2008.). The Transformation Process in Microfinance Institutions, *Agricultura Tropica Et Subtropica* vol.41. Prague: Institute of Tropica Et Subtropica.

¹³ Vujić, S. (2008.). Microcredit organizations and microcredits. Sarajevo: Faculty of Economy, p. 122.

not provide adequate collaterals and guarantees that may be used to cover the loan risk. The assessment that the loan will not be repaid on time has an effect on bank losses and its liquidity. For this reason, banks are compelled to keep high reserves for losses from bad loans, which directly affects their profitability. Besides the primary source for the loan repayment¹⁴, banks reduce their loan risk through quality collaterals (mortgage, deposits, pledges, co-signers, bills of exchange etc.), whose value is higher than the loan amount.

In contrast to banks, microfinance institutions often approve credits requiring little guarantees (co-signers) or even no guarantees at all. For late payments or failure to repay the loan, they operate on the principle that the loan client cannot be granted another loan until the original loan has been repaid. How is the loan repayment secured? The key consideration when granting a loan is the trust in the client, and not the collaterals they placed against the loan. Incidentally, the word “credit” comes from the Latin word “credo” which means “trust”. Credit is based on the trust in the borrower's ability to repay the lent amount within the agreed time period.

A considerable “concentration of exposure” is typical of banks. Since they deal with big corporate clients, the banks’ credit portfolio is predominantly composed of a small number of such clients. By contrast, microfinance institutions lend small loans so that the concentration of exposure is not present.

The differences between the two approaches to risk management described above reflect their comparative advantages and disadvantages. Following from their conservative approach to risk management, banks are not willing to take risk, meaning that they finance only risk-free projects. This has been especially true of the period following the financial crisis, when banks tightened their lending standards.

On the other hand, microfinance institutions take a more liberal approach to granting loans. This means that their main focus is on profitability and credit growth. Besides, the relatively small loan amounts in comparison to the number of clients, result in a more diversified portfolio of microfinance organizations, and a reduction of its overall risk. Unlike banks, which are vulnerable to late payments by their key clients, late loan payments by big clients will not disrupt the performance of microfinance institutions.

2.6. Geographical coverage and business performance

The loan activity of a bank varies depending on the geographic area. Banks focused on suburban areas will, as a rule, grant loans for car purchases, housing loans etc. By contrast, clients of a bank situated in an industrial zone will be legal persons, that is, its credit portfolio will primarily consist of loans by corporate borrowers. The business principles of banks are different from those of microfinance institutions. Specifically, a bank loan officer does not look for new clients and does not monitor the use of the loan at the borrower's business, but instead services clients at the bank upon their request for services.

Compared with banks, services of microfinance institutions are more accessible and available to their clients. “Accessibility” refers to the proximity of a microfinance loan officer to the place of residence of the client. Microfinance institutions conduct their business in remote and rural areas, in order to make their services accessible to the clients in those regions. Most of the work of a microfinance loan officer is done in the field, where they acquire new clients and monitor the business of the existing clients. Borrowers of these loans are usually less educated and are not familiar with bank or microfinance procedures, which helps build trust between loan officers in the field and microfinance clients. As the

¹⁴ The primary source and basis for the loan repayment is income or the client's salary.

records and loan documentation for these clients are not reliable, loan officers help them prepare the required documentation based on: an assessment made after visiting the client's business, through personal communication with the client, their family, buyers and suppliers.

A research on the quality of service provided by microfinance officers,¹⁵ conducted in the Federation of Bosnia and Herzegovina on a sample of 450 clients of the two biggest microfinance organizations in this country, showed the following: clients expect to receive most help from the microfinance officer and also describe their relationship with them as important. This positive relationship with the officer increases trust and feelings of loyalty, and clients do not feel the need to look for different loan sources. Even clients who have already developed their businesses, and have needs for financial services which cannot be serviced by a microfinance institution, continue to be loyal to them and do not switch to bank financing¹⁶.

Operational costs per loan client associated with this type of business operation are high, because these loans are small and the costs of their processing are high, requiring a loan officer to conduct extensive field work. This is compensated through high interest rates. In this way, high interest rates, loan risk diversification, monitoring of the business, education and **gained client's trust** together contribute to the success and operational viability of microfinance institutions.

3. The analysis of the financial performance of the banking and microfinance sectors in Montenegro

Microfinance is relatively new in Montenegro. Near the end of 1998, The Government of the Republic of Montenegro adopted a regulation which provides a legal framework for microfinance operations, with a view of making financial services accessible to the poor and unemployed entrepreneurs, i.e. to the working population which banks do not want to finance, or are less interested in financing¹⁷. By the second part of the following year microfinance services had already begun to be offered to micro-entrepreneurs.¹⁸ The microfinance institutions were funded by foreign capital, which was through microcredit lines directed towards small entrepreneurs in the fields of services, trade, manufacturing and agriculture. At this time, six microfinance institutions (MFI) operate in Montenegro¹⁹. In contrast to the microfinance market, banking market in Montenegro is more competitive. Specifically, 11 banks conduct their business in Montenegro, 7 of which are foreign-owned²⁰.

To prove the hypothesis of the study, we will first present the official financial reports filed by the banks and microfinance institutions in Montenegro for the period between 2011 and 2015²¹ and then show aggregated data for the banking sector in order to generate an aggregate financial balance sheet

¹⁵ Vujić, S. (2008.). Microcredit organizations and microcredits. Sarajevo: Faculty of Economy, p. 41.

¹⁶ Ibid. 41.

¹⁷ "Regulation on Terms for Extending Credits to Legal and Natural Persons by Non-Governmental Entities in Montenegro" Official Gazette of the Republic of Montenegro No. 32/98

¹⁸ Three non-governmental organizations are registered to offer microcredit services: "Mikrokredit Montenegro", "Alter Modus", i "Agroinvest"

¹⁹ The following are the microfinance institutions operating in Montenegro: Monte Credit (former Agroinvest), Montenegro Investments Credit, Ozmont, Klikloan, Alter Modus, Kontakt.

²⁰ The following are the banks that conduct business in Montenegro: Montenegrin Commercial Bank, Hypothecary bank, Societe Generale bank, Invest bank Montenegro, Prva banka Crne Gore, ERSTE Bank, Atlas banka, NLB Montenegrobanka, Commercial bank, Addiko Bank, Universal Capital Bank, Lovćen bank AD Podgorica, Zapad bank, Ziraat Bank, Nova Banka Podgorica.

²¹ The reports used in the analysis are filed with the Central Bank of Montenegro by the banks and microfinance institutions. To calculate average values, some data for 2010 are also included in the analysis.

(Appendix 1), and income statements for the period from 2010 to 2015 (Appendix 2).²² The aggregation is done on the level of the microfinance sector in order to generate an aggregate financial balance sheet (Appendix 3) and income statement (Appendix 4)²³. In addition to the financial reports, other data necessary for the testing of the hypothesis have also been collected and analyzed (risk data, portfolio etc.) at the level of banking and microfinance sectors. This research includes data for all banks and microfinance institutions in Montenegro.²⁴ Aggregate reports are used as the basis for the financial analysis using financial indicators. The financial indicators used in the analysis of profitability and risk are a standard in the field of microfinance and have been published by the World Bank (See Appendix No. 5.) and indicator used in banking industry.²⁵

3.1. Profitability of the financial and microfinance sectors in Montenegro

This research follows the World Bank's recommendations and measures the profitability of the banking and microfinance sectors using the following indicators: return on equity (ROE), return on assets (ROA), operational self-sufficiency (OSS), and margin of profit.

$$\text{Return on equity of the banking sector}_{2015} = \frac{-3,219}{452,449} = -0.71\%$$

$$\text{Return on equity of the microfinance sector}_{2015} = \frac{2,180}{20,882} = 10.44\%$$

As shown below, return on equity for the microfinance sector in 2015 was bigger than that of the banking sector. In particular, €100 of average capital employed in the banking sector generated a net loss of €0.7 and €10.4 in the microfinance sector. The following table confirms that in the last five years microfinance sector has generated considerably higher return on equity than the banking sector:

Table 1. Return on equity

Return on equity (ROE)	2011	2012	2013	2014	2015
Banking sector	-2.9%	-19.0%	0.6%	5.2%	-0.7%
Microfinance sector	10.3%	11.6%	8.1%	10.1%	10.4%

Source: Data received from the Central Bank of Montenegro.
The data were processed and analyzed by the author.

$$\text{Return on assets of the banking sector}_{2015} = \frac{-3219}{3,302,905} = -0.10\%$$

$$\text{Return on assets of the microfinance sector}_{2015} = \frac{2,180}{43,708} = 4.99\%$$

²² For the purpose of the implementation of International accounting standards in Montenegro, at the end of 2013 the Central Bank reclassified accounting items, changed the mode of reporting and form of the income statement. The most important changes brought about by the implementation of the International accounting standards are the introduction of a separate account for recording the asset value adjustments, a redefinition of financial instruments and reclassification of the balance sheet accounts.

²³ Balance sheet is a financial statement that reports assets and liabilities at a specific date, showing sources of funds broken down by funding purpose. In contrast with the balance sheet, income statement covers a specific reporting period. Income statement shows all revenues received and all the expenses incurred, providing a basis for determining profit or loss.

²⁴ Data received from the Central Bank of Montenegro were the main source of data for this research.

²⁵ CGAP/The World Bank Group (2003). Definitions of selected financial terms, ratios, and adjustments for microfinance, CGAP/The World Bank

The indicator of return on assets shows that the microcredit sector uses its assets more efficiently in generating return, in comparison to the banking sector. In 2015, €100 of average assets employed in the banking sector generated a net loss profit of €0.1 compared to €5 in the microfinance sector. The data from the last five years indicate that the microfinance sector generated more return on its assets in comparison to the banking sector.

Table 2. Return on assets

Return on assets (ROA)	2011	2012	2013	2014	2015
Banking sector	-0.31%	-2.01%	0.07%	0.71%	-0.10%
Microfinance sector	3.89%	6.01%	4.81%	5.55%	4.99%

Source: Data received from the Central Bank of Montenegro. The data were processed and analyzed by the author.

$$\text{Oper. self-sufficiency of the bank.sect.}_{2015} = \frac{(168,379+62,717+15,118)}{(48,368+51,979+28,913+115,879+1,629)} = 99.77\%$$

$$\text{Oper. self-sufficiency of the mf.sector}_{2015} = \frac{(7,928+594+1,347)}{(1,264+323+127+5,614+218)} = 130.32\%$$

The indicator of operational self-sufficiency measures how successful the organization has been in covering its expenses (interest, fees, reserves, operational expenses and tax expenses) by revenues. If this indicator is greater than 100%, the bank or microfinance institution is operationally sustainable and vice versa. In particular, in 2015, €100 of operational costs, financial cost and risk cost in the banking sector resulted in €99.8 of income, and €130 income in the microfinance sector. The following table illustrates the better operational sufficiency the microfinance sector achieved in comparison to the banking sector:

Table 3. Operational self- sufficiency

Operational self-sufficiency (OSS)	2011	2012	2013	2014	2015
Banking sector	76.82%	74.07%	102.03%	111.63%	99.77%
Microfinance sector	119.15%	129.79%	130.43%	131.45%	130.32%

Source: Data received from the Central Bank of Montenegro. The data were processed and analyzed by the author.

$$\text{Profit margin. of the bank. sector}_{2015} = \frac{-1,590}{(168,379+62,717+15,118)} = -0.65\%$$

$$\text{Profit margin. of the mf. sector}_{2015} = \frac{2,398}{(7,928+594+1,347)} = 24.30\%$$

In 2015, the microfinance sector generated higher profit margins than the banking sector. The operational revenue of €100 in the banking sector generated loss of €0.7 compared to the €24.3 of profit in the microfinance sector.

Table 4. Profit margin

Profit margin	2011	2012	2013	2014	2015
Banking sector	-2.83%	-21.83%	1.40%	9.41%	-0.65%
Microfinance sector	17.96%	26.02%	19.76%	24.96%	24.30%

Source: Data received from the Central Bank of Montenegro. The data were processed and analyzed by the author.

As can be seen from the income statement of the banking sector, by offering a broader array of services this sector managed to generate 33.8 million euros of net fee income, which represented 22% of its total income. However, despite this and other advantages that the banks in Montenegro have over the microfinance institutions, the latter sector was more profitable. The above shown indicators confirm the first part of the hypothesis and the claim that the microfinance sector in Montenegro is more profitable than the banking sector.

3.2. Risk of the Banking and Microfinance Sectors in Montenegro

The risk of the banking and microfinance sectors is measured by the following indicators: portfolio at risk over 30 days (PAR 30), indicator of loan loss provisions, risk coverage for loans overdue for more than 90 days (coverage ratio) and bad loans indicator.²⁶

$$\text{Portfolio at risk over 30 days of the bank. sector}_{2015} (\text{PAR } 30) = \frac{352,050}{2,051,131} = 17.16\%$$

$$\text{Portfolio at risk over 30 days of the mf.sector}_{2015} (\text{PAR } 30) = \frac{4,607}{48,014} = 9.60\%$$

This indicator is used to determine portfolio risk. "Portfolio at risk" is a ratio of the amount of loan principals due from clients that have one or more installments past due by more than 30 days, to the total value of the loan portfolio. The indicator shows that for every €100 of loans the banking sector to clients in 2015, the amount of delay longer than 30 days is 17.2€ and there is a risk that it will not be repaid in the future. In the microfinance sector, on the other hand, for every €100 of the loans these institutions approved to their clients, the amount of delay longer than 30 days is €9.6. The microfinance sector is more efficient in collecting loan payments, and the sector's risk is lower than that of the banking sector, as shown in the following table.²⁷

Table 5. Portfolio at risk over 30 days

PAR 30+	2011	2012	2013	2014	2015
Banking sector	19.33%	23.83%	24.89%	23.55%	17.16%
Microfinance sector	8.71%	8.10%	18.31%	13.78%	9.60%

Source: Data received from the Central Bank of Montenegro.
The data were processed and analyzed by the author.

²⁶ CGAP/The World Bank Group (2003): Definitions of selected financial terms, ratios, and adjustments for microfinance, September 2003

²⁷ Since the implementation of the International Accounting Standards and new accounting methodology in Montenegro began in 2013, the comparative data on late payments for 2011 and 2012 are not provided, to preserve the consistency of the analysis.

$$\text{Risk cost ratio of the banking sector}_{2015} = \frac{51,979}{2,035,142} = 2.55\%$$

$$\text{Risk cost ratio of the microfinance sector}_{2015} = \frac{323}{43,020} = 0.75\%$$

The indicator of risk cost shows changes in loan risk, i.e. how much of the risk cost have been held or released during one year, putting a strain or restoring profit in comparison to the average total gross loan portfolio. It can be seen from the above described indicators that in 2015 the banking sector reported a risk cost of €2.55 for every €100 of its loan portfolio, incurred due to increased loan risk. As a result of the recovery of the loan portfolio and lessened loan risk, microfinance institutions, in contrast to banks, increased risk cost of €0.75 for every €100 of its loan portfolio. It can be observed from the data for these five years that, due to the increase of loan risk compared to the microfinance sector, the banking sector allocated more provision than microfinance sector.

Table 6. Indicator of risk cost

Indicator of risk cost	2011	2012	2013	2014	2015
Banking sector	5.87%	6.31%	2.27%	1.19%	2.55%
Microfinance sector	3.39%	1.02%	-0.20%	-0.18%	0.75%

Source: Data received from the Central Bank of Montenegro. The data were processed and analyzed by the author.

$$\text{Risk coverage ratio for over 90 days for banking sector}_{2015} = \frac{147,532}{300,020} = 49.17\%$$

$$\text{Risk coverage ratio for over 90 days for microfinance sector}_{2015} = \frac{3,628}{4,074} = 89.05\%$$

This indicator shows which part of the portfolio at risk is covered by the loan loss provision. Evidently, the banking sector is less inclined to absorb loan losses when trends are unfavorable and substantially late loan payments. If the trend of late payments persists, this sector will not be able to cover additional losses from its available reserves. This sector is capable of absorbing close to half of the potential losses, while the other half is likely to be borne by the shareholders. On the other hand, microfinance institutions can assume additional risk and were capable of absorbing all possible losses in future:

Table 7. Risk coverage indicator

Risk coverage indicator	2011	2012	2013	2014	2015
Banking sector	32.80%	40.16%	41.57%	42.94%	49.17%
Microfinance sector	89.71%	113.66%	94.79%	95.68%	89.05%

Source: Data received from the Central Bank of Montenegro. The data were processed and analyzed by the author.

$$\text{Risk coverage indicator for banking sector}_{2015} = \frac{300,020}{2,051,131} = 14.63\%$$

$$\text{Risk coverage indicator for microfinance sector}_{2015} = \frac{4,074}{48,014} = 8.49\%$$

The presented indicator confirms what the previous indicators have already shown - there is a higher percentage of non-performing loans with late payments in the loan portfolio of the banking sector compared to that of the microfinance sector. In the banking sector €14.63 on every €100 of loans are low-quality i.e. risky, as compared to €8.49 per every €100 of loans in the microfinance sector.

Table 8. Low-quality loans/Gross loan portfolio

Low-quality loans/Gross loan portfolio	2011	2012	2013	2014	2015
Banking sector	15.53%	17.60%	22.28%	19.91%	14.63%
Microfinance sector	8.47%	4.74%	16.95%	12.53%	8.49%

Source: Data received from the Central Bank of Montenegro. The data were processed and analyzed by the author.

In the past period, banks have implemented various measures to reduce risk, which involved transfer of low-quality loans to parent banks, selling loans to factoring companies, and loan restructuring. High loan risk is the key factor affecting the stability of the banking system in Montenegro.²⁸

Banks do not offer loans to borrowers they consider to be high risk and are generally more conservative in their lending policies. However, although banks grant loans to clients who have income paid into an account with them, as well as a good business plan, good collaterals, and guarantees securing the loan, the business model of the microfinance sector proved to be less risky than that of the banking sector. The diversified loan portfolio and business practices of the microfinance sector ensure its better performance on the risk indicator, compared to the banking sector. This proves the second part of the hypothesis which claims that the microfinance sector has a less risky portfolio in comparison to the banking sector.

4. Conclusion

The conclusion to be derived from this study is that the banking and microfinance sectors have their similarities as well as their differences. The advantages and disadvantages of the sectors result from their different characteristics. The following are the main advantages of the banking sector: stronger financial and organizational capacity for financing large business projects, broader array of services which provides banks with additional sources of income (amounting to 24% of the total revenues of the banking sector in Montenegro), automated loan risk assessment, procedures put in place to reduce the risk exposure of their portfolio (collaterals, salary deposited into an account with the bank etc.), use of corporate management, use of interest rate policies to manage profitability and funding sources, possibility of funding from money and capital markets and smaller operational costs per an employee.

The microfinance sector has the following advantages: financing the poor and unemployed (social welfare effects), educating clients, fostering entrepreneurship, reducing unemployment, increasing budget revenues, specialization in one service (crediting), procedures which allow for flexibility and quick loan approval, ownership composition promoting quick decision making, simplified liquidity management, increased clients' trust in loan officers, better client monitoring, diversified loan portfolio and coverage of rural and non-urbanized areas.

²⁸ The Central Bank of Montenegro, (2013). Monetary trends. The annual report of the Central Bank of Montenegro

Based on the available data, a comparison of the financial performance of the microfinance and banking sectors has been presented. The following indicators were used for measuring profitability: return on equity (ROE), return on assets (ROA), operational self-sufficiency (OSS), and margin of profit. The following indicators were used for evaluating risk: portfolio at risk over 30 days (PAR 30), indicator of loan loss provisions, risk coverage for loans overdue for more than 90 days (coverage ratio) and bad loans indicator. The results of this study confirm the hypothesis that the microfinance sector is more profitable and has a less risky portfolio in comparison to the banking sector.

It can also be concluded that investments should be made in the microfinance sector. The findings of this study suggest that the banks in Montenegro should adjust their loan procedures, and provide loans to microfinance institutions, which are currently financed from foreign funds and banks. Financing from domestic sources would be doubly useful: it would provide the banking sector with an additional source of income, while supporting loan growth of the microfinance institutions.

APPENDIXES

Appendix 1. Aggregate balance sheet of the banking sector in Montenegro (000 €)

BALANCE SHEET	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance
Assets	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015
Cash assets and deposit accounts with depository institutions	624,451.	739,228.	750,045.	905,215.	801,803.
Loans and leases, allowance for loan losses	1,856,143.	1,730,889.	1,827,072.	1,846,500.	1,903,599.
Other assets	329,126.	338,166.	382,123.	447,863.	700,829.
TOTAL ASSETS	2,809,720.	2,808,283.	2,959,240.	3,199,578.	3,406,231.
Deposits	1,817,059.	1,980,716.	2,097,704.	2,388,792.	2,580,601.
Loans and borrowings	511,538.	365,498.	337,989.	259,940.	251,297.
Other liabilities	104,974.	118,462.	83,510.	65,073.	82,702.
Subordinated debt and hybrid instruments	70,920.	54,920.	42,220.	42,900.	29,607.
TOTAL LIABILITIES	2,504,491.	2,519,596.	2,561,423.	2,756,705.	2,944,207.
Preferential shares	8,000.	8,000.	8,000.	8,000.	8,000.
Common shares	406,992.	453,492.	476,391.	498,591.	526,979.
Share premiums	16,163.	16,163.	16,162.	16,163.	16,163.
Undistributed profit/loss	-138,050.	-202,510.	-204,217.	-220,124.	-212,359.
Other capital	12,124.	13,542.	101,481.	156,245.	139,241.
Donated capital					
TOTAL CAPITAL:	305,229.	288,687.	397,817.	442,874.	462,024.
TOTAL LIABILITIES:	2,809,720.	2,808,283.	2,959,240.	3,199,578.	3,406,231.

Source: The source of the data is the Central Bank of Montenegro. The data were processed and analyzed by the author.

**Appendix 2. Aggregate Income Statement of the Banking Sector in
Montenegro for years between 2011 and 2015 (€000)**

INCOME STATEMENT	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance
Account	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015
Interest income	195,963.	189,452.	179,149.	169,821.	168,379.
Interest expenses	89,793.	83,472.	74,895.	61,629.	48,368.
NET INTEREST INCOME/EXPENSES	106,170.	105,980.	104,254.	108,192.	120,010.
Risk cost	121,923.	120,509.	44,036.	23,933.	51,979.
NET INCOME/EXPENSES	-15,753.	-14,529.	60,218.	84,259.	68,031.
Fee income	52,158.	51,848.	56,992.	64,834.	62,717.
Fee expenses	21,770.	26,188.	23,129.	27,540.	28,913.
NET FEE INCOME/EXPENSES	30,388.	25,660.	33,863.	37,294.	33,804.
NET FEE AND INTEREST INCOME/EXPENSES	14,635.	11,131.	94,081.	121,553.	101,835.
Other income	14,111.	13,402.	18,225.	15,312.	15,118.
General and other expenses	106,448.	112,756.	105,732.	109,312.	115,879.
NET INCOME PRIOR TO EXTRAORDINARY ITEMS	-77,702.	-88,223.	6,574.	27,554.	1,074.
NET OTHER EXTRAORDINARY INCOME/ EXPENSES	70,288.	32,625.	-3,019.	-4,037.	-2,664.
NET INCOME/EXPENSES AFTER EXTRAORDINARY ITEMS	-7,414.	-55,598.	3,555.	23,517.	-1,590.
Taxes and contributions on income	1,427.	930.	1,506.	1,511.	1,629.
NET PROFIT/LOSS	-8,841.	-56,528.	2,049.	22,006.	-3,219.

Source: The source of the data is the Central Bank of Montenegro. The data were processed and analyzed by the author.

Appendix 3. Aggregate balance sheet of the microfinance sector in Montenegro (€000)

BALANCE SHEET	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance
Assets	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015
Cash assets and deposit accounts with depository institutions	10,046.	5,482.	2,306.	2,695.	1,733.
Loans and leases, allowance for loan losses	30,954.	28,043.	30,133.	33,468.	44,386.
Other assets	3,371.	2,668.	2,174.	2,146.	2,989.
TOTAL ASSETS	44,371.	36,193.	34,613.	38,309.	49,108.
Deposits	0.	0.	0.	0.	0.
Loans and borrowings	22,107.	12,687.	12,415.	16,540.	25,203.
Other liabilities	2,035.	1,970.	1,631.	1,697.	1,932.
Subordinated debt and hybrid instruments	0.	0.	280.	280.	0.
TOTAL LIABILITIES	24,142.	14,657.	14,326.	18,517.	27,135.
Preferential shares	0.	0.	0.	0.	0.
Common shares	1,500.	1,933.	1,839.	0.	0.
Share premiums	0.	0.	0.	0.	0.
Undistributed profit/loss	4,622.	5,497.	4,341.	5,685.	4,322.
Other capital	0.	0.	0.	0.	0.
Donated capital	14,107.	14,107.	14,107.	14,106.	17,651.
TOTAL CAPITAL:	20,229.	21,537.	20,287.	19,791.	21,973.
TOTAL LIABILITIES:	44,371.	36,194.	34,613.	38,308.	49,108.

Source: The source of the data is the Central Bank of Montenegro. The data were processed and analyzed by the author.

Appendix 4. Aggregate balance sheet of the microfinance sector in Montenegro (€000)

INCOME STATEMENT	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance	Aggregate balance
Account	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015
Interest income	9,453.	7,735.	7,195.	6,915.	7,928.
Interest expenses	2,199.	1,163.	854.	818.	1,264.
NET INTEREST INCOME/EXPENSES	7,254.	6,572.	6,341.	6,097.	6,664.
Cost of loss for asset items	1,305.	323.	-67.	-67.	323.
NET INCOME/EXPENSES	5,949.	6,249.	6,408.	6,164.	6,341.
Fee income	593.	636.	512.	510.	594.
Fee expenses	142.	140.	145.	162.	127.
NET FEE INCOME/EXPENSES	450.	496.	367.	348.	467.
NET FEE AND INTEREST INCOME/EXPENSES	6,400.	6,745.	6,775.	6,512.	6,808.
Other income	1,834.	1,780.	1,698.	1,488.	1,350.
General and other expenses	6,194.	5,976.	6,124.	5,668.	5,644.
NET INCOME PRIOR TO EXTRAORDINARY ITEMS	2,040.	2,549.	2,349.	2,332.	2,514.
Extraordinary expenses	-94.	-92.	491.	108.	116.
NET INCOME/EXPENSES AFTER EXTRAORDINARY ITEMS	2,134.	2,641.	1,858.	2,224.	2,398.
Taxes and contributions on income	131.	219.	155.	200.	218.
NET PROFIT/LOSS	2,003.	2,422.	1,703.	2,024.	2,180.

Source: The source of the data is the Central Bank of Montenegro. The data were processed and analyzed by the author.

Appendix 5. Summary of financial indicators

Profitability and sustainability	Return on equity (ROE)	Net income prior to donations/Average Capital
	Return on equity (ROE)	Net income prior to donations/Average Assets
	Operational self-sufficiency (OSS)	(Financial income + Other operating income) / (Financial expenses + Loan loss reserves + Operating expenses + Profit tax)
	Profit margin	Net operating income / Operating income
Portfolio quality	Portfolio at risk over 30 days(PAR30)	Portfolio at risk over 30 days/Gross portfolio
	Risk cost ratio	Loan loss provisions/ Average gross portfolio
	Risk coverage over 90 days (Coverage ratio)	Accumulated reserve / Portfolio at risk > 90
	Low-quality loans indicator	Low-quality loans (C+D+E category)/Gross loan portfolio

Source: CGAP/The World Bank Group (2003): *Definitions of selected financial terms, ratios, and adjustments for microfinance*, CGAP/The World Bank

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LUDMILA V. KLIMENKO¹, OXANA Y. POSUKHOVA² AND PAVLINA V. BALDOVSKAYA³

PRECARIZATION OF LABOR RELATIONS: THE EU CASE

Abstract

The paper analyzes features, quantitative scale, and structural peculiarities of precarization of labor relations in Europe. Such unstable forms of employment as work on temporary basis, part-time employment are characterized in a dynamic measurement as the employment crisis indicators. Youths and elders, women, less educated people and migrants have the greatest risk of moving into the precariatized labor group.

Keywords: Precarization, social and labor relations, precarious employment, flexibility, informal labor, precariat

JEL Code: A14

The phenomenon of precarization has been widely discussed by the scientific community. The most probable causes of the precarization are the spread of the liberal model of social and economic development, globalization processes and shifts of societies' stratification structures. Most common definition of the precarization is: a deformation/crisis of labor relations, manifested in the emergence of large groups of employees, constantly occupied by unwarranted temporary work, due to the infringement of social and labor rights of this population and vulnerability, insecurity of their social status (Bobkov et al., 2013; Fedorovaya and Prasyukevich, 2013).

From employer's perspective flexible labor relations allow to reduce costs and obtain additional funds for company's development. Part-time employment and fixed-term contracts may reduce the unemployment rate. On the other hand, unstable temporary labor relations lead to smaller salaries, lower social status, fluctuation of labor motivation, while employees have no reasons to improve their professional skills. All in all less social protection may encourage individuals to search for occupation in shadow sectors of economy.

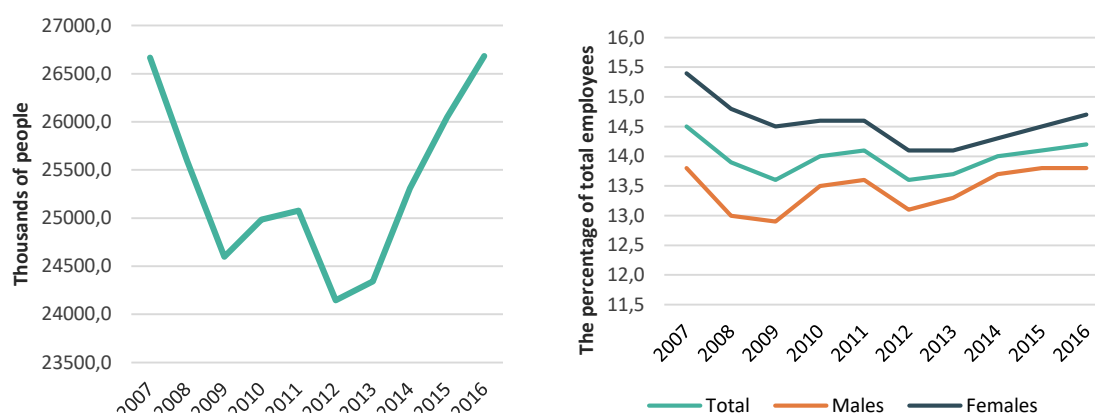
Mass unstable, deformed employment is a global phenomenon. According to experts of the Organization for Economic Cooperation and Development, more than half of the economically active population of the world, that is 1.8 billion people, are involved in work without contracts or social and labor warranties (Fedorova and Yakovleva, 2014). In 28 countries of the European Union underemployment level have increased significantly in past a couple of decades and reached 19% of total employment at the end of 2016. During the economic crisis of 2008 primarily temporary employed workers were reduced. Against the fact that the number of permanent employees remained virtually unchanged the number of precariously employed in this period decreased by 2 million persons during 2007-2009 (figure 1).

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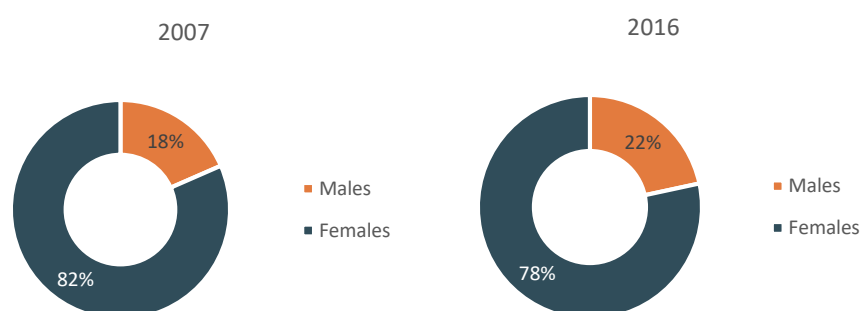
Figure 1. The number and the percentage of people employed on temporary basis in the EU countries – 28 (Eurostat Statistics Database)



Another indicator of precarization of labor relations is part-time employment. The share of part-time employees increased by 10.5% in 2016 comparing to 2007. In absolute terms, from almost 38 million EU citizens in 2007 to 42.9 million in 2016, i.e., 5 million persons.

As opposed to the gender structure of temporary employees, which is fairly symmetrical (figure 1), there is a great prevalence of women in total amount of part-time workers (figure 2), that has even grown in past decade.

Figure 2. The gender structure of part-time employees in the EU countries – 28 (Eurostat Statistics Database)



Investigating precarization from perspective of educational level adds to understanding of the process. The percentage of temporary or part-time workers is the biggest among less educated persons. Moreover, the share of temporary workers with 0-2 education levels started to grow very fast in last 5 years, while the percentage of highly educated employees with temporary contracts slightly reduced during the past decade (figure 3). Generally, the curve, that indicates employees with tertiary education, seems to be less fluctuated. Perhaps highly educated employees are less sensitive to external work force shocks (so even the reduction of temporary employment in 2008-2009 affected mostly less educated workers).

Figure 3. The share and the increment in percentage of temporary employees in the EU countries – 28 (Eurostat Statistics Database)

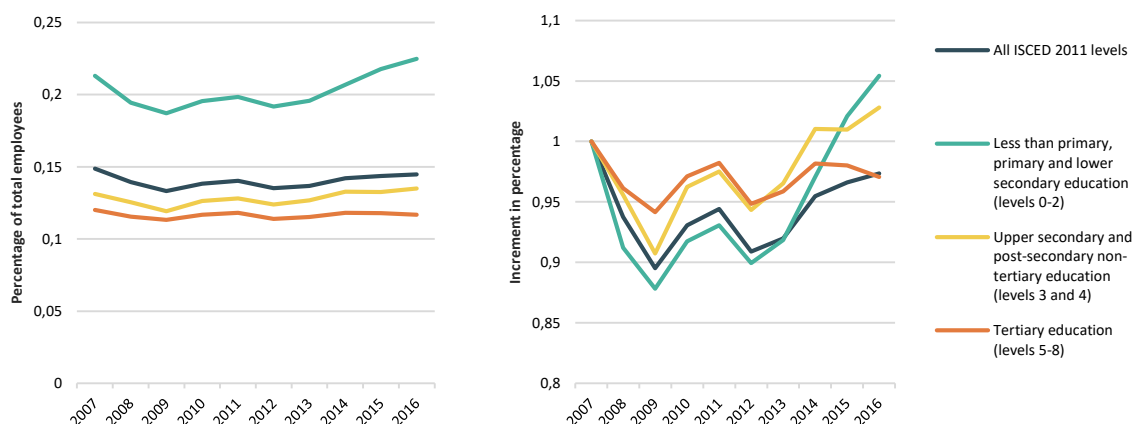


Figure 4. The share and the increment in percentage of part-time employees in the EU countries – 28 (Eurostat Statistics Database).

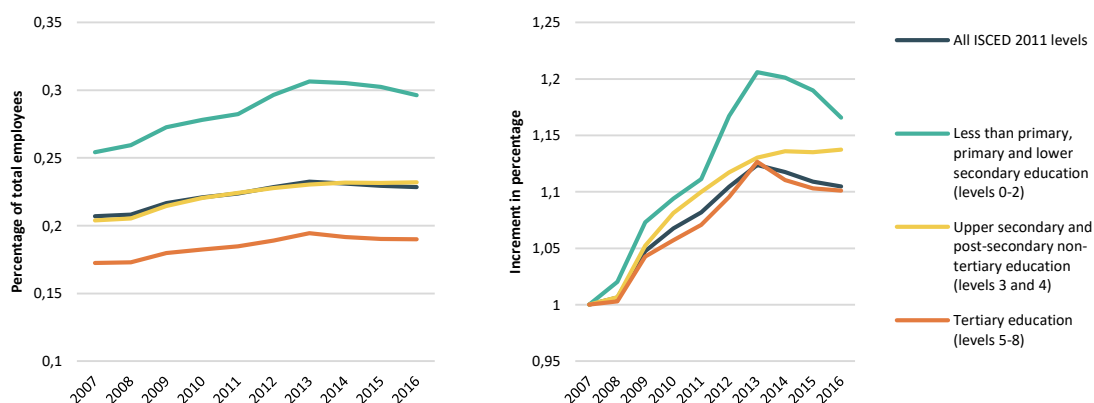
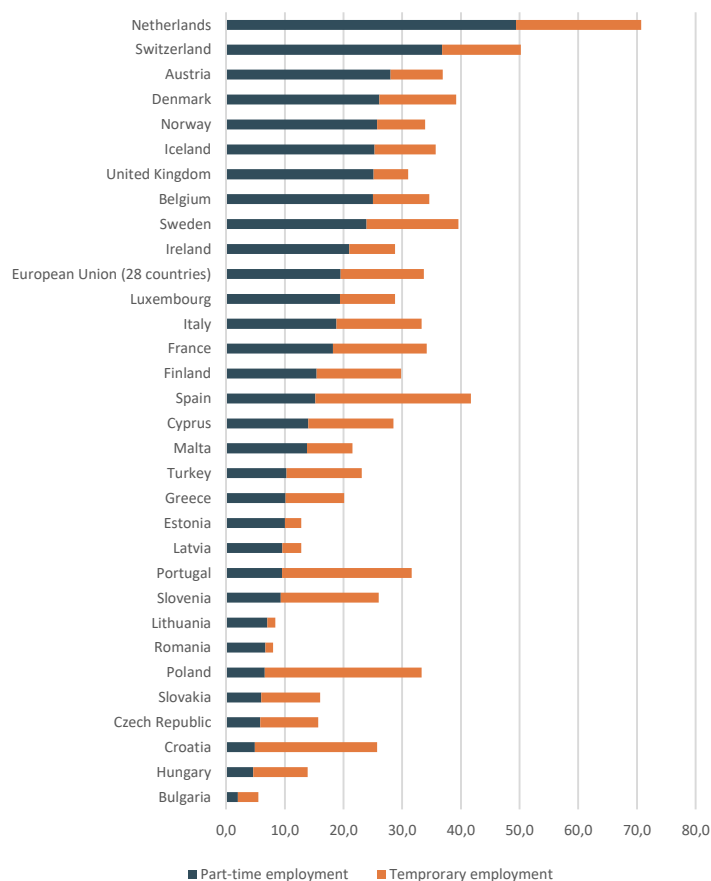


Figure 4 plots the percentage and the increment of part-employees comparing to the base 2007 year. The most significant level of part-time employment is in group of individuals with less than primary, primary and lower secondary education (up to 30% in 2016). The percentage of less educated employees increased rapidly from 2007 to 2013, but then it went down, as well as the total share of part-time employment.

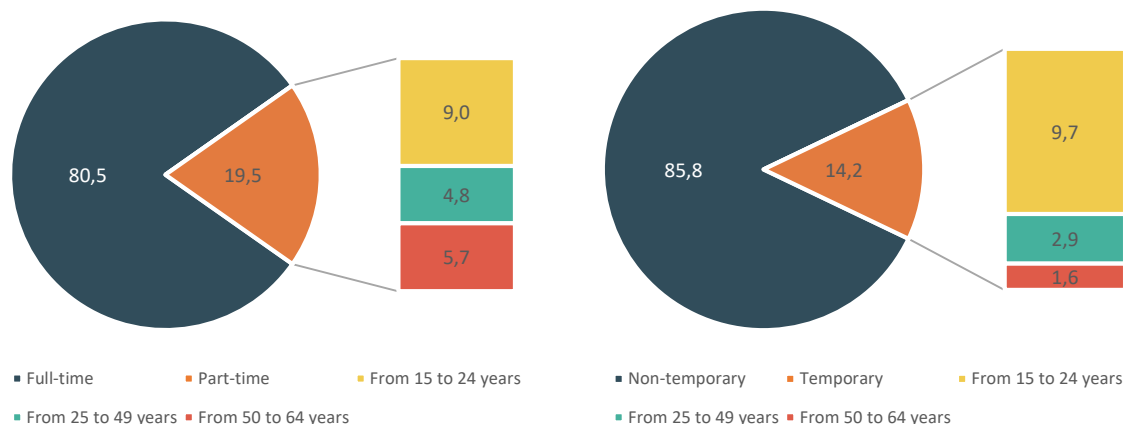
There are significant varieties in the precarization level of social and labor relations in different countries. In modern Greece, which economy is heavily attacked by crisis, the model of atypical work and insecurity of labor relations are also gaining popularity among employers (Gialis and Tsampra, 2015). Netherlands, Switzerland, Austria, Denmark and Norway are countries with the most significant share of part-time employees (from 27.5% in Norway to approx. 50% in Netherlands) (figure 5). Furthermore, one of four is a temporary worker in Poland and Spain.

Figure 5. The share of part-time and temporary employees in the European Union in 2016, in % of total employment (Eurostat Statistics Database)



The other point to highlight is the age structure of part-time and temporary employment. Figure 6 shows, that 46% (68%) of part-time (temporary) employees are young people. The amount of elderly workers makes significant contribution to part-time employment, while it remains relatively low in case of temporary employment. In Europe, the youth unemployment problem is very acute. In Spain, 46.7% of young people cannot find a job, in Greece – 48.6%, in Croatia – 43.1%, in Italy – 40.5% (RuBaltic.Ru, 2016). The similar situation of the youth employment is in Japan. At the end of the 20th century there were even separate concepts of “freeters” (forced to seek temporary work) and NEETS (Not in Education, Employment or Training – young people without definite occupation), which then began to be used in other countries (Furlong, 2007). To conclude, middle-aged people are less likely to be involved in unstable labor relations, while youths have to accept less stable and guaranteed job offers or be unemployed at all.

Figure 6. The age structure of part-time and temporary employees in the EU countries – 28 in 2016, in % of total employment (Eurostat Statistics Database)



The European processes are not unique in global scale. The materialization of uncertainty, unpredictability and risk increasingly characterize the American labor force (Kidder, 2016). Processes of employment structure deformation have been also noticed in Japan, South Korea very clearly, where from 40% to 50% of the economically employed population is engaged in unstable work (Standing, 2014; Pilling, 2014).

Thus, there is a tendency of growth of the working population groups who are forced to accept temporary occupation or those on part-time basis without any social guarantees. In this regard, the academic environment highlights this group in one separate class of precarium, which is mainly characterized by the lack of stable employment. Therefore, this social group is characterized by the vulnerability of socio-economic conditions and a high degree of social alienation (Standing, 2014; Shkaratan et. al., 2014). Structure of precariat is heterogeneous in terms of socio-demographic and cultural parameters, so the class identity of the group representatives cannot be pronounced and described. “Precariat is still a “class in itself”, which is on the verge of becoming a “class for itself” (Toshchenko, 2015).

Another less secured social group are migrants. Migrants usually show a higher level of precarious employment, social exclusion and social inequality (Waite, 2009; Gonzales, 2016; Syed, 2016). Despite different level of education, professional skills and experience, migrants are among the poorest segment of the population (Weeks, 2015; Toma, 2016).

To conclude, different population groups are exposed to precarization in various countries. However young people and elderly people, women, less educated people and migrants have the greatest risk of moving into the precariatized labor group.

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SLAWOMIR KALINOWSKI¹ AND MARCIN PUZIAK²

**THE INFLUENCE OF ECONOMIC CRISIS ON COMPANIES' OPERATING RISK:
EVIDENCE FROM CEE COUNTRIES**

Abstract

The main aim of this paper is to investigate the influence of 2008-2009 economic crisis on the level of companies' operational risk in CEE economies. The main hypothesis is that during the crisis and recovery period (2007-2010) the degree of operating leverage (DOL) is significantly higher than during the stable period (2011-2015). Additionally, we checked whether there are significant differences across countries and broadly defined industries as far as DOL is concerned. We used panel data analysis method with fixed effects. For the purpose of this paper we used financial data of 76864 large companies. The main findings are: (a) the level operating risk in turbulent period is significantly higher than for stable period; (b) the level of operational risk for Manufacturing and Construction industries are significantly higher than for Trade and Other services industries; (c) there are significant differences between the reaction of DOL to the economic crisis across industries; (d) we registered substantial differences across countries as far as the reaction of DOL to economic crisis is concerned.

Keywords: Operational risk, financial crisis, panel data analysis, company performance, CEE

JEL Code: C33, D01, D22, G01, L21, L60, L70, L80, L90

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SUPRIYA KAPOOR¹

DO HIGHLY LIQUID BANKS INSULATE THEIR LENDING BEHAVIOUR?

Abstract

The role of banks in the transmission of monetary policy has been of significance lately. We aim to analyse the bank lending behaviour during changes in monetary policy. We test for loan supply shifts by segregating banks based on their liquidity along with size and capital ratio. This paper employs uninsured, non-reservable liabilities such as time deposits and investigates whether banks are able to insulate themselves during a monetary policy change. We find that the loan supply shock can be neutralized post monetary policy changes. Furthermore, the less liquid and small banks are unable to carry out such operations and are more affected by monetary shocks. This has important implication in the working of commercial banks and effects of monetary policy.

Keywords: Monetary policy, bank lending channel, liquidity

JEL Code: E50, E52, G21

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AMARE TEKLAY HAILU¹

FOREST CONSERVATION AND MOTIVATION CROWDING: A FRAMED FIELD EXPERIMENT

Abstract

Using a framed field experiment (FFE) with a random sample of 176 farmers from Northern Ethiopia. With a framing of the commodity to real tree branches and real incentives, this study explores the nature of motivation crowding that results from the introduction and later removal of Payment for Environmental Services (PES), and whether this differs between groups with individual and collective pay. Results show that the PES program induced more conservation during the policy period, and this persisted even after the program phases out. The effect is statistically significant, and this makes a strong case in support of the fact that properly designed incentives may indeed reinforce (crowd in) intrinsic motivation for collective action in nature conservation. However, we also found that close to a quarter of the participants actually increased their average harvest rates after the program relative to their harvest in the baseline stage. Though we did not find good insight about how this spite behavior relates to individual characteristics, it is suggestive of the fact that external incentives could have heterogeneous effects.

Keywords: Framed field experiment, motivation crowding, common pool resources, intrinsic motivation, PES

JEL Code: Q23, C93, Q57

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ESEN ALTUNAY¹

FROM ORGANIZATIONAL IMPROVEMENT AS A TOOL OF CHANGE MANAGEMENT TOWARDS SCHOOL IMPROVEMENT PRACTISES

Extended Abstract

Problem Statement

The topic that a quality education is provided by the schools, and how to be created sophisticated schools and to be changed schools that will create it, are matters that are up to date in the community and educational sciences. Because everyone in the community goes through the educational institution one day and is affected by their results. In line with social change educational organizations are constantly changing. Change is a phenomenon that can occur both within the desires of individuals, organizations, and society, and without the desires of them. The change may be forward or backward. In the face of this ambiguity, individuals, organizations, and community can reach the goals, if they should manage the change and particularly the change in the school level should develop the quality of the school. In this respect, considering school improvement practices that should be implemented in schools as a change processes, their successes increase. The topics of change process managements and school improvement have attracted considerable interest from both practitioners and academics. While this linkage has been examined, few studies have investigated the association of contextual factors. With this study was discussed the concepts of organizational change and improvement in the literature, and the connection of the organizational development with the improvement in the school organization. What's more, it was tried to be explained how to change process management can be used in the school improvement and to be drawn a theoretical framework.

Purpose of Study

The aim of this study is to examine and to review systematically the studies about the concept of the school improvement that can be used as a tool of change management. In this respect, answers to the following questions were searched:

- 1) What is the change process and management in the schools?
- 2) What is the relationship between the organizational development and the school improvement?
- 3) How is the change process management used during school improvement?
- 4) What are the problem areas of schools need to improve?

Methods

This study is carried out according to a systematic review model. A document scanning technique was used to collect data. Analysis of documents was used. The analysis of documentation allowed to diagnose the relationship with different concepts. As a result of repeated and detailed readings, the researches in the literature have been tried to be grouped in particular on the basis of the research findings such as organizational change, organizational development, and the relationship school improvement, the use of change management in the school improvement and the necessary areas of schools improvement.

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Results

The use of the stages of the organizational change management in the school improvement based on organizational change theory can make this process more successful. Each school is unique and each school has its own problems that prevent it from succeeding. With a broader view of the development practices in the school, it is possible to produce original solutions by using the management of the change process for each school

In the study, the factors identified at the end of the review of the literature are grouped in four categories as necessary problem areas: change process and management in the school, the relationship of the organizational development and school improvement, the use of change management in the school improvement and the problem areas of schools need to improve. The researcher described and interpreted how can the school improvement be used in terms of these factors.

Conclusions and Recommendations

The main conclusion of this research is that the success and sustainability of a model for school improvement depended to a large extent combining the change process management knowledge. In conclusion suggestions on how to use the school improvement as a means of change management in the direction of literature are presented in the direction of literature.

Keywords: School improvement, change management, organizational development

JEL Code: I20

LINLIN KU¹ AND SHUCHU LI²

MOTIVATIONAL CONSUMPTION OF SCIENCE NEWS

Abstract

The quality of life is closely related to scientific discoveries and technological innovations. People who possess extensive scientific knowledge or understand the nature of technology know how they can reduce all kinds of risk from their living environment and improve the quality of their lives. Most people, while lacking direct experience, acquire science-related information mainly through news coverage in mass media. However, media coverage of science is not always accurate and has no doubt disseminated bias and misconceptions in the process. Moreover, science news coverage can be difficult to understand, resulting in a lack of interest from the public. A review of the literature shows that previous studies focused either on the media representation of certain scientific events or issues or on the correctness of media coverage. Consumption of science news was rarely studied. The research tradition of uses and gratifications provides a solid theoretical basis for our understanding of how people are motivated to consume science news and how motivations are related to news consumption behavior. A telephone survey was conducted to examine the relationships between motivations of consuming science news and consumption of science news. The significance of research findings and their implications will then be discussed.

Keywords: Science News, Motivations, Uses and Gratifications

JEL Code: Z13

Introduction

The quality of life is closely related to scientific discoveries and technological innovations. People who possess extensive scientific knowledge or understand the nature of technology know how they can reduce all kinds of risk from their living environment and improve the quality of their lives. Most people, while lacking direct experience, acquire science-related information mainly through news coverage in mass media. However, media coverage of science is not always accurate and has no doubt disseminated bias and misconceptions in the process. Moreover, science news coverage can be difficult to understand, resulting in a lack of interest from the public. One reason is that journalists don't really understand why people consume science news and what they expect to get from such consumption behavior (Boykoff & Boykoff, 2004; Carvalho, 2007; Weingart, Engels, & Pansegrau, 2000; Zehr, 2000).

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A review of the literature shows that previous studies focused either on the media representation of certain scientific events or issues or on the correctness of media coverage (Carvalho, 2007; Weingart et al., 2000; Zehr, 2000). Consumption of science news was rarely studied. The research tradition of uses and gratifications provides a solid theoretical basis for our understanding of how people are motivated to consume science news and how motivations are related to news consumption behavior. A telephone survey was conducted to examine the relationships between motivations of consuming science news and consumption of science news. The significance of research findings and their implications will then be discussed.

Review Of Literature And Rationale

Uses and Gratifications Theory

Since Bauer (1964) proposed the idea of “the obstinate audience,” the uses and gratifications perspective has become a media use research tradition. The uses and gratifications theory stipulates that people use mass media to satisfy their psychological and social needs. People actively construct the process of media use and use media to satisfy certain needs, which can be related to their personality or to the social environment that surrounds them. When people use mass media to satisfy certain needs, motivations are created. Different motivations will result in various types of media use (Katz, Blumler & Gurevitch, 1974; Rosengren, 1974).

According to Katz and colleagues (1974), people select some media because the content is useful to them, or because the content fits their personal interest. Thus, mass media compete with one another for the attention of the audience. Moreover, mass media have to compete with other communication channels such as interpersonal channels and online media.

When people are motivated to use a specific medium, they will expect the use of that medium to be gratifying, called gratifications sought. When media usage leads to different degrees of gratifications, call gratifications obtained. Only when gratifications are obtained, do people continue to use that medium. If gratifications cannot be obtained, they will turn to other types of mass media or other communication channels (Dobos, 1992; Rubin, 1994).

The major concepts of the uses and gratifications theory include: motivation of use, media use behavior, and gratifications obtained. McQuire (1974) stated that people are motivated by personal needs to use mass media. Motivations can be intrinsic or extrinsic; motivations can be original or continuous. People are also affected by external environment. Taking all these factors into consideration, McQuire proposed 16 types of motivations. Ruggiero (2000) reviewed empirical evidence and concluded that people used different media for different reasons, but they were not as complicated as McQuire thought they would be. In addition, McQuire did not take media characteristics into consideration. More recent studies suggest that different consumption motivations lead to different media consumption choices (Krcmar & Strizhakova, 2009; Rubin, 2009). For example, people read newspapers to maintain social connections (Mendelsohn, 1974), whereas people watch television for entertainment or pastime (Koçak & Terkan, 2009). Papacharissi and Rubin (2000) found that college students used the Internet primarily for information seeking and for entertainment.

In uses and gratifications research, the effects of media use are studied from the functional perspective, i.e., people use media to satisfy certain needs. McQuire & Gurevitch (1974) suggested that media use be studied from the structural/cultural perspective. Researchers should also consider the potential influence of social and cultural structure on media choice. Their suggestion is useful when we examine the latent reason for different media choices.

Different studies use different typologies to describe motivations of news consumption. After an extensive review of studies on motivations and news consumption, Lee (2013) synthesized different typologies and came up with four basic types of motivations. First, people consume news primarily for surveillance or for information gains (e.g., Diddi & LaRose, 2006; Hastall, 2009). Information-driven motivations involve the need to know, to keep up with the trend, and to understand what is going on in the world and the environment around us. In addition, some people consume news for excitement, humor, relaxation, habit, ritual, or diversion (e.g., Hmielowski, Holbert & Lee, 2011; Lin, Salwen & Abdulla, 2005). Entertainment-driven motivations have become increasingly prevalent as people spend more time online and obtain information from various social media. Third, some people consume news for opinion formation, validation or avoidance (e.g., Garrett, 2009; Iyengar & Hahn, 2009). Opinion-driven motivations are in line with selective exposure studies that people seek out opinions that are consistent with their own. Fourth, some people consume news for social values or interpersonal utilities (e.g., Chen, 2011) to fulfill the need to feel connected, to look sociable, and to appear informed to others. Affiliation-driven motivations manifest heavy use of social media.

Science and Science News

Science news involves news coverage of things that are related to science. What is the definition of science? To classify the domain of science, Elmer, Badenschier & Wormer (2008) included 14 categories: health and medicine, biology, technology, science policy, astronomy, aeronautics, environment, physics, earth science, chemistry, psychology, paleontology, archeology, computer science.

Science news can be seen as a form of text created by journalists to communicate the meaning of science to the general public. Scientists and journalists have different missions. While scientists focus on the process of theory building and testing, journalists are concerned about reporting and interpreting science-related events for the public (Valenti, 1999; Weigold, 2001).

Based upon the classification of science by Elmer and colleagues (2008), Lo & Su (2008) developed 21 categories of science news: medicine and public health, food science, biology, agricultural technology, energy, environment, atmospheric science, earth science, space science, aeronautics, technology, mobile communication technology, computer science, engineering, materials science, physics, chemistry, mathematics, psychology, archeology, and paleontology.

Since science news covers a wide range of topics, from the perspective of uses and gratifications research, we believe people consume different types of science news for different reasons. In the interest of making comparisons, we divide science news into two categories: science/technology news and health news. We separate health news from science news for two reasons. First, media nowadays dedicate more space or time to health news because of changing demographics and aging society. Second, health communication is a distinctive area of research as compared to science communication.

Research Questions and Hypotheses

This study postulates that the uses and gratifications theory can help identify the motivations of consuming science news and consumption behavior. Science news does not always catch people's attention unless some discoveries or inventions change the way we see the world, which does not happen every day. Furthermore, compared to other types of news, consumption of science news may require more prior knowledge. We reasoned that people should be strongly motivated in order to consume

science news. Based upon the above discussion, we proposed the following research questions and hypotheses:

Q1: What motivates people to consume science/technology news?

Q2: What motivates people to consume health news?

H1: People who are motivated to consume science/technology news will be more likely to consume science/technology news more frequently.

H2: People who are motivated to consume health news will be more likely to consume health news more frequently.

Methods

The Survey Instrument

1. Motivations

Since science news consumption is rarely studied, we conducted 21 in-depth interviews between April and June 2103 in order to construct valid measures of motivations. Based upon the interview results, we asked the respondents to rate on a seven-point scale from strongly agree to strongly disagree with the following 15 statements: I consume science/technology news 1) to keep up with new discoveries/inventions, 2) to learn about the environment around me, 3) to advance my knowledge of science, 4) to understand the causes and effects of scientific phenomena, 5) to be informed of scientific research, 6) to understand the way the world works, 7) to maintain the quality of life, 8) to buy things that are suitable to me, 9) to communicate with friends and family, 10) to fulfill job/school requirement, 11) to satisfy personal interest in science, 12) to satisfy my curiosity, 13) to kill time, 14) because of a long-term habit, and 15) because I have nothing else to do.

Similarly, we asked the respondents to what extent they agree or disagree with the following 15 statements regarding health news consumption: I consume health news 1) to keep up with new trends/development/discoveries, 2) to get information necessary for daily lives, 3) to advance my knowledge of health, 4) to stay healthy, 5) to prevent certain diseases, 6) to learn more about my health, 7) to maintain the quality of life, 8) to buy things that are suitable to me, 9) to communicate with friends and family, 10) to fulfill job/school requirements, 11) to satisfy personal interest in health, 12) to satisfy my curiosity, 13) to kill time, 14) because of a long-term habit, and 15) because I have nothing else to do. For each statement, the respondents rated on a seven-point scale from strongly agree to strongly disagree.

2. News Consumption

The respondents were asked to rate on a seven-point scale how often they consume science/technology news and to indicate the types of science/technology news they often read, including 1) biology, biotech, food science, agriculture, 2) energy, 3) environment, climate, earth science, 4) astronomy, aerospace, 5) industrial science, engineering, material science, 6) physics, chemistry, mathematics, and 7) psychology (Elmer, Badenschier & Wormer, 2008; Lo & So, 2008).

Similarly, they were asked to rate on a seven-point scale how often they consume health news and to indicate the types of health news they often consume, including 1) personal health, 2) public health, 3) disease, 4) biomed, 5) medical service, 6) health policy, and 7) medical research.

For the purpose of making comparisons, we asked if they spend 1) less than 10 minutes, 2) 10-30 minutes, 3) 31-60 minutes, 4) 1-1.5 hours, 5) 1.5-2 hours, or 6) more than two hours every time they consume any kind of news. We then ask them to choose from a list of media (television, the Internet, newspaper, radio, magazine, and face-to-face) and indicate the most important, the second most important, and the third most important sources of news.

3. Media Use

To measure general media use, we asked the respondents to indicate how long they watch television, listen to the radio and read a newspaper every day, how long they read a magazine every week, and how many times they surf the Internet every week.

Data Collection

Regarding media use behavior and gratifications obtained, researchers usually ask respondents to submit self-reports. Although some critics (e.g., Ruggiero, 2000) questioned if self-reports could reflect actual motivations and behavior, empirical studies established validity of self-reports (e.g., Brener, Billy, & Grady, 2003). To understand motivations of science news consumption, this study decided to conduct a telephone survey.

A stratified probability sample based upon population in the 22 counties (including six metropolitan and 16 rural areas) in Taiwan was drawn. We selected a home phone database as the sampling frame. To compensate for the pitfalls of unlisted numbers, the last digit of each selected number was replaced by a number randomly drawn from 0 to 9. More than 1,000 phone calls were placed by 20 interviewers during a 10-day period in August 2014. A CATI system was used to collect data. A total of 593 completed questionnaires were collected, corresponding to a response rate of 59%.

Sample Characteristics

Among the 593 respondents, women accounted for 55.5% (n=323) while men 44.5% (n=259). More than 40% (n=245) of the respondents were below 20 years of age, 26.2% (n=155) were between 21 and 40, and the rest (n=192) were between 41 and 55. Half of the respondents (n=304) held a college degree or higher, while the other half (n=287) completed senior high school or lower. Nearly half (n=267, 45.1%) of them resided in northern Taiwan, 30.4% (n=180) in southern Taiwan, 21.1% (n=125) in central Taiwan, and the rest (n=20, 3.4%) in eastern Taiwan and on surrounding smaller islands. The results are presented in Table 1.

Data Analysis

The SPSS 16.0 was used to perform all statistical tests, including descriptive statistics, factor analyses, reliability tests, Pearson's correlations, and hierarchical regression analyses. The significance level was set at .05.

Results

Motivations

The 15 items measuring motivations of science news consumption were factor analyzed, and three factors were emerged after one item was dropped. They included:

1. Information seeking, consisting of seven items: I consume science/technology news to keep up with new discoveries/inventions, to learn about the environment around me, to advance my knowledge of science, to understand the causes and effects of scientific phenomena, to be informed of scientific research, to understand the way the world works, and to satisfy my curiosity.
2. Personal utility, containing four items: I consume science/technology news to maintain the quality of life, to buy things that are suitable to me, to communicate with friends and family, and to fulfill job/school requirement.
3. Pass time, consisting of three items: I consume science/technology news to kill time, because of a long-term habit, and because I have nothing else to do.

The factor loadings of and variance explained by each factor are shown in Table 2.

The 15 items measuring motivations of health news consumption were also factor analyzed. After three items were dropped, three factors were emerged as follow:

1. Personal utility, including five items: I consume health news to stay healthy, to prevent diseases, to learn more about my health, to maintain the quality of life, and to buy things that are suitable to me.
2. Information seeking, containing four items: I consume health news to keep up with new trends/development/discoveries, to get information necessary for daily lives, to advance my knowledge of health, and to satisfy personal interest in health.
3. Pass time, consisting of three items: I consume health news to fulfill job/school requirements, to kill time, and because of a long-term habit.

The factor loadings of and variance explained by each factor are shown in Table 3.

For each factor, we combined the items loaded on the same factor into one composite variable, resulting in six composite variables. See Table 4 for the means and standard deviations of the factors and the results of reliability tests. The findings showed that information seeking was the strongest motivation for science/technology news consumption ($m=4.87$, $s.d.=1.36$, $\alpha=.91$). The respondents were less likely to consume science/technology news for the purpose of personal utility ($m=3.86$, $s.d.=1.41$, $\alpha=.73$), or for passing time ($m=3.53$, $s.d.=1.48$, $\alpha=.65$). On the other hand, people consumed health news more likely for the purpose of personal utility ($m=5.16$, $s.d.=1.39$, $\alpha=.87$), or for information seeking ($m=5.03$, $s.d.=1.30$, $\alpha=.81$), and less likely for passing time ($m=3.05$, $s.d.=1.43$, $\alpha=.57$).

News Consumption

Almost all the respondents reported spending some time consuming news every day; three-fifths ($n=366$, 61.7%) spent 10 minutes to one hour consuming news, and the major source of news was television, followed by the Internet. More than two-thirds ($n=383$, 64.6%) of the respondents said they consumed

health news frequently, while only one-third ($n=224$, 37.8%) consumed science/technology news frequently. For those who did consume science/technology or health news, they consumption behavior occurred only moderately frequently ($m=4.19$, $s.d.=1.62$, for science/technology news, and $m=4.24$, $s.d.=1.66$, for health news).

Regarding the types of science/technology news, the respondents preferred biology (including biotech, food science, and agriculture), energy, environment (including climate and earth science), and astronomy and aerospace. For those who consumed health news, they preferred personal health, public health, disease, and biomed. The results of consumption of various types of news are presented in Table 5.

Media Use

The findings suggest that television remains the major source of news and entertainment, followed by the Internet, whereas other types of mass media lag far behind. More than half of the respondents ($n=335$, 56.5%) reported spending two hours or more per day watching television. Nearly two-thirds ($n=384$, 64.8%) surfed the Internet at least once a day. Among them, 70% ($n=270$) appeared to be regular Internet users who went online at least twice a day. Even so, 22.3% ($n=132$) of all the respondents said they had never used the Internet.

Regarding the use of other types of mass media, more than 60% ($n=351$) reported spending less than 10 minutes per day reading newspapers, 31.9% ($n=189$) read newspapers for 10 minutes to one hour every day, and there were still a small percentage of people reading newspapers more than one hour every day ($n=43$, 7.2%). Approximately 70% ($n=398$) of the respondents almost never listened to the radio, and nearly 74% ($n=438$) almost never picked up a magazine to read. See Table 6 for the results of media use.

News Consumption and Media Use

Pearson's correlations were performed to examine if consumption of news in general or specific types of news was related to media use (see Table 7). The results showed that media use was more likely to be associated with consumption of news in general and less likely with consumption of specific types of news. First, consumption of news in general was strongly correlated with television watching ($r=.42$, $p < .001$), newspaper reading ($r=.11$, $p < .01$), and magazine reading ($r=.10$, $p < .05$).

As for consumption of specific types of news, only magazine reading was related to consumption of health news ($r=.16$, $p < .05$). On the other hand, Internet use was not related to news consumption in any way.

Hypothesis Testing

Pearson's correlations were performed to examine the relationships between motivations and consumption of news. The results showed that all three types of motivation were significantly related to specific news consumption. In particular, people who consumed science/technology news were most likely to be motivated by information seeking ($r=.36$, $p < .001$), followed by personal utility ($r=.25$, $p < .001$) and passing time ($r=.22$, $p < .001$). *H1 (People who are motivated to consume science/technology news will be more likely to consume science/technology news more frequently)* was strongly supported by the research results. Similarly, people who consumed health news were most likely to be motivated by information seeking ($r=.50$, $p < .001$), followed by passing time ($r=.36$, $p < .001$) and personal utility

($r=.33, p < .001$). *H2 (People who are motivated to consume health news will be more likely to consume health news more frequently)* was also strongly supported.

Not surprisingly, motivations of consuming specific type of news were less likely to be related to consumption of news in general. The results showed that people who were motivated by personal utility and passing time to consume science/technology news were also likely to consume all types of news ($r's=.16$ and $.14$, respectively, $p < .05$).

Predicting Consumption of Specific Types of News

To further examine the hypotheses, hierarchical regression analyses were performed to determine if demographics, media use, and motivations could predict consumption of specific types of news. To predict consumption of science/technology news, demographic variables—namely, age, education, and sex—were entered at the first step. Regarding media use, although none was significantly related to consumption of science/technology news, television viewing presented the strongest correlation ($r=.10$), and we decided to include television viewing at the second step. The motivations of consuming science/technology news were entered at the third step.

The regression results (see Table 9) showed that the strongest predictor of consuming science/technology news was information seeking ($b=.29, p < .001$). The second strongest predictor was sex ($b=-.14, p < .05$), meaning that men were more inclined than women to consume science/technology news (total adjusted R square = $.15$). Furthermore, the contributions of television viewing and other demographic variables to the prediction equation were minimal.

As for predicting consumption of health news, the same demographic variables were entered at the first step. Only magazine reading that was significantly related to health news consumption was entered at the second step. Finally, the motivations of consuming health news were entered at the third step.

The regression results showed that people who consumed health news were strongly motivated by information seeking ($b=.42, p < .001$) and by passing time ($b=.18, p < .001$, total adjusted R square = $.28$). The contributions of demographic variables and magazine reading were minimal.

Summary And Discussion

In this study, we conducted a telephone survey to examine how people are motivated to consume science news. We assume that people need a stronger motivation to consume science news than to consume other types of news. We also divided science news into two categories: science/technology and health news, making comparisons of motivations of consuming different types of science news possible. The research findings, consistent with previous uses and gratifications studies, confirmed our theory. Specifically, three motivations emerged for consuming science/technology news: information seeking, personal utility, and pass time. Information seeking turned out to be the primary motivation to consume science/technology news. In addition, the same motivations emerged for consuming health news. People consumed health news primarily for personal utility and information seeking. On the other hand, people were less likely to consume different types of science news just to pass time.

As for consumption behavior, the findings showed that people consumed all kinds of news every day, but science news was not always their favorite. Even when they decided to consume science news, it happened only moderately frequently. And health news was more often chosen than was

science/technology news. This is obvious since the strongest motivation for people to consume health news was personal utility.

The respondents reported television as the most important source of news, followed by the Internet. However, only television viewing was significantly correlated with consumption of news in general. Internet use was not related to consumption of any type of news, suggesting that most surfed the Internet not for news, but for other types of information. Furthermore, people still used print media such as newspapers and magazines for news in general, while only magazine reading was significantly related to the consumption of health news.

The motivations of consuming science news were strongly related to the consumption of science news. Among the three types of motivation, information seeking presented the strongest correlation with consumption of science/technology news and with consumption of health news. Although the strongest motivation of consuming health news was personal utility, its correlation with consumption was not as strong as the correlation between information seeking and consumption. We suspect that people often rely on interpersonal communication channels for information pertaining to their own health. Interpersonal communication channels offer instantaneous, specific and reliable information.

We further examined the relationships between motivations of consuming science news and consumption behavior by using hierarchical regression analyses and found that information seeking was the strongest predictor of consumption of science/technology news as well as for consumption of health news. The contributions of demographic variables and media use were minimal.

Interestingly enough, the regression analyses provided some support for stereotypical impression that men tend to consume more science/technology news than do women. There was no such difference in the consumption of health news. The results should give the science community something to think about. How can scientists communicate more effectively with journalists? How can women be motivated to consume more science/technology news? Will consumption of science/technology news serve as a predisposition for an interest in science in general? Furthermore, how can news coverage of science attract more female readers? Journalists should try to make science news easier to understand and respond more effectively to women's need for information.

The results of this study suggest that the uses and gratifications research perspective is insightful for us to better understand consumption of science news. Motivations of consuming specific types of news are strong predictors of consumption of specific types of news. In this study, empirical evidence establishes strong connections between motivations of consuming science news and consumption of science news. Research evidence also suggests that people need a stronger motivation to read science news. This study also carries practical implications for scientists and journalists. Future research should focus on theoretical development of consumption of science news.

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Table 1. Sample Characteristics

Variable	<i>f</i>	%	<i>N</i>
Gender			582
Female	323	55.5	
Male	259	44.5	
Age			592
15 and below	206	34.8	
16-20	39	6.6	
21-25	31	5.2	
26-30	38	6.4	
31-35	31	5.2	
36-40	55	9.3	
41-45	50	8.4	
46-50	79	13.3	
51-55	63	10.6	
Education			591
None	8	1.4	
Completed grade school	43	7.3	
Completed junior high	58	9.8	
Completed senior high	178	30.1	
Completed 2-year college	87	14.7	
Bachelor's degree	178	30.1	
Master's degree and above	39	6.6	
Residence			592
Northern Taiwan	267	45.1	
Central Taiwan	125	21.1	
Southern Taiwan	180	30.4	
Eastern Taiwan	19	3.2	
Other	1	.2	

Table 2. Factor Analysis of Motivations of Science/Technology News Consumption¹

Item	Factor ²		
	1	2	3
I consume science/technology news			
To keep up with new discoveries/ inventions	.78	.21	.11
To learn about environment	.74	.35	.14
To advance knowledge	.86	.10	.05
To understand causes and effects of scientific phenomena	.86	.17	.04
To be informed of scientific research	.75	.28	.13
To understand the world	.70	.29	.05
To satisfy my curiosity	.61	.20	.34
To maintain quality of life	.37	.68	.14
To buy things suitable to me	.18	.82	.06
To communicate with family/friends	.32	.67	.26
To fulfill job/school requirements	.11	.55	.19
Because I have nothing else to do	.16	.19	.78
Because of a long-term habit	.46	.04	.56
To kill time	-.08	.26	.82
Variance explained	43.83	11.94	7.46

N=225

¹ Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.

² F1: Information seeking; F2: Personal utility; F3: Pass time.

Table 3: Factor Analysis of Motivations of Health News Consumption¹

Item	Factor ²		
	1	2	3
I consume health news			
To stay healthy	.80	.34	-.029
To prevent diseases	.84	.25	.03
To learn more about my health	.82	.26	.14
To maintain quality of life	.80	.23	.22
To buy things suitable to me	.60	.10	.29
To keep up with new trends/ development/discoveries	.13	.80	.16
To get info necessary for daily lives	.41	.72	.06
To advance knowledge	.48	.71	.05
To satisfy personal interest	.23	.63	.24
To fulfill job/school requirements	.11	.22	.70
Because of a long-term habit	.11	.35	.69
To kill time	.09	-.07	.70
Variance explained	44.62	11.68	8.53

N=385

¹ Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.

² F1: Personal utility; F2: Information seeking; F3: Pass time.

Table 4. Descriptive Statistics of Composite Variables

Variable	Mean ¹	s.d.	Cronbach's α^2	N
Motivations of science/technology news consumption				
Information seeking	4.87	1.36	.91	225
Personal utility	3.86	1.41	.73	225
Pass time	3.53	1.48	.65	225
Motivations of health news consumption				
Personal utility	5.16	1.39	.87	385
Information seeking	5.03	1.30	.81	385
Pass time	3.05	1.43	.57	385

¹ Value ranging from 1=strongly disagree to 7=strongly agree.

² Calculated for variables constructed with three or more items.

Table 5. News Consumption

Variable	<i>f</i>	%	Rank	Mean ¹	s.d.	<i>N</i>
All news consumption/every time						593
Less than 10 minutes	53	9.0				
10-30 minutes	210	35.4				
31-60 minutes	156	26.3				
1-1.5 hours	92	15.5				
1.5-2 hours	28	4.7				
More than 2 hours	54	9.1				
Sources of news						593
Television	399		1			
The Internet	134		2			
Newspaper	38		3			
Radio	16		4			
Face to face	6		5			
Magazine	0					
Science/tech news consumption				4.19	1.62	224
Science/tech news consumption						224
Biology, biotech, food science, agriculture	224	100				
Energy	203	90.6				
Environment, climate, earth science	182	81.3				
Astronomy, aerospace	156	69.6				
Computer science, mobile communication	109	48.7				
Industrial science, engineering, material science	68	30.4				
Physics, chemistry, math	35	15.6				
Psychology	17	7.6				
Health news consumption				4.24	1.66	383
Health news consumption						383
Personal health	383	100				
Public health	358	93.5				
Disease	321	83.8				
Biomed	258	67.4				
Medical Service	185	48.3				
Health Policy	118	30.1				
Medical Research	65	17.0				

¹ Value ranging from 1=seldom to 7=very often.

Table 6. Media Use

Variable	<i>f</i>	%	<i>N</i>
Watching television/per day			593
Almost nil	50	8.4	
Seldom	64	10.8	
1 hour	144	24.3	
2 hours	159	26.8	
3 hours	86	14.5	
4 hours	34	5.8	
5 hours and more	56	9.4	
Listening to the radio/per day			593
Almost nil	398	67.1	
Less than 10 minutes	20	3.4	
10-30 minutes	51	8.6	
31-60 minutes	46	7.8	
1-2 hours	32	5.4	
2-3 hours	10	1.7	
More than 3 hours	36	6.0	
Reading a newspaper/per day			593
Almost nil	317	53.5	
Less than 10 minutes	44	7.4	
10-30 minutes	95	16.0	
31-60 minutes	94	15.9	
1-2 hours	34	5.7	
2-3 hours	7	1.2	
More than 3 hour	2	.3	
Reading a magazine/per week			593
Almost nil	348	58.7	
Seldom	90	15.2	
1 hour	62	10.5	
2 hours	45	7.6	
3 hours	24	4.0	
4 hours	3	.5	
5 hours and more	21	3.5	
Going online/per week			593
Never	132	22.3	
1-2 times	33	5.5	
3-4 times	24	4.0	
5-6 times	20	3.4	
7-8 times	88	14.8	
9-10 times	11	1.9	
11-12 times	1	.2	
13-14 times	14	2.4	
15 times and more	270	45.5	

Table 7. Correlations Among Media Use and News Consumption

Media Use	News Consumption		
	All News	Science/Tech News	Health News
Television	.42***	.10	-.01
Radio	.01	-.02	.02
Newspaper	.11**	-.01	.07
Magazine	.10*	.06	.16*
Online	.01	.08	-.04
<i>N</i> =	593	222	376

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 8. Correlations Among Motivations and News Consumption

Motivation	News Consumption		
	All News	Science/Tech News	Health News
Science/Tech news			
Information seeking	.09	.36***	
Personal utility	.16*	.25***	
Pass time	.14*	.22***	
Health news			
Personal utility	.05		.33***
Information seeking	.09		.50***
Pass time	.07		.36***
<i>N</i> =	593	223	383

* $p < .05$, *** $p < .001$.

Table 9. Hierarchical Regression Analyses Predicting News Consumption

Variable	News Type Science/Tech	Health
Step 1: Demographics		
Age	-.07	-.03
Education	.09	-.02
Sex ¹	-.14*	.03
Adjusted R Square	.03	.00
Step 2: Media Use		
Television	.06	
Magazine		.08
Adjusted R Square Change	.01	.02
Step 3: Motivations		
Personal utility	.04	-.01
Information seeking	.29***	.42***
Pass time	.08	.18***
Adjusted R Square Change	.11	.26
Total Adjusted R Square	.15	.28
N=	222	376

¹ Value ranging from 1=male to 2=female.

* $p < .05$, ** $p < .01$, *** $p < .001$.

AZIZ SAIR¹

**THE IMPACT OF TOURISTS-LOCALS INTERACTION ON QUALITY TOURISM
EXPERIENCE: THE CASE OF THE DESTINATION AGADIR IN MOROCCO**

Abstract

The significance of the involvement of a destination's community in tourism has long been recognized (Aas, Ladkin, & Fletcher, 2005; Nuryanti, 1996; Peters, 1999; Timothy & Boyd, 2003; Timothy & Tosun, 2003). Through various forms of participation, members of the destination community perform a number of roles as they interact with tourists. Additionally, the acceptance and tolerance of tourists by residents has been acknowledged as being vital for a successful tourism destination (Thyne, Lawson, Todd, 2006). However, community members are also impacted by these interactions in varying ways and to different degrees. Taking the destination Agadir (Morocco) as a case study, this research explores tourist-resident interactions, how and to what extent these interactions affect tourists' attitudes towards the locals, as well as the overall tourism experience. We tried : -to identify the attitudes of tourists towards hosts and the destination of Agadir. -to investigate if and how tourists' attitudes and experiences are influenced by host interactions. -to investigate how host interactions impact and change tourists' attitudes towards hosts and sense of quality with the tourism experience.

Keywords: Tourism, Expérience, Quality

JEL Code: Z32

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MOHAMED ZNIBER¹

CHALLENGES IN TRANSLATING ENGLISH BUSINESS TERMS INTO FRENCH AND ARABIC

Abstract

This article examines the terminology difficulties encountered by Moroccan students in business schools. Translating economic terms in the three languages - French, English and Arabic- or using these concepts in written production has revealed a number of disparities. At the grammatical level, these three languages are underlain by subtle grammatical structures. In terms of the lexical aspect, economic concepts do not necessarily conform to the word –for -word translation particularly when Romance languages are involved. The complexity is even enhanced once collocations are introduced. Paradoxically, Arabic poses further challenges for its speakers because of many considerations. As a result of its diglossic character, Arabic has a less prominent position in the linguistic context despite its status as a native language for most students. Geographically, there exist notable, lexical divergences among varieties of Arabic spoken in the East ‘mashriq’ and the West ‘maghrib’. Consequently, Latinate (or "economic terms of Latin origin) are translated differently throughout the Arab world. I believe that such problems can be solved by the elaboration of exhaustive and detailed thematic glossaries for each field of research.

Keywords: Business English- Translation- ESP

JEL Code: A2, A29

In this paper, we intend to closely examine the sources of miscomprehension and ambiguity pertaining to the misuse of business terms among Moroccan university students in business schools. The languages concerned are Arabic, French and English. Each language is governed by idiosyncratic properties. While Arabic belongs to the Semitic language family, both French and English are part and parcel of the Indo-European entity. At a first stage, we will attempt to present the state-of-the-art and later examine the types of mistakes made by Moroccan learners of English as far as the misuse is concerned. Basically, we will try to determine the extent of interference existing between English, French and Moroccan Arabic. To this end, and also in order to circumscribe the problem of translation of business terms from its different facets, we have attempted to shed the light on this issue by administering different kinds of tests, which take into account the students' level of proficiency in English. Our goal is to highlight the existing correspondences between English, French and Arabic and determine the problematic cases for Moroccan learners.

As a brief reminder, the linguistic situation in Morocco is characterised by its multilingual character. The multiplicity of the languages involved underlies different functions. In general, we can classify languages in Morocco into three main groups: the official language (Standard Arabic), vernaculars or native dialects (Moroccan Arabic and Berber) and finally foreign languages (including French, English and Spanish). Standard Arabic is legally considered the official language according to the constitution

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and benefits; therefore, from a solid historical and religious background. Its status is closely linked to identity. Moroccan Arabic and Berber have been neglected due to some socio-political considerations. Berber, for instance, was deliberately excluded for decades whereas in the last few past years, it has been timidly introduced in the educational system. French, on the other hand, the language of the colonizer has always been associated with social prestige among urban elites. It has always reflected modernism so much so that it has been opted for as a medium of instruction at schools and universities. Starting from the 80's, other foreign languages, notably English and, to a lesser degree Spanish, have gained more ground especially with the launch of new universities in different regions of Morocco. Yet, in the absence of an efficient language policy, the educational system in Morocco still suffers from many deficiencies. From an organisational point of view, we will proceed in this paper as follows: As a first step, we will present examples illustrating grammatical mistakes involved in translating from French into English, then we will unveil some the lexical problems concerning these two languages as far as business terms are concerned and finally we will shed the light on the difficulties encountered by students once Arabic is introduced.

The grammatical mistakes that typically characterise students' translations are presented as follows:

<u>French terms to translate</u>	<u>Students' erroneous translation</u>	<u>Authentic translation</u>
Vous devez acheter ces actions	You must buy these actions	You'd better buy these shares
La main d'oeuvre qualifiée pourrait poser problème	Qualified labour could pose problems	Skilled labour force might pose problems
Faire faillite	Do bankruptcy	Go bankrupt
A ce jour, je n'ai pas eu de réponse	Until this day, I didn't get any response	I haven't got any reply so far.
Donner satisfaction aux clients	Give satisfaction to clients	Satisfy clients
Augmentation de salaire	Salary raise	Salary rise
Vous devez acheter ces actions	You must buy these actions	You'd better buy these shares

Generally, the errors in the use of modals are either syntactic or semantic. While the French modal system is limited to three forms: "devoir", "pouvoir" and "falloir", English a full-fledged system. At the syntactic level, students have difficulty marking the difference between the present and the past especially when different past forms are available. They also fail to grasp such grammatical principles as the perfect infinitive (i.e. an infinitive form made up of 'to have' + the past participle of the verb and is usually used to convey an anterior action), and the active/passive transformations when they occur in combination with a modal in the same sentence. Finally, there is a set of typically specific occurrences including dare, need, wish, etc., which still pose problems for students. It is only by a thorough grasp of grammatical rules that these mistakes can be remedied. However, at this level the problem of interference is not yet involved. For overlapping cases, students refer to Arabic to provide tentative answers. Instances of deduction (both positive and negative), probability, nuances of meaning -resulting from the use of a modal or its paraphrase- are elements that constitute the core part of this work. Likewise, students sometimes use modals randomly because of their inability to understand the sentence

they occur in. The study has also revealed that for situations in which different modals can be used, the students tend to choose the form, which closely corresponds, to Moroccan Arabic or French. Otherwise, they use the first modal acquired or studied. To overcome this problem, a re-thinking of the method of teaching modals is needed. By the same token, other grammatical mistakes involve collocations or expressions. The best examples to provide in this respect are the verbs “make” and “do” in English that have only one counterpart in French “faire”. Students also tend to translate blindly from English into French ignoring the structure of each language. The French language is characteristically based on nominalisation whereas English is a verb-based language. Last, but not least, students have difficulty in recognising transitive and intransitive verbs (raise vs. rise). Sometimes, they even fail to use the definite article “the” correctly when the two languages are confronted. New pedagogical tools have to be elaborated and implemented, taking into consideration these salient differences between English and French. We will explore these hypotheses in depth in what follows.

As far as the lexical component is concerned, we have noted a number of recurrent cases involving interference. The present observations reflect to a large extent the findings drawn in previous studies. The mistakes, quoted in the excerpts presented in the table below, are the most frequently used answers provided by learners. A first remark concerning the tentative replies shows that students tend to use the same “latinate” whenever it is available both in English and French. As a matter of fact, students fail to take into consideration two distinct aspects. Polysemy, i.e. the possibility for one word to have more than one meaning, and which remains a problematic issue for Moroccan learners of English. The second most significant deficiency and; therefore, challenging aspect in translating business terms is the absence in most cases for the word for word translation. Terms pertaining to a specific register need to be inventoried and presented to students in the form of glossaries. This is part of an ambitious research project that we have already initiated and which we will present in more detail in the last part of this paper. The cases presented below illustrate the point:

<u>French terms to translate</u>	<u>Students' erroneous translation</u>	<u>Authentic translation</u>
La Société actuelle	La Société actuelle	Parent company
Société mère	Société mère	Annual General Meeting
L'assemblée générale	L'assemblée générale	Supply and demand
L'offre et la demande	L'offre et la demande	Merger
Fusion	Fusion	Takeover
Absorption	Absorption	Competition
Concurrence	Concurrence	Sustainable development
Development durable	Development durable	Order
Commande	Commande	Parent company

<u>French sentences to translate</u>	<u>Students' erroneous translation</u>	<u>Authentic translation</u>
Audit	Audit	Auditing
Marchandise	Merchandise/ product	Commodity
Biens	Resources	Assets/ property
Salaire	Salary	Wage/salary/income
Avantages sociaux	Social advantages	Fringe benefits/ perks
Aide sécurité social	Social help/ assistance	Welfare
Crédit/emprunt	Credit	Loan
Société cotée en bourse	Company introduced in the stock exchange	Listed company

However, when Arabic is introduced, the complexity is even overtly notable. Historically, the Arabic language spreads from the Middle East to North Africa. It is characterized by a diaglossic situation (Fergusson, 1959). In simple terms, diaglossia refers to a situation in which there exist two varieties of the same language used by a single language community. In this respect, we differentiate between the low variety "L" and the high variety "H". The former is used in everyday communication while the latter is used in formal settings such as: literature, formal education, religion, etc. A first striking observation concerns the absence of mutual intelligibility among speakers of the low variety of Arabic. In other terms, speakers of Arabic in North Africa can understand each other quite easily with minor linguistic regional differences relative to phonology, vocabulary and semantics. On the other hand, communicating with speakers from the Middle East using the low variety is confronted, most of the times, to many obstacles and which result in the end in incomprehension. A plausible explanation goes back to the era of colonisation. North Africa was predominantly colonised by the French whereas in the Middle East, there was the presence of the British. Unlike the French whose colonial approach encompasses different aspects, most notably the cultural and identity dimension, the British motivation was essentially economic. They aspired to dominate the treasures of the region. It is also true that during the last two decades, especially with the launch of satellite channels, the linguistic gap is narrowed. Added to all these facts the proximity to the European continent and; therefore, the languages in contact have more impact on speech communities.

In order to illustrate these divergences, a number of observations need to be reminded. First, Unlike English and French which are considered tense languages, Arabic is an aspectual language, i.e. all verb forms are conjugated in either the perfective or imperfective aspect (i.e. an action is either terminated or not). That's why, Arabic learners often resort to this dual aspect characterising Arabic to answer questions on English or French grammar. This mismatch reveals the lack of a systematic correspondence in the overall system characterizing English, French and Arabic. Clear-cut tenses, for instance, used in English and French including the perfect, the conditional or the subjunctive involve the use of a modal, which cannot be correlated with situations in Arabic. That explains, perhaps, why Arabic students transgress, the syntactic rules and refer to their mother tongue repertoire to provide tentative, usually erroneous replies.

Another explanation for the students' mistakes derives from the multiplicity of meanings each form in the Arabic repertoire underlies. Again, the three languages differ substantially in expressing business terms. We have noted through the tests administered to our students that the main difficulties they confront when dealing with issues of translating business terms are two-fold: either grammatical (as has been discussed earlier) or lexical. Students are sometimes confused in using the appropriate term. Different sources of information (i.e. specialized dictionaries, encyclopaedias, websites, etc.) come up with different alternatives taking into account this dichotomy existing between western and Eastern parts of the Arab world.

ENGLISH TERM	FRENCH TERM	ARABIC TERM	
		maghrib	mashriq
Bank	Banque	/bʌŋk/	/mʌSɾif/
News	Informations	/ʔXba:t/	/ʔnbæʔ/
Wage	Salaire	/ʔʌʒər/	/rætib/
Privatization	Privatisation	/XʌwSʌSʌ/	/XʌSXʌSʌ/
Discount policy	Politique de rabais	/siyasat tʌXfi:Da:t/	/siyasat lXʌSm/
Durable consumer goods	Produits de consommation durable	/ʔʌssɪlʌʒ ʌlɪstɪhlækɪya ʔʌlmʊʒʌmmɪrʌ/	/ʔʌlmʌwædd ʌlɪstɪhlækɪya ʔʌTTwilat ʌlʔʌmad/

ENGLISH TERM	FRENCH TERM	ARABIC TERM	
		maghrib	mashriq
Expenses	Dépenses	/naʃʌqæt/	/mʌSɾi:f/
Fixed deposits	Placements à terme	/wadaʔɪʒ tabitʌ/	/qʌwæʔim tabitʌ/
Financial statements	Etats financiers	/bayanæt mæliya/	/qwaʔim mæliya/
Income	Revenu	/ʔʌddaxl/ or /ʔʌlkasb/	/ʔʌlʔirad/
Labour/labourforce	Main d'oeuvre	/yad ʒʌmɪlʌ/	/ʒʌmala/

ENGLISH TERM	FRENCH TERM	ARABIC TERM	
		maghrib	mashriq
Luxury	luxe	/rafæhiya/	/Tʌrʌf/
National production	Production nationale	/ʌl ɪntaʒ ʌl watani/	/ʌl ɪntaʒ ʌl qawmi/
Saving(s)	Epargne	/ʌttʌwfi:r/	/ʌlʔiddɪxʌ:r/
Assets	Actifs	/ʊSʊ:l/	/mawʒʊ:dæt/
Trust receipt	Récépissé de transitaire	/wʌSəl ʔʌmana/	/ʔɪ:Sa:l ʔʌmana/

As a conclusion, to overcome these problems relative to the module of translation, a thorough teaching model needs to be implemented including both grammar and semantics at the same time. Traditionally, this module is conceived as a contact-based course in which two languages are confronted. It would be more appropriate to consider widening the scope of the subject matter by tackling the three languages at once: English, French and Arabic. In this regard, the best solution is to provide students with glossaries of business terms in these three languages. From an organization and also practical point of view, these glossaries have to be grouped on a thematic basis rather than on an alphabetical order. Students will undoubtedly find it useful to deal with terms pertaining to each field of business such as marketing, finance, logistics, legal matters, and so forth. In doing so, the learning goals will be achieved in a better way. These are some of the recommendations of a study that is currently conducted at our university. In parallel, this teaching model needs to incorporate grammar as part and parcel of the translation module. Indeed, the component of grammar has always been dealt with separately and concerns each language at once. As a consequence, students find it difficult to pinpoint the salient characteristics of these languages when they are used together in a translation task. This difficulty is further enhanced by the degree of mastery of these languages by the students as well as their status (i.e. whether the language in question is L1, L2 or L3).

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ASSIA DJENOUHAT¹ AND REDA DJAOUAHDOUN²

THE IMPACT OF COMPANIES' SIZE ON E-COMMERCE TRANSACTION REQUIREMENTS: CASE STUDY OF ALGERIAN IMPORT COMPANIES

Abstract

The purpose of this paper is to investigate the impact of companies' size on e-commerce transaction requirements; by examining both companies' components and companies' partners and their relation with company's size. The paper is based on the analysis of 70 Algerian import companies through survey methodology. The findings indicate that large size companies respond strongly to all e-commerce transaction requirements, especially in the three companies' components; medium and small size companies response to these requirements is less than large size companies. As a conclusion, companies' size often reacts to the e-commerce transaction requirements.

Keywords: EC transaction requirements, Algerian import companies

JEL Code: F19, M31

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RABAH BELABBAS¹ AND ALI DJEMAI²

ECONOMIC GROWTH AND UNEMPLOYMENT RELATIONSHIP AN ECONOMETRIC STUDY USING THE PANEL - VECM EVIDENCE FROM FROM ALGERIA, TUNISIA AND MOROCCO

Abstract

The aim of this paper is to analyse the relationship between economic growth and unemployment(Okun's law) in the three North African countries (Algeria- Tunisia - Morocco), this is on one hand. On the second hand, it aims to study the divergence of the causality relationship between the short and long term. We have used annual data for both variables (Gross Domestic Product and Unemployment rate) and the source of dataset is World Bank(WDI). Our study covers the period (1991-2015), Methodology To assess this relationship, we have applied a panel cointegration Model(Panel-VECM), and we have applied the following Tests: Panel Unit Root, Granger causality, Pedroni Residual Cointegration, Vector Error Correction Model and Wold test. Results The results shows that there is a long-run causality relationship between economic growth rate and the rate of unemployment, the coefficient of cointegration is negative and significant. In the short-run the economic growth has a negative effect on the unemployment rate, however, this effect tends to decrease with lags of GDP increasing. The results shows also that the Tunisian economy has been largely affected by the financial crisis in 2008 and political and social changes followed which called Arab Spring, as result the Tunisian GDP has been dramatically decreased in comparison with the post crisis period . Due to the security and political crises witnessed in Algeria during the 90`s, a sharp increase has been known in both unemployment and inflation rates, Moroccan economy was slightly stable in comparison with the two other countries, Morocco has a stable macroeconomic indicators since more than 25 years.

Keywords: Okun's law, Unemployment rate, Economic Growth rate, Panel data, Vector Error Correction Model

JEL Code: C55, O55

Introduction

Nowadays the world faces with major economic and financial problems, including among others the problem of unemployment and insufficient economic growth, The unemployment and economic growth are now the most important issues in the World must be solved in a short-time with public policies.

Last decades, the challenges of unemployment have increased on the economic and social balances of countries. In particular, the phenomenon of unemployment has had a major impact on the imbalances of the Arab economies, social, political, especially in recent years which called Arab Spring, the

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countries of north Africa(Algeria, Tunisia and morocco) had set unemployment in the first priorities in terms of economic policy.

Okun's law (1962) says that there is a relationship between economic growth and unemployment, Okun found a value of -3 for the coefficient, it means if the output increases by 3% the unemployment must decrease by 1%, Okun's argument states that output and unemployment have both a link with labour force,

Problematic of the study

In this work paper we'll try to estimate the relationship between economic Growth and unemployment (Okun's law) in three countries of north Africa which are Algeria, Tunisia and morocco through the period of 1991 to 2015 using the panel Data and the vector error correction Model.

Data and Methodology

To estimate the relationship between economic Growth and unemployment, We have used annual data for both variables (Gross Domestic Product and Unemployment rate) and the source of dataset is World Bank(WDI). Our study covers the period (1991-2015),

To assess this relationship, we have applied a panel cointegration Model(Panel-VECM), and we have applied the following Tests: Panel Unit Root, Granger causality, Pedroni Residual Cointegration, Vector Error Correction Model and Wold test.

Review Of Literature

After Okun's study, many studies were carried out to test the relationship between economic growth and unemployment rate in World;

Hany Elshamy(2013), "The Relationship Between Unemployment and Output in Egypt", This paper aims to test Okun's coefficient in Egypt. The paper uses co-integration analysis to estimate Okun's coefficient in the long run. and in the short run by using the Error Correction mechanism (ECM). The study based on annual data from the International Financial Statistics (IFS) published by the IMF for the period 1970-2010. When Okun's law was estimated in Egypt in the long run and short run the coefficient was statically significant with the expected sign.

Bulent Dogtu (2013), "The link between unemployment rate and real output in Eurozone: A panel error correction approach", this paper tried to investigate the relationship between economic growth and unemployment in Eurozone, the study used the annual panel data covering the time period 2000-2012.. We also investigate unemployment hysteresis using several non-stationary panel unit root techniques for unemployment coefficient for USA and other empirical studies on developed countries. Also this paper found that the relationship between economic growth rate and unemployment rate in Eurozone is smaller than the coefficient of USA.

Murat Sadiku, Alit Ibraimi and Luljeta Sadiku (2015), "Econometric Estimation of the Relationship between Unemployment Rate and economic Growth of FYR of Macedonia", the aim of this study is to estimate empirically the relationship between economic growth and unemployment rate in FYR of Macedonia applying the Okun's Law. The paper used four types of models such that, the difference model, the dynamic model, ECM, and VAR estimation approach, in order to consider both, the short

term and the long term possible relationship. The analysis consists on quarterly data covering the period 2000-2012. The empirical results from all models do not indicate robust evidence and do not confirm an inverse linkage between unemployment rate and economic growth, as the Okun's Law suggests. Based on the VAR methodology and Engel-Granger cointegration test, it doesn't exist a causal relationship between these two variables.

Empiric results

In this model we apply a panel-VECM Model to estimate the relationship between economic growth and unemployment in Algeria Tunisia and morocco, we apply this Model on Eviews 9.5.

Stationarity analysis

To analyse the stationary of time series in panel-vecm Model We will conduct a series of statistical tests that test unit root in time series, these tests are Breitung(2000), Im. Pesaran and Shin(2003), Fisher Test(ADF and P, Madala and Wu(1999), Shoi(2004), and lastly Hadri(1999).

Table 1. Stationarity Tests

Tests		Levels		First differences	
		GDP	CHOM	D(GDP)	D(CHOM)
Levin, Lin & Chu	Statistic	-1.42129	-0.49431	-8.37921	-5.79602
	Prob	0.0776	0.3105	0.0000	0.0000
Breitung t-stat	Statistic	2.40140	-0.35585	-5.84887	-4.30139
	Prob	0.9918	0.3610	0.0000	0.0000
Im, Pesaran and Shin W-stat	Statistic	-0.16548	-0.82590	-8.59462	-5.32483
	Prob	0.4343	0.2044	0.0000	0.0000
ADF- Fisher Chi-square	Statistic	5.17016	8.36985	72.4533	32.7649
	Prob	0.5222	0.2122	0.0000	0.0000
PP - Fisher Chi-square	Statistic	6.42859	8.69117	81.2933	35.2287
	Prob	0.3769	0.1917	0.0000	0.0000
Hadri Z-stat	Statistic	4.29275	2.40519	2.54786	3.64993
	Prob	0.000	0.0081	0.0054	0.0001

Note ; The null hypothesis in Hadri test is that series are stationary.
The null hypothesis of ALL Other tests are non-stationary

We conclude that both series GDP and unemployment rate are stationary at the first difference and they have the same degree of co-integration (GDP and CHOM Are I(1)), We can move on to the next step of applying the vector error correction model.

Grenger causality test

We apply Grenger(1969) causality test between two variables to know Who is the variable that cause the other,

Table 2. Granger casuality tests

Pairwise Granger Causality Tests			
Date: 12/28/16 Time: 09:47			
Sample: 1991 2015			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
DGDP does not Granger Cause DCHOM	66	3.29226	0.0439
DCHOM does not Granger Cause DGDP		0.42246	0.6573

The first test is significant (probability equal 0.0439 is least then 5%) this test tests the causality of GDP on unemployment, so We conclude that GDP Does granger cause Unemployment, and the second test tests the causality of unemployment on GDP, this test is not significant because the probability value is above then 5%(Prob-value equal 0.6573).

We deduce that the GDP Does Grenger cause Unemployment and the unemployment Doesn't cause the GDP, The causality between GDP and unemployment has a single direction.

Cointegration Test

The null hypothesis of pedroni residual co-integration test is No cointegration between GDP and unemployment, and the alternative hypothesis of this test is there is a cointegration.

Table 3. Pedroni Residual Cointegration Test

Pedroni Residual Cointegration Test				
Series: DCHOM DGDP				
Date: 12/28/16 Time: 09:48				
Sample: 1991 2015				
Included observations: 75				
Cross-sections included: 3				
Null Hypothesis: No cointegration				
Trend assumption: No deterministic trend				
User-specified lag length: 1				
Newey-West automatic bandwidth selection and Bartlett kernel				
Alternative hypothesis: common AR coefs. (within-dimension)				
	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	1.247941	0.1060	1.306115	0.0958
Panel rho-Statistic	-5.345046	0.0000	-5.569771	0.0000
Panel PP-Statistic	-5.244750	0.0000	-5.336567	0.0000
Panel ADF-Statistic	-2.458035	0.0070	-2.002464	0.0226
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Statistic	Prob.		
Group rho-Statistic	-4.335727	0.0000		
Group PP-Statistic	-5.742677	0.0000		
Group ADF-Statistic	-1.731071	0.0417		
Cross section specific results				

The Most tests of pedroni residual co-integration test are significant at 1% because the probabilities values are less than 0.01, So we accept the null hypothesis of this test, we conclude that there is a cointegration between GDP and unemployment or there is a long run relationship between GDP and unemployment in these three countries(Algeria, Tunisia and Morocco).

The estimation of Model

We estimated the Panel-VECM Model on Eviews 9.5, we used four lags and we found this equation of estimation:

Table 4. Model Estimation

System: SYS04				
Estimation Method: Least Squares				
Date: 12/28/16 Time: 10:32				
Sample: 1996 2015				
Included observations: 60				
Total system (balanced) observations 120				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.041907	0.008234	-5.089790	0.0000
C(2)	-0.438436	0.221059	-1.983344	0.0501
C(3)	-0.424098	0.216329	-1.960429	0.0527
C(4)	-0.407523	0.214334	-1.901351	0.0601
C(5)	-0.137920	0.231704	-0.595242	0.5530
C(6)	-6.55E-10	2.61E-10	-2.506107	0.0138
C(7)	-1.10E-09	2.38E-10	-4.607533	0.0000
C(8)	-1.12E-09	2.44E-10	-4.587327	0.0000
C(9)	-8.73E-11	2.28E-10	-0.383651	0.7021
C(10)	7.833872	1.307010	5.993737	0.0000
C(11)	-13233737	4188595.	-3.159469	0.0021
C(12)	30410372	1.12E+08	0.270419	0.7874
C(13)	-18256383	1.10E+08	-0.165891	0.8686
C(14)	2.86E+08	1.09E+08	2.623074	0.0101
C(15)	1.66E+08	1.18E+08	1.408678	0.1620
C(16)	-0.104984	0.132964	-0.789565	0.4316
C(17)	0.475921	0.121170	3.927716	0.0002
C(18)	0.108987	0.124180	0.877660	0.3822
C(19)	-0.093678	0.115774	-0.809146	0.4204
C(20)	2.15E+09	6.65E+08	3.240995	0.0016
Determinant residual covariance		8.11E+18		

There is No serial correlation in this Model, and the residuals have the same variances.

Conclusion

In the End of this Research paper our results are:

There is a long-run causality relationship between economic growth rate and the rate of unemployment, the coefficient of cointegration is negative and significant.

In the short-run the economic growth has a negative effect in the unemployment rate, but this affect is decrease when the lags of GDP is increase.

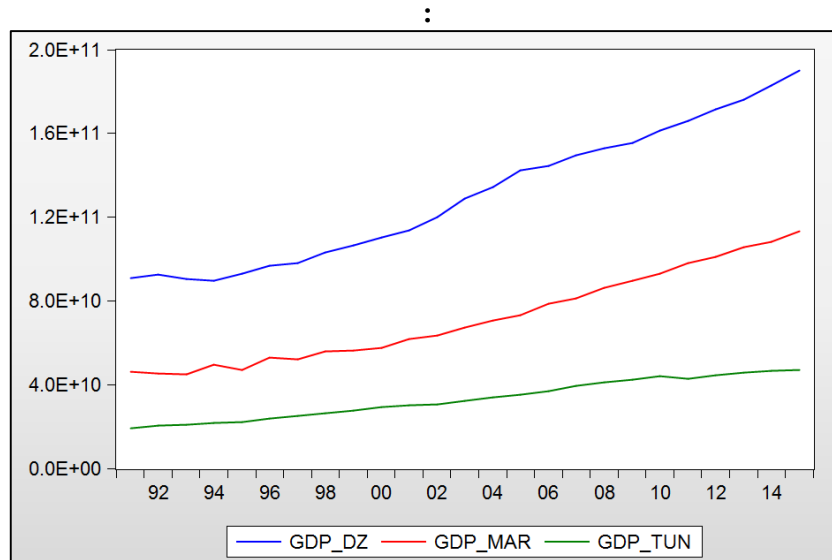
This study also finds that the Tunisian economy is more affected by the financial crisis in 2008 and the subsequent events and changes political and social in the Arab area than the economies of Algeria and Morocco, where unemployment and inflation rates are risen and retreated economic growth in Tunisia compared with earlier periods, The Algerian economy has been affected by the political crisis and security registered in Algeria during the last decade of the last century, where it has known terrible rise in unemployment and inflation rates, While the Moroccan economy is more stable than its neighbours, where it has known a stable macroeconomic indicators for 25 years.

References:

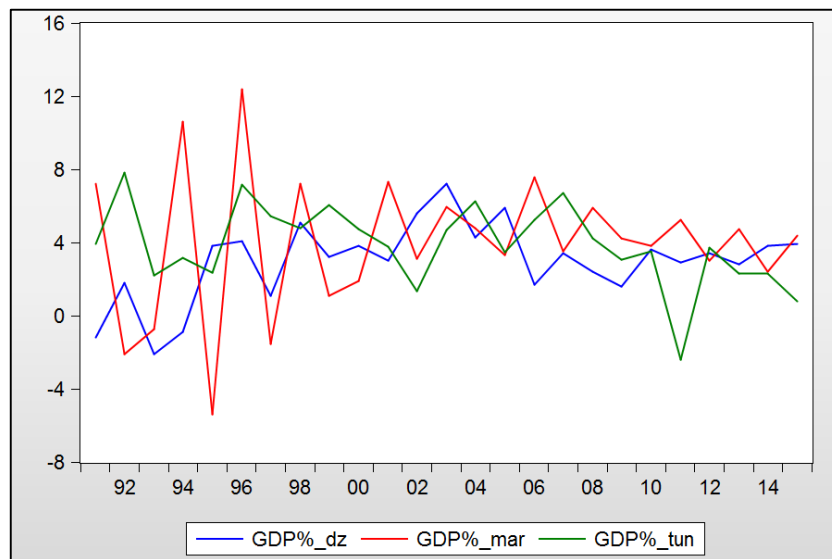
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Annexes

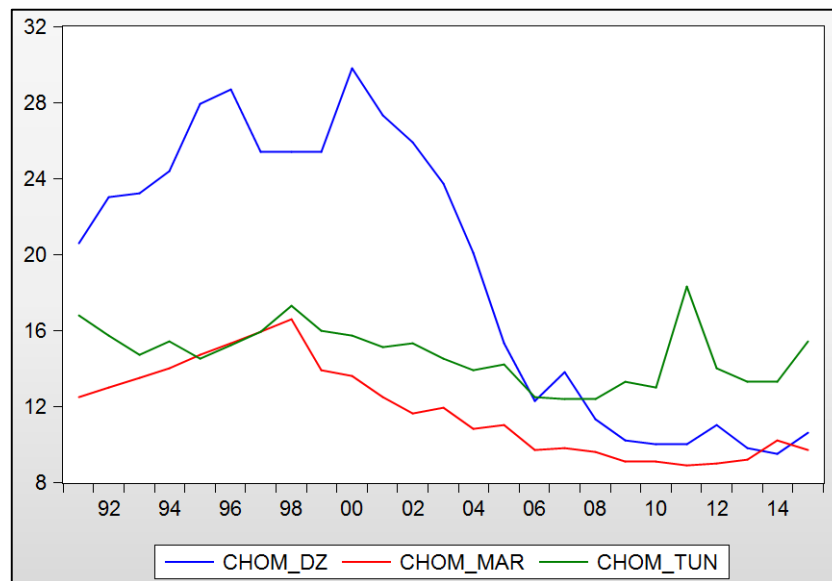
GDP Growth in Algeria, Tunisia and Morocco in 1991-2015



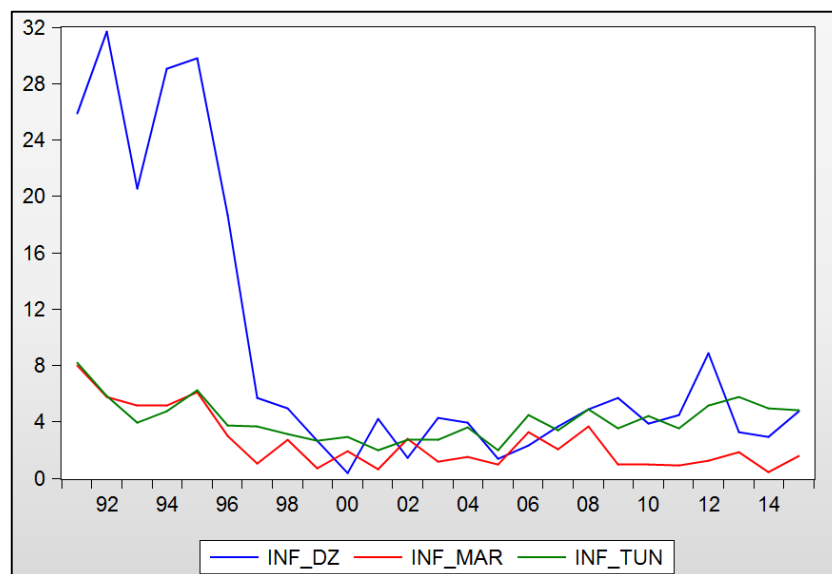
Economic growth in Algeria, Tunisia and Morocco in the period 1991-2015



Unemployment in Algeria, Tunisia and Morocco in the period 1991-2015



Inflation in Algeria, Tunisia and Morocco in the period 1991-2015



WARNER WOODWORTH¹

**SOCIAL BUSINESS: BUILDING COLLABORATIVE STRATEGIES BETWEEN
MICROFINANCE NGOs AND FOR PROFIT CORPORATIONS**

Abstract

My paper will address the increasingly hot topic of connecting NGOs with business firms in the search to make non-profits more effective by using management tools, and at the same time helping today's corporations become more socially conscious, i.e. doing good in the world while doing well financially. Can such a marriage work? How can companies practice Corporate Social Responsibility (CSR) better? What are the prerequisites for success? Three cases will be analyzed that show how and how not to structure such partnerships for maximum impact. The examples used include a 27 year-old MFI that was launched in the Philippines in 1990; a small and newer microfinance NGO that grew out of the 2010 earthquake in Haiti; and the third is a 17 year-old microfinance accelerator that collaborated with firms like Apple, Microsoft, and others to raise over \$1 billion dollars to ramp up small social enterprises in dozens of countries that grew to million member numbers of clients. The paper describes each case, how it was structured, and evaluates successes and failures. It concludes with lessons for different MFI-business marriage outcomes—long term success, divorce, and/or mixed results.

Keywords: Social Business, Microfinance, NGOs, CSR

JEL Code: L31, M14, M16, O35

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AIJAZ ALI WASSAN¹

UNDERSTANDING OF SOCIAL RESEARCH IN THE STUDENTS OF BSIV – MA PREVIOUS SOCIOLOGY, UNIVERSITY OF SINDH, JAMSHORO, PAKISTAN

Abstract

As scientific technology is based on scientific, social research and social research has been a prerequisite for every social science student. Universities are basically research-oriented institutions like academic as well as research studies being conducted. New scientific and social sciences theories are formulated, experienced and introduced by universities. Different social problems are highlighted through social research. This article is to check knowledge and awareness of social research among students of the university. Department of the sociology university of Sindh Jamshoro had been selected as the locale of the study. The article is based on quantitative research; around twenty random interview schedules' have been filled by a total number of one hundred forty seven students of M.A Final and BS IV sociology. Simple questions regarding social research were asked through a simple random sampling method. All questions were analyzed through the statistical package for social sciences SPSS. Conclusion and recommendations were made on the basis of the collected data. The most of the students were aware of social research and some of them not. They were known by qualitative and quantitative research, analyzed and data collection. Overall there is needed to get much more knowledge of social research and students, researchers should be provided more research facilities by the institution.

Keywords: Social, Research, Scientific, Knowledge, Students

JEL Code: Z19

Introduction

There is a strong relationship of research and human knowledge. The present progression of human knowledge is through discovery of facts and interpretations of many human related problems- are discovered through research (Kumar Mukesh, Talib Abdul Saleem & Ramayah T, 2013 a). Social research is related to intensive study for society, human culture and social problems. As scientific technology is based on social research, and it has been pre requisite for every scientific development. Universities are basically research oriented institutions like academic as well as research studies being conducted. New scientific and social sciences theories are made experience, and introduced by universities.

Human life is full with social problems; no one society exists without social problems, even it is the most developed but, the level and nature of problems is different. Somewhere society is financially sound but, it's engulfed with broken home, divorce, suicide and many such problems which are related to disintegration, physical and social environment and due to the same sort of problems. There is always need to solve such problems, and their solution is possible through social research. To find out, identify the problem and go for solution. Social research is coming across through different choices and substitutes and makes planning. Every choice has pros and cons. One side there is disadvantages other

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side there are advantages. There are advantages and disadvantages of every research method. If we combine them all to one portion it's called triangulation to check the value of combining form. All the research students of sociology and social history taught about previous important events of history. For instance, Partition of India, Afghan war, French revolution, Chinese revolution etc. But, why did it happen? What were the reasons behind? Can it be happened again? What sort of consequences faced by the country? Are the research problems for sociological researcher to find them out and come to the conclusion?

The subject matter of such an article is to know the knowledge of students of sociology department regarding the research method in a general and social research in particular. Until and unless; they don't have sufficient knowledge about research. They will not be able to know all such social problems of history, society and they will not be able to come to the solution or even facts.

Main objectives

1. To work out the students' knowledge regarding research methodology.
2. To take the necessary steps to improve teaching of research methodology in the light of students' response.

Theoretical Approach

The basic theory to initiate research is grounded theory. According to the of Burney Glaser and Anselm Strauss through their book "Discovery of grounded theory", was launched in 1967. If we sum up and describe grounded theory in two words first is Theory which provides description of subjective matters. And second is Ground which provides pragmatic circumstances of real situation ((Kumar Mukesh, Talib Abdul Saleem & Ramayah T, 2013 b).

Literature Review

Ary, Jacobs, & Razavieh (1996) propounded that due to continuous struggle of researchers and statisticians for the advancement of social science research, they yield more reliable and authentic techniques for measurement of social variables. In this decade; the different researchers call for improvement of students' experiences, and their attentions at campuses (Hirschy & Wilson, 2002). Therefore, there is highly need to recognize the learning hinges of learners experiences through different techniques like campus community or survey on students understanding to maximize their abilities (Watson & Stage, 1999). Thoits (1995) argued that it's the role of sociologists to study that how variance in social status, relationship in roles and structural inequalities adversely impact on individuals in social context. In said context a classroom, social status may calculate on the behalf of gender, age, race, color, intellectual level and social status of learners and instructor. It must be noted that students have an unequal position from power point of views. Thus this inequality of structure can suppress the students' responsibility and liberty of development (Falchikov, 1986). Unfortunately, and traditionally the teachers and professors have unchallengeable positions in the classrooms to design the syllabus, assigning class or homework and evaluating the performance on students. Therefore, through the different ways in which institute exercise the authority influence the students learning techniques as well as classroom environment. Fassinger (1997) identified seven variables those effect students' participation and knowledge in classrooms are confidence, size of class, inter students' communication in classroom environment, their interest in subject, emotional climate of study rooms/classrooms, gender of students and their struggles to get higher grades. Davis & Murrell (1993) floated the idea of "Active Learning" of students which discuss the different approaches to promote students learning abilities; which fit under the umbrella of "pedagogical methods". This method maximizes the involvement of

students' involvement in classrooms, interact with other students and promote students' responsibility for intellectual growth.

Research Methods

The researcher chose to investigate the understanding toward research methodology in students of sociology from M.A final year, and 3rd year students of Sociology department, university of Sindh, Jamshoro. All the students were worked in different research activities in their classes under the supervision of different teachers. Many research work done by students involved original research work, hypothesis testing and data collection along with citation of others scholarly work. Therefore, it is the first time that they were investigated for a problem to which was never investigated in said department as well as university. As a result, students are likely to be drawn and developed social representation about the nature of research methodology according to their knowledge, belief, understanding and utilization skills. It must be noted that pencil and paper survey of undergraduate and postgraduate students' images of research methodology have never been conducted and the researcher felt that interview based approach will most suited to build up a picture of knowledge of understudy subject by students'. Because interviews method allows the population to recall their knowledge during interview and to clarify the meanings of different words like hypothesis and prove ((Lederman & O'Malley, 1990).

Research Design

Methodology

Survey research method has been adopted for this article. Survey means to View or opinion in detail and finding data through mapping (Denscombe Martyn,2007). Survey research method is to conduct through structured questionnaire or interview schedule face to face or through surface mail by entire population.

Locale

Students of M.A Final and BS-IV 2016 batch department of Sociology, university of Sindh, Jamshoro. Total population size 116- BS part-IV and 31 MA-Final pass.

Size of Sample

20 students out of 147 were selected randomly.

Method of Sampling

Simple random sampling method has been adopted.

Method of Data Collection

Interview schedule method through structured questionnaires has been adopted.

Analysis of Data

SPSS-21 has been used. It contains frequency and percentages of responses were calculated.

Method of Analysis

All the responses of students were analyzed for each and every question according to their order. Categories' of different responses were tabulated. The said tabulated tables explicit the number of students and their statements of each question.

Analysis

Profile of Respondents			
	N= 20		
		N	%
Gander			
	Boys	13	65.0
	Girls	7	35.0
Educational Background			
	BS IV	19	95.0
	MA	1	5.0
Q.NO-1			
Do you understand by social research?			
	Yes	20	100.0
	No	0	0.0
Q.NO 2			
Did you ever go through the research?			
	Yes	19	95.0
	No	1	5.0

Q.NO 3			
Have you ever been student of research methodology in your department?			
	Yes	17	85.0
Q.NO4	No	3	15.0
How do you think; is research methodology an important subject?			
	Yes	19	95.0
	Not So far	1	5.0
Q.NO5			
Do you know how to write a research report?			
	Yes	18	90.0
Q.NO6	No	2	10.0
Do you know about types of social research?			
	Yes	19	95.0
	No	1	5.0

Q.NO8			
Can you describe and distinguish between qualitative and quantitative research?			
	Yes	19	95.0
Q.NO9	No	1	5.0
Do you know about different methods of data collection?			
	Yes	19	95.0
	To Some Extent	1	5.0
Q.NO10			
<i>Do you understand about hypothesis and its types?</i>			
	Yes	17	85.0
	No	1	5.0
	Very well	1	5.0
Q.NO11	Not So Far	1	5.0
Do you know how to plan the research design?			
	Yes	17	85.0
	No	1	5.0
	Very well	1	5.0
	Not So Far	1	5.0

Q.NO 12 Do you know how to plan the research design?			
	Yes	15	75.0
	No	1	5.0
	Some extent	4	20.0
Q.NO13 Had your teacher ever focused the importance of literature review in social research?			
	Yes	20	100.0
Q.NO14	No	0	0.0
To what extent, do you understand about references, bibliography and their types?			
	To Some Extent	18	90.0
	To Great Extent	1	5.0
Q.NO15	Don't Know	1	5.0
Did your teacher teach you about formation of questionnaire?			
	Yes	20	100.0
	No	0	0.0

Q.NO16			
Do you understand how to analyze the data?			
	Yes	19	95.0
Q.NO17	No	1	5.0
How far do you satisfy by the teaching of social research in your department?			
	To Some Extent	9	45.0
	To Great Extent	11	55.0

Conclusion

The results show that most of students of sociology department are aware about social research. Furthermore, it shows that those students who remained present in class of research methodology and took interest in subject; they got posture as results are given below. The table I describes the understanding of respondents towards research along with gender bifurcation. It is indicating that 65% respondents were boys and 95% respondents' enrolled students of BS IV- Sociology and only 5% students of M.A at university of Sindh, Jamshoro. 100% respondents shared that they understood what social research is. Similarly, 95% respondents were ever gone through social research. 85% respondents were ever students of "Research Methodology" in their respective department and 15% were never taught, the said subject. Understanding towards the importance of subject "Research Methodology" shows that 95% respondents feel it as important subject and only 5% feel that it is not so far important. It was observed that 95% respondents can write research report. It is a good sign that 95% respondents were familiar with different types of social research. While the same number of respondents 95% can distinguish between qualitative and quantitative research, and different methods of data collection. The knowledge regarding different types of hypothesis shows that 85% respondents were aware, 5% not, 5% very well and 5% were not so far aware. 85% respondents knew how to plan a research design, 5% were not, 5% not so far and 5% very aware very well. 100% respondents shared that their teachers have focused on the importance of literature review in their classes. 90% respondents understood the difference in between references and bibliography with some extent, 5% were not aware, 5% great extent. All the respondents 100% shared that they were taught how to develop questionnaire by their respective teachers. Understanding toward analysis of data shared that 95% respondents were aware that how to analyze the data and 5% were not aware. 55% respondents were satisfied with great extent regarding teaching style and method of social research in their department and 45% satisfied with some extent.

Recommendations

- Students should take interest in subject and show their presence in class.
- Students are advised to search other sources like internet, books, and journals for modern techniques of social research.
- Teachers' are advised to attend workshops, trainings, seminars regarding research methodology.
- Teachers' are advised to emphasis on qualitative methods of research along quantitative techniques.
- Institutions should provide field visit facilities to research students.
- Computer labs should be fully equipped with computers having all programs of social research like SPSS, NVivo, MAXQDA, STATA etc.

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ILKAY BASAK ADIGUZEL¹

FROM INSIDE THE SHADOWS: A CRITICAL ASSESMENT OF SEXUAL VIOLENCE IN TURKEY

Abstract

The United Nations Development Programme (2015) asserts that “development is about enlarging people’s choices”. How are we making out about creating an equal, peaceful, nondiscriminatory world? Is it possible to say that the main aim of enlarging choices of people from all ages and gender accomplished? Statistics show that is not the case, especially for the women. According to World Health Statistics 2016 there are considerable differences between males and females exist in mortality and causes of death, morbidity, coverage of interventions, risk factors and determinants depending on gender norms, roles and relations. One of the most important issue is sexual violence against women. A recent review of World Health Organization reveals that 35% of women worldwide have experienced either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime. Prevalence estimates for sexual violence is quite high in Turkey too. Correspondingly to world statistics, the percentage of women who have experienced physical and/or sexual violence in Turkey is 38 (Domestic Violence against Women in Turkey 2014). Nevertheless, this rate is likely to be an underestimation because of the fact that most women who suffer from sexual abuse reluctant to disclose this criminal behavior since they are in fear, trembling and shame. Sexual violence is a weapon for men to control the women’ body and life. What is more, they legalize these kinds of behaviors over patriarchal structure of society. That’s why there is strong requirement of feminist point of view about gender equity.

In this study, sexual violence against women in Turkey will evaluate and look for a way out of patriarchal system’ shadows.

Keywords: Justice, patriarchy, sexual violence, trauma and healing

JEL Code: K38

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TIKIRI NIMAL HERATH¹

IMPACT OF POPULATION AGEING IN ASIA: ISSUES, FEATURES AND SOLUTIONS

Abstract

Population ageing is a complex problem in a number of economies today. It is an outcome of economic growth which is treated as a means to reach higher standard of living. However, it creates negative effects on growth (the solution). Growth increases the proportion of the old-age population which contributes to the increase in public spending on health which results in the expansion of the public sector. In the analysis of the population ageing, there are some important aspects that one needs to be familiar with. This paper examines and highlights some of such striking features of the population ageing by reviewing literature and examining relationships between variables in the light of secondary data. To avoid the expansion of the public sector, the paper proposes imposing a payment on children so that their old-age parents could lead better lives. Also, the paper recognizes the population ageing as a cost of growth and emphasizes the analytical tools to be used for countries where direct approach to welfare is adopted. Finally the study highlights a greater volatility in economic growth than in life expectancy as another issue and lower levels of labour force in developing Asian countries than in developed economies in the region which may create rigorous problems for these developing nations once their income increases in the future.

Keywords: Payment on children, population ageing, volatility in growth

JEL Code: J1

Introduction

The Asian region includes close to 50 countries. As shown by UNDP (2016), Singapore, Hong Kong, South Korea, Israel, Japan, Brunei Darussalam, Cyprus, Qatar, Saudi Arabia, UAE, Bahrain and Kuwait demonstrates high levels of human development and many other states are developing at different speeds. Despite these statistics, it is well known fact that Asia is still a place for the poor. As such, growth is required for developing countries especially for the alleviation of poverty, upliftment of the standard of living and for the promotion of other human standards such as life expectancy. Thus, growth is known as a panacea for many economic ills. However, although growth alleviates poverty, and promotes the standard of living and life expectancy, it brings about many other problems within these economies. Increase in proportion of old-age people is one such example. It creates more problems such as increase in public expenditure on health and demotion of growth etc. Therefore, solving the problem of the increase in old-age population is multifaceted and gives rise to extensive public health expenditure which leads to the expansion of the public sector. Given this background, this paper is to review some important features of the increasing in old-age population, to analyze the extent of its impact on the public sector. Finally the paper proposes a solution to avoid the expansion of the public sector as a result of the increase in public health expenditure. These objectives are achieved by reviewing literature and examination of relationships between variables related to population ageing in the light of secondary data. The paper firstly discusses related issues of old-age population, secondly

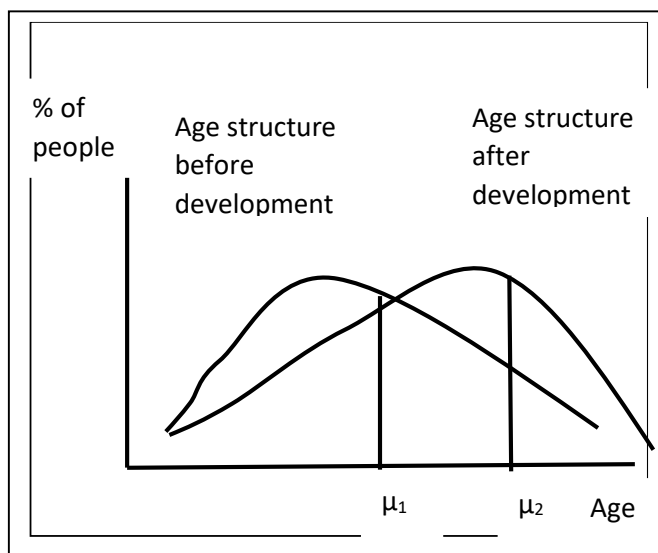
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proposes a solution to avoid expansion of the public sector and finally presents the conclusions arrived in the study.

Change in age structure of population and related issues

There are some crucial properties and features of the population ageing. Understanding of these features is useful for further research and to find solutions for rise in the old-age population. During the early stages of development, in a country, mean lifetime of people is low ($\mu_1 < \mu_2$) and the proportion of the old-age population (64 years old or more) is less than that of young people. However, when development is acquired by a country the age structure of the population gradually changes; average lifetime of people goes up and the proportion of old-age people increases (Figure 1).

Figure 1. The changing way of age structure of people during and after development



This change in age structure is a result of increase in life expectancy which is a partial outcome of growth. An increase in old-age population discourages savings and has negative effects on growth. In that sense, escalation of the old-age population is a cost of growth. In other words, solution for one problem creates another problem/s or decreases the strength of the effects of the solution. Economic growth which was recognized as a solution for higher standards of living but later increases old-age population which creates negative bubbles on growth itself. Moreover, increase in the proportion of old-age population leads to increase in public health expenditure (Tosun, 2003; Elmeskov, 2004; Appendix 1) and hence it finally expands the size of the public sector too.

When global development experience is reviewed, many countries acquired growth and reached higher development levels such as literacy, life expectancy, education etc by adopting indirect approach of promoting welfare. Consequently, their proportion of old-age population gradually increased. Japan and Korea are the best examples from Asia. However, some other Asian countries sometimes adhered (some may still adhere) to the direct approach of promoting welfare. For instance, Sri Lanka reached higher development levels without growth. (Bhalla and Glewwe 1986). China can also be included in

the same category. Robert Barro's (1996) analysis which argues that increase in life expectancy leads to higher levels of growth is supportive of the above development model which is based on the direct approach. However, current ideas on the population ageing is mainly based on the indirect approach to development.

When the relationship between economic growth and the proportion of old-age population is analyzed, understanding of the nature of economic variables is thus an important issue. Growth is highly fluctuating than life expectancy. In other words, growth is more volatile than life expectancy. This is due to characteristics of determinants of these variables. Economic growth mainly depends on highly contingent variables such as natural disasters (tsunami, earthquakes, cyclones), wars (peace), change in government policies and economic situations and policies of other countries to which the country's economy is linked. However, life expectancy is a function of less volatile variables such as education and provision of health facilities. Therefore, in the analysis of the population ageing, how to make growth less volatile is the problem.

Next important issue is the decrease in the labour force as a result of the old-age population. Studies have shown that when the proportion of aged population goes up, labour force goes down (Carone et al 2005). However, in Asia when empirical data are examined, from 2011 to 2014 in developing countries labour force is much less than that in developed countries. For example, in Singapore, Japan, Israel and South Korea labour force participation rate is significantly greater than in India, Malaysia, and Sri Lanka (Table 1). Under the ceteris paribus assumption, once these three countries reach higher status of development levels, decrease in labour force participation may be lower than the present levels.

Table 1. Asia: Labour force participation rate in selected countries (% of total population ages 15-64) (Modeled ILO estimate)

Country	2011	2014
Bahrain	72.1	71.6
Bangladesh	73.4	73.6
Bhutan	74.0	75.2
China	76.7	77.6
India	57.0	56.5
Indonesia	70.0	69.9
Iran, Islamic Rep.	46.5	47.5
Israel	64.9	71.0
Japan	73.9	75.1
Jordan	43.9	43.9
Korea, Dem. People's Rep.	82.7	82.7
Korea, Rep.	65.4	66.1
Kuwait	69.5	70.4
Lebanon	51.0	51.9
Malaysia	62.0	62.7
Myanmar	81.9	82.0
Nepal	85.8	85.7
Pakistan	56.1	56.6
Philippines	67.0	67.1
Qatar	87.3	87.2
Saudi Arabia	53.5	56.9
Singapore	73.0	73.7
Sri Lanka	59.2	59.5
Thailand	78.1	78.3

Source: <http://data.worldbank.org/indicator/SL.TLF.ACTI.ZS/countries>

Taxation is known as the major source of income of a government. Rise in the old-age population decreases government tax revenue and increases government expenditure especially on health, pension payments and other old-age related payments (Tosun, 2003; Elmeskov, 2004). Increase in old-age population declines the size of the work force as older generations are replaced by less number of younger cohorts (Carone et al 2005). However, Bloom et al. (2010) show that the increase in the retiring age and immigration will help to overcome the decrease in the labour force. Other authors argue that countries can sustain economic growth despite the population ageing problem. Elgin and Tumen (2010) show that even in the presence of the decline in human capital, an economy can switch from traditional production (which uses young workers) to new human capital oriented production (which uses old-age workers). As such, old-aged population will not affect either the production or the growth. Moreover, Elgin and Tumen (2010) argue that modern economies rely more on machines than labour force. Therefore, a contraction in the labour force will have no effect on productivity. Labour can be replaced by machines. This situation can further be explained in terms of production function too. Simply, in the case of Cobb-Douglas production function, in the current year, if labour force has decreased by 20% than the previous year the function can be stated as,

$$Q = AK^{\beta} 0.8L^{\alpha}$$

Where Q is output levels, K is capital, L is labour, A is technology and β and α are contribution of capital and labour. However, if technology or capital increases by 25% (or it becomes 1.25) in the current year, decrease in the labour input will be cancelled out. In such a situation, a decrease in the young working group does not make any effect on economic growth.

As stated earlier, increase in the old-age population increases government spending on health too. This is very clear in the case of Japan (Appendix 1). In such circumstances, if other expenditure items do not decrease expansion of size of the public sector is unavoidable (Appendix 2). In many developed countries from 1995 to 2014 public health spending has increased. In Japan, it is the highest out of the selected countries (Table 2). During two decades, in Japan, health expenditure alone has increased by three percent in its GDP (Figure 2). It is a significant contribution to government spending.

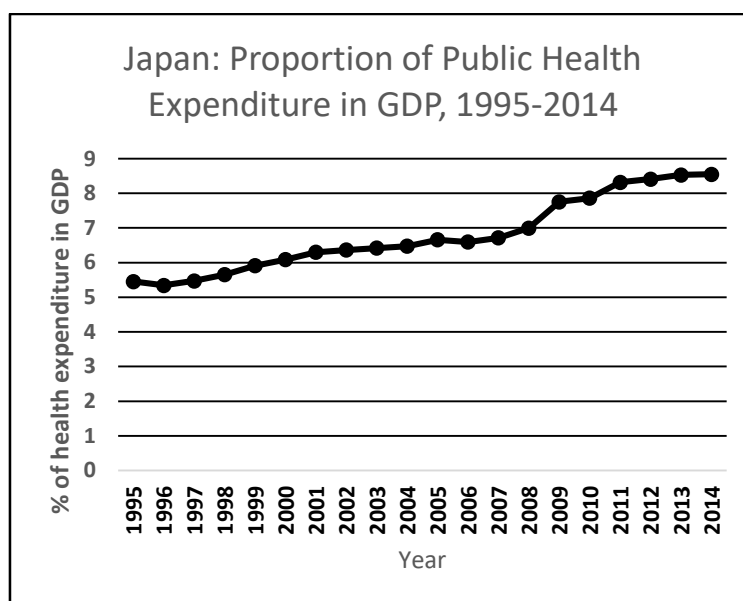
Enlargement of the public sector is known as harmful for an economy. Many studies show that the relationship between public expenditure (or performance of government) and economic growth is negative. (Landau 1983; Gwartney et al. 1998; Karras 1997; Pevcin 2004; Cooray 2008). Many other studies propose that government spending needs to be less than 30 percent of GDP (Chobanov and Mladenova 2009). However, in many developed economies when size of the public sector is measured as a proportion of public expenditure in GDP, it is clear that the public sector is growing especially in developed economies. Austria, Belgium, Finland, France, Greece, Italy, Latvia, Slovenia, Denmark, Japan, and Sweden are striking examples of which government expenditure is greater than 50% of GDP in 2013. In the case of tax income, it's proportion in GDP is greater than 30% (the threshold level proposed by Chobanov and Mladenova in 2009) in Belgium, Finland, Italy, Denmark, Iceland, New Zealand, Norway, and Sweden in the same year (IMF 2015).

Table 2. Changing pattern of public health expenditure as a percentage of GDP in selected countries, 1995 and 2014

Country	1995	2014	Change
Australia	4.8	6.3	1.5
Austria	7.1	8.7	1.6
Canada	6.3	7.4	1.1
Denmark	6.7	9.2	2.5
Finland	5.6	7.3	1.7
Italy	5.0	7.0	2.0
Japan	5.5	8.6	3.1
China	1.8	3.1	1.3
India	1.1	1.4	0.3
High income countries	5.9	7.7	1.2
World	5.3	6.0	0.7

Source: <http://data.worldbank.org/indicator/SH.XPD.PUBL.ZS>

Figure 2



Source: Basic data - <http://data.worldbank.org/indicator/SH.XPD.PUBL.ZS>
downloaded 07.07.2016

Solutions for population ageing

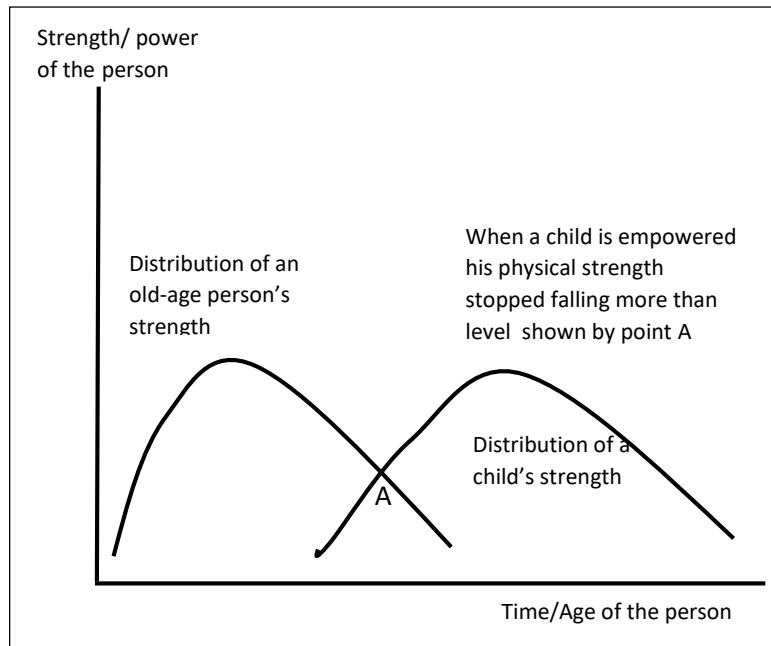
Pensions, insurance, savings like through provident fund are some existing solutions for the problem of the old-age population. These three measures can be implemented by both public and private sectors. Rise in old-age population increases public health expenditure. Therefore, such policies for population ageing implemented by the public sector expands the size of the public sector. However, intervention of the public sector is not an ideal and perfect solution because it leads to increase in taxes on the one hand and expands the size of the public sector which is harmful for economic performance, on the other. Therefore, policy makers have to look for alternative feasible solutions. Fixing a payment by the government for children of the old-age parents is one such solution.

Human life starts as a child and later the child reaches adulthood and again becomes just like a child in his/her old age. It is just like many other natural phenomena. In statistical terms, life is just like a normal distribution. Many variables such as bodyweight and physical strength related to human life are positive but very low in their values during one's childhood. In the process of time values of those variables increase and reach a maxima at a certain age of a person and after that decrease during the old-age of people. In the case of economic variables related to human life also follow a similar pattern. Income and consumption and hence savings are such good examples. Labour income is zero during the very young age of a person. Later it gradually increases and reaches a maxima, and during the old-age it decreases by degrees. This is common and a major characteristic for many things. For example, let's take the volume of fruit borne in a tree during its lifetime. When the tree is a plant the volume of fruit borne is zero. Sometime later fruit production starts but at the beginning number of fruit or gross weight of fruits once borne in a tree is low. In the course of time, it increases and reaches to a maximum. After that it decreases by degrees.

Without parents, almost all children cannot think of maximization of their utility. Since the very beginning of a mother's conceiving, parents provide many things for their children. During the expecting period a mother has to undergo a lot of pains and there is an opportunity cost of conceiving. After the child birth, food, security, health facilities, clothing, and housing are provided for the child by his/her parents. Later education is also provided at least up to 18th year of the child and sometimes up to a later age. If parents calculate the money they spend on a child for the whole period from his/her mother's conceiving to 18th year of the baby, and if these monies are saved by parents in a bank, by the time of retirement of parents, initial savings will be accumulated to a big amount. Parents can use this saved money after their retirement.

Moreover, parents endow the next generation to the society for its existence. It is a great service extended to the society of which people are interdependent. As such, it is the society's duty to protect old parents. At least in lieu of money spent by parents on their children they need to be paid something. People talk about empowerment of children because children are fragile (deficient in physical and other strengths). Children are empowered by their parents. If physical strength of the human being is taken, it is very low during the childhood. That is a reason to empower children. When they are empowered, they are given strength and they can lead fine lives. Their strength is kept at a higher level without falling. This situation is explained by the point A in Figure 3. Similarly old-age people also need to be empowered. However, empowerment of old-age people for their safety lives has been given less attention. If an old-age person is empowered, his/her strength is also kept at point A without falling (Figure 3). There is another argument. Taxes are raised by the government to provide collectively consumed goods such as defense for people. However, in the case of old parents they do not get anything from their children even if parents spend a lot of money on the activities of their children whom will be active members of the society.

Figure 3. Diagrammatic representation of empowering a child and an old-age fellow



Natural theory is not valid for the human being who is interdependent. According to natural theory, an animal (or brute) does not look after its parents (or mother). A female bird lays and hatches eggs and feeds the baby bird/s until the baby bird/s can fly. When it is time for the baby birds to fly, they go away. But the same theory cannot be applied for the societies, because the human being is interdependent and if children do not respond to their parents, adult people may tend not to deliver babies since in absence of children, they can save money expected to spend on children for their old-age life. Parents are doing a good job and extending a good service to the society. They offer members to the society who can take over the future of the same. Only then can the continuity of the society be kept uninterrupted. This situation can further be explained in terms of ideas taught in religions like Buddhism. In Mangala Sutta Buddha has stated that looking after one's parents is also necessary like providing protection for children. Thus, as a solution for increasing old-age population, an old-age protection payment needs to be introduced and it shall be paid by children of the parents in question. Every income earning individual whose parents are living has to make this payment once his/her parents are retired. This payment can be used to provide protection for his/her parents.

If children contribute the living expenses of their old parents, then government does not need to spend on the same and it controls the expansion of the public sector. If income of kids is higher, only fixed amount to meet parents expenses is sufficient. In the case of taxes, there is a tax namely negative income tax. It means when the income of a citizen is too low that citizen gets a payment from the government. When income is higher, the same person has to pay a tax to the government. Like that if a payer's income is too low he can be exempted from the payment, but when his income is too high he still can pay a fixed payment which is sufficient to meet living expenses of his/her parents.

Conclusions

Economic growth promotes life expectancy which increases the proportion of the old-age population. Finally, population ageing makes negative effects on growth. As such, increase in the old-age population is a cost of growth. By increasing public health expenditure population ageing expands the public sector. Japan is a good example. In the future this may happen in fast developing countries like China. To avoid that, a payment on children of old-age parents can be imposed. This proposal is helpful to Japan also. In Japan, public debt is escalating according to its GDP. Hence it needs to decrease public spending. Research on old-age population poses other problems. One is if a country adopts a direct approach to welfare, then how can we analyze ageing problem? Moreover, economic growth is more volatile than life expectancy. How to make growth less volatile is another problem. In Asia, at present, labour force in developing economies is lower than in developed countries. In such a situation, with development these economies may face serious problems in the future because with population ageing labour force may decrease further. It cannot be stated how far advancement of technology can resolve this problem.

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AMPAH ISAAC KWESI¹ AND KISS GABOR DAVID²

**EXTERNAL DEBT AND CAPITAL FLIGHT: IS THERE A REVOLVING DOOR
HYPOTHESIS IN GHANA?**

Abstract

Over the past few decades, Ghana in its bid to achieve economic growth and development resorted to external borrowings, propelling her into the status of Heavily Indebted Poor Country, when her debt reached unsustainable levels in the year 2000. Unfortunately, Ghana's economy reported only steady growth with successive periods of high inflation and undesirable balance of payments deficits leading scholars to ask whether external debt really contributes to growth. At the same time, there is now considerable evidence that the build-up in debt was accompanied by increasing capital flight from the country. Employing Autoregressive Distributed Lag (ARDL) model and dataset from 1970 to 2012, this paper investigated the apparent positive relationship between external debts and capital flights in Ghana. The results revealed that capital flight exerted a positive and statistically significant effect on external debt both in the short-run and long-run suggesting that if capital flight remains unchecked, it will continue to lead to massive external debt accumulation in Ghana. The Toda–Yamamoto Approach to Granger causality test also revealed the existence of a debt-fueled capital flight signifying the need for sound domestic debt management to deal with high external borrowing that is causing massive capital flight in the country.

Keywords: Ghana; external debt; capital flight; cointegration; Granger causality; Heavily Indebted Poor Country

JEL Code: H63

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A NEW INTERACTIVE RESOURCE FOR ROBOTICS SUBJECTS IN HIGHER EDUCATION

Abstract

Fukushima disaster changed the minds of many people and original ideas have to be rethought, nuclear energy seems not to be the ideal solution for a clean, emission-free energy production. It is higher education's responsibility to integrate current social aspects in technical degrees. From Technical University of Catalonia an interactive didactic tool has been developed in order to training social concepts inside engineering subjects. The pedagogical resource developed uses a slide presentation format in order to integrate the relevant information of different economical-environmental-social themes related with actual society. In this work authors will explain how this innovative tool is used to taught Robotics subject at the Industrial Electronics and Automatic Control degree. Specifically, the nuclear map will be used to the aim of aware the students of the role of the energy, the economy and the sustainability in robotic applications. This multimedia resource allows the social reflection of our students through the critical thinking.

Keywords: Education for Sustainability, Didactical materials, Critical thinking, Complexity, Higher education, Technological degrees, Robotics.

JEL Code: I23

1. Introduction

Nowadays there are a large number of people worldwide being driven into an economic crisis. The entire world network of governmental and supra-governmental summits are taking good note of it, and have sprung into action with the financial measures we all know about through the media coverage the issue has attracted. However, there are two other critical issues in the world today, namely the social and environmental degradation, which are not receiving the same political and media attention. As a consequence of this, social awareness of their impact on our lives is scarce. It is only in what is known as the alternative summits, such as the 2012 Thematic Social Forum [1][2] in Porto Alegre, removed from decision-making scenarios, that these issues are brought to the fore.

What do we mean by social and environmental degradation? These terms require some clarification. If we try and describe what they mean, [3][4] lists the following phenomena as being a consequence of such social and environmental problems these days: climate change, peak oil, deforestation, the destruction of many ecosystems in the world, poverty, wars, human rights reduction and social inequality. Literature abounds which has identified them as being equally or even more important than the current economic crisis.

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In relation to social awareness and responsibility, we understand that Higher Education institutions (HE), as the rest of the educational system, have a key role to play in bringing attention to such social and environmental crises/issues and their consequences. We would like to advocate their engagement in trying to bring them to the attention of students and staff; something they can do in their two main functions, namely teaching and research. More specifically, given that HE institutions stand as a bridge between the educational and the professional world, this should stand as one of their main priorities or, in fact, goals: that when students start with their professional careers and need to make decisions concerning social and environmental issues, they adopt the adequate decisions based on well-founded social criteria.

That is, to integrate the “Sustainability and Social Commitment” competence in different subjects in scientific and technological degrees. In fact, the present social, economic and environmental crisis is a good opportunity to renew the didactical models and the pedagogical teams. It is a matter of fact that crisis has a presence in natural sciences, in knowledge building, in the modernity, in the world phenomena. Complexity reveals a trend to the holistic thinking that “the world is complex” and “total is total”. This thought makes necessary the tendency to the disciplines dissolution and a solid evolution of knowledge that allows facing new challenges and problems. Applying the above to the didactical models, the complex thinking swaps objectives for competences, knowledge transmission for knowledge socio-building, vertical management for horizontal management, individual act for cooperative act. Critical thinking is that mode of thinking - about any subject, content, or problem - in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them. Therefore, analyzing economic, social and environmental models is also a growing need nowadays.

In order to achieve the above competence, firstly, those topics should have to be included as an integral part of their curricula and, secondly, to afford themselves of adequate pedagogical tools to develop the topic. It is to this question that this paper seeks to contribute.

Hence, the objective of this paper is to present in detail an innovative didactic tool to bridge the existing gap in the area of curriculum design and pedagogical innovation when dealing with environmental and social issues in technical universities. This tool is conceived to allow the lecturer in the classroom to explain his/her regular subject with new didactical models that incorporate the complexity and the critical thinking. The fundamental challenge is to move towards a new educational model that without being dogmatic it does not fall in the relativism; a model that without resigning to the search of responses it does never resign to the competence to question; a model that enables to think integrating emotion and indeterminism [5].

The idea of devoting time and effort to this objective has been one of the goals of a larger project entitled “Sustainability, Technology and Excellence Program” (STEP) [6], developed at the Technical University in Catalonia (UPC). The project seeks to cover the compulsory cross-sectional competences in the curriculum in the area of the environmental and social impact of technology. It focuses precisely on most of the issues mentioned above. One of the lines to which this paper makes a contribution is “inequality North-South and dependency between these two worlds”.

2. A Novel Pedagogical Tool

The pedagogical tool that we present in this paper consists of a series of interactive world maps. By interactive world maps we mean maps whose content keeps changing while the map remains still. Such moving effect is achieved by superposing several maps one onto the other and allowing them to show

the changing image. The technical sophistication needed to achieve such effect is readily available to the public and does not require a high level of computer literacy, as an average office presentation application and an image manipulation program (i.e. GIMP) should allow it.

At this point we may wish to address the question: Why the use of maps? It is easy to see why we felt the need of such a kind of pedagogical tool if we consider the content which they are designed to represent. The maps allow us to analyze and present visually “inequality between North-South”, at the same time as the dependency of North countries from the South countries. The following example should serve as an illustration of it: Nigeria possesses uranium mines, France needs uranium but has no mines and it obtains the economic benefits of extracting uranium in Nigeria and shipping it out to France where it is used to produce electricity. It is clear that we are dealing with fluxes and movements of goods across the world. The visual movement our maps allow is key when trying to portray such dealings related to the extraction, consumption and production of goods across countries.

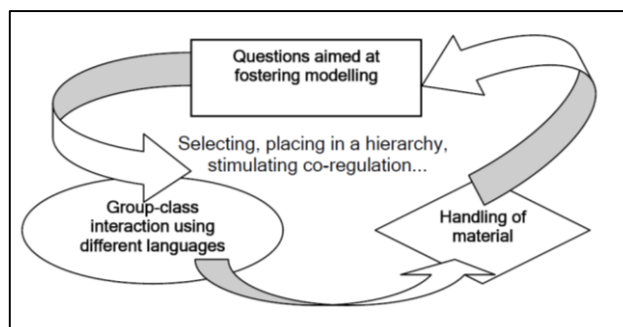
It is true that the available facts related to such topics can be found in books, articles or reports, they are indeed accessible to the general public. However, it must be said that the information found in those sources is scarcely reader-friendly. We believe that our maps are an efficient tool to overcome such a disadvantage. Consequently, these maps constitute an innovative way of acknowledging North-South inequality in a readily straightforward and clear manner, as a complementary didactic material for academic purposes.

Regarding their use, we have identified four main uses that maps may have. In the first place, didactic maps can present students with the background knowledge of topics dealt in the curriculum. Scientific/technical degrees/subjects rarely offer general information when covering specific topics. Consequently, students end up without a global image of what they are studying. For example, when analyzing chemical reactions, the information concerning where minerals come from is generally missing. In the second place, didactic maps can also be a tool strictly for learning technical/scientific concepts. In scientific/technical degrees/subjects students rarely have many opportunities for developing critical thinking towards environmental and social issues. In our case, we have used them in math subjects. We may create exercises which should model the information contained in the maps mathematically; for example, in the case of differential equations they might be instrumental in calculating life expectancy of petrol resources in a particular country. In the third place, didactic maps can also be a tool for offering additional material to a specific topic to make the lesson/laboratory less dense as far as the mathematical operations and concepts. In fact, they can be used to give students a well-deserved break in abstract thinking!! Finally, maps can also be used at prior educational levels, primary and secondary, to generate discussion, because it is not complicated to understand and interpret the maps, due to the fact that the information contained in them is visual and graphical.

Nowadays, with the commitment of university community and in a wider sense the scientific and engineering community, education in engineering should have an integrate approach about skills, attitudes, abilities and values; it should embed disciplines in the social sciences and humanities; it should promote the multidisciplinary team working; it should stimulate a systemic thinking and an holistic approach; it should aware about the challenges posed by globalization [7]. In this sense, in this work the presented tool uses a slide presentation format in order to integrate and to treat the existing information on a topic of social interest in a scientific and technical subjects in the university through series of interactive maps which describe the cycle and interactions among this theme and different aspects of the remainder world (such as, economy, society, etc.) in order to train in the complexity and the critical thinking [8]. The idea is that the lecturer will work in the lecture room using a pedagogical ‘scientific model’. The Gilbert’s definition of ‘model’ [9] is of interest: “A model is a simplified representation of a phenomenon, focusing attention on specific aspects. The model is used to provide explanations as an

answer to a question”. In 2000 the OECD has already defined what science learning at school should compromise: “Developing pupils’ capacity to use scientific knowledge to identify questions and obtain conclusions based on facts, in order to make decisions about the natural world and the changes in it caused by human activity”. In order to achieve this, pupils must be helped to develop their ideas about facts, objects and phenomena in their surroundings, to bring them closer to scientific ideas, or scientific explanatory models [10]. This methodology can be used in the higher education also. The diagram in Fig.1 shows the aspects that we believe are fundamental in the modeling process at University.

Figure 1. Three fundamental aspects in the process

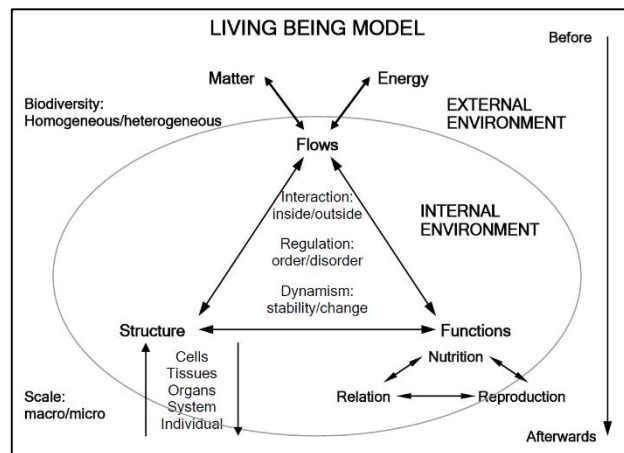


To better understand the process, the next illustrative example is taken: the living being model, see Fig.2. What does it mean the living being model? In [11], it is described as “...studying living beings from a systematic perspective that identifies them as open and complex systems. They are open in the sense that in order to be, they are continually exchanging material, energy and information with their surrounding environment, and complex because they are made up of many interrelated elements, the whole of which is not the sum of its parts”. It is this complexity of views provided by a living being school model such as authors enable ideas to develop throughout schooling.

In this work, authors will focus in the handling material to carry out the modeling process at higher education. The proposed didactical material is the multimedia maps cited previously. The elaborated maps treat about different specific thematic such as: nuclear energy, oil, weapons and their production and trafficking, international conflicts, anti-personnel landmines, aerial traffic, tourism, electronic consumption, health, etc.

In the particular example of nuclear energy (the example of interest of this paper), these maps make easier for the reader to get an idea of where uranium comes from, where it is mostly used for energy purposes or where it is used for nuclear arms, among other purposes. At the same time, we have tried to make them entertaining to consult by introducing as much visual animation as possible. They also offer the opportunity to analyze the uranium cycle from different knowledge fields: economy, political science and environmental science. Therefore, taking into account the relationships without skipping the entities, every entity is part of a whole. And furthermore, this analysis considers the economic, productive and consumption model as well as the local, regional, national and worldwide use of natural resources identifying and analyzing the social connections that exist between the North and South countries., the geographical interdependence, the local and global development challenges, the entity and diversity problems in the multicultural contexts.

Figure 2. The living being model, [11]



Those didactic materials will be useful to the lecturer to systemically and critically analyze the worldwide situation.

3. The Nuclear Fuel Cycle Map: A Practical Example

In this section the didactic maps developed at our university are presented in detail. For that purpose we use the nuclear fuel cycle series of maps. This particular map shows the cycle, or stages, of an energy resource strongly linked to nuclear engineering: uranium. Nuclear energy is generally presented to the public as an important power source for the future. However, there are opposing opinions concerning to this idea and to whether we should rely on nuclear energy. Its economic viability and its security are two of the main controversial aspects of nuclear energy [12][13][14]. Indeed, ever since the beginning of the nineteenth century the political debate and social protest around nuclear energy has been recurrent [15][16], having gone further beyond the scientific circles and managed to influence many peoples' position regarding nuclear energy. It has reached the point where in countries such as Germany, social pressure is making politicians change their energy plans and getting rid of nuclear electricity generation plants. The main and most painful, recent evidence of how nuclear energy can affect many peoples' lives is the recent nuclear disaster in Fukushima, which the media has covered quite well. Taking all of this into consideration, an interactive map about the uranium cycle offers a very good opportunity for students to access this controversial of information, and develops their own criteria around this energy source. Ultimately, it will make it possible for them when in their professional careers as part of the general public to better understand the nuclear issue.

In practical terms, the nuclear fuel cycle series of maps is a slide presentation which has a map for each important stage or process of the cycle of uranium which is within human hands. Information published by the International Atomic Energy Agency (IAEA) and the World Nuclear Association (WNA) has been used to design and construct them. More specifically, we have mainly included the facts available in the database of the World Nuclear Energy's official web site and [17].

More than ever, nuclear energy is at the center of political debate and environmental discussions. These try to address the question of how to provide electricity for the world's needs and how to avoid damaging

the planet's climate because of it. Within such circles, there is a growing feeling that contributions are needed from all fields of expertise, in fact, from society at large. The objective of this paper is to present an instrument which we believe can help in this respect, by making the existing information clearer and more attractive. The idea is to show the potential hazard of using nuclear energy with qualitative data and example and to promote the use of renewable energies.

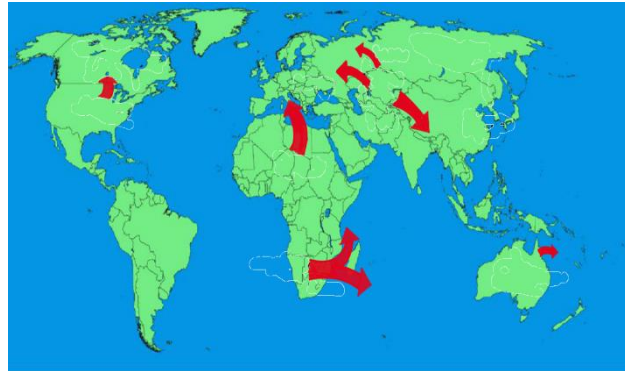
When looking into the existing information related to the political and environmental debate around nuclear energy one finds a considerable number of official reports. They are mostly issued by agencies, such as, the IAEA (International Atomic Energy Agency), the World Nuclear Energy and the organization "WISE" (with wise-uranium as one of its projects), among others. Besides, readers can also find published literature on this matter: books, journals... However, as is obvious when reading the previous list of sources, it is not easy for the general public to access them: the information is not presented in a reader-friendly way, it is not attractive. An additional fact to be taken into account is that it is only within the agencies mentioned that there is a database large enough so that it allows us to obtain the general picture on this issue at once. In sum, although it is not difficult for anyone interested in nuclear energy to access crucial information on the matter, it is however difficult to both gain a general picture of the mechanisms determining the cycle of nuclear energy worldwide, and follow the details of it all.

Such a situation does not help to involve other parts of society in the debate. A solution to it may be to invest time and energy in analyzing the existing information and making it readily available. This is what the authors seek to achieve, in order to fill the gap between very exclusive information and the general public.

Concerning the actual content of the maps, the key points to be represented in the nuclear fuel cycle contained in them include: the uranium reserves around the world, where uranium is extracted, where the economic benefits obtained in this process go to, where nuclear energy is mostly used and, in this particular case where a nuclear weapons are located. Other than this last one, the previous items are the type of information which would similarly appear in maps related to other energy resources. Furthermore, on the basis of the maps and the reliability of the information and figures used, students can come up with their own conclusions on this matter, such as "the degree of exploitation that countries suffer regarding their uranium reserves".

A first visual representation of four maps partly showing this information is presented in Figure 3, as an illustration of the mechanics of this instrument.

Figure 3. Interactive map model



In Fig.3, authors intend to illustrate how the maps are used when trying to represent a type of flux, in this case the flux of wealth related to the extraction of uranium, in a visual display of information, and the effect they gain by being interactive.

Together with this map, other maps are prepared in order to represent the amount of uranium extracted, where wealth resulting from the extraction of uranium is to be transferred from the country where it was extracted to a receiving country; the direction of the flux, and the actual size of the accumulated wealth. It must be made clear that it is not the uranium itself which travels, but rather the wealth obtained in the operation.

When the maps are shown in a superposed dynamic combination which the PowerPoint allows us to do, it is possible to visualize the movement of the wealth world-wide as a result of the extraction of uranium. By the use of these simple and casual images the students have the opportunity to understand the idea conveyed above in a straightforward manner.

On the basis of the mechanics just presented, our project is investing in the use of these maps as teaching material. Our goal is to develop a bank of maps related to different issues and topics. Furthermore we are studying how to incorporate them in subjects that deal with differential equations. For this purpose, we are looking to model a range of mathematical fluxes such as the one presented in Fig. 3.

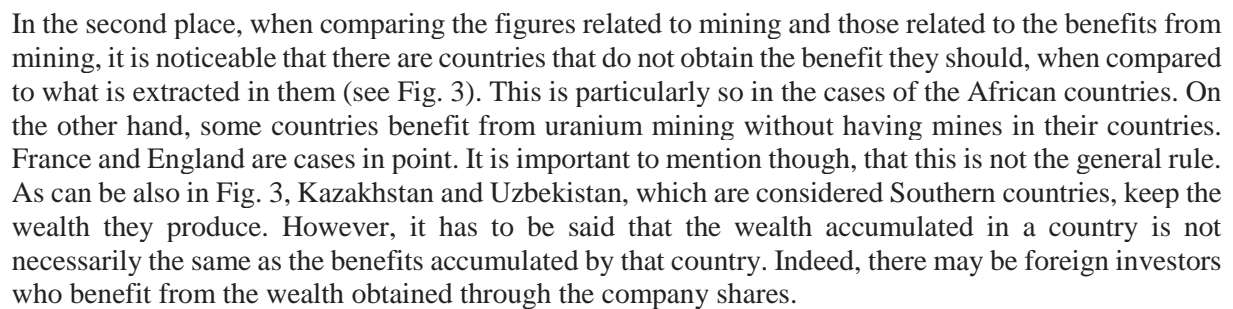
This second stage would represent an important achievement, and the goal of incorporating the tool presented in this paper into technical degrees would begin to take shape.

4. Discussion and Assessment. The Robotics role

Having presented how The Nuclear Fuel Cycle Didactic Map works, and the mechanics of using it, this section includes an interpretation of the information that the didactic maps offer. It should be noted that the interpretation given here focuses on those aspects related to environmental and social issues.

In the first place, there are relevant facts to be noted when analyzing to what extent countries are exploited in relation to their uranium reserves. The perception is that those countries that are most exploited are not industrialized countries (or countries from the North).

Figure 4. List of country by exploitation ratio



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In this respect, none of the Southern countries produce electricity from nuclear energy, whereas all the countries that need uranium are Northern countries. One can conclude that there is a large dependency of this mineral on the Southern countries, on the part of both the Northern countries on the one hand, and the so-called emerging economies on the other hand. In Fig.5 the numbers indicate the tons of uranium needed by different countries.

The students in Robotics Engineering, after the reflection in front of this study, realize about the worldwide energetic reality and the need to tackle this reality through the Robotics field.

For most industries in which robots have been or are expected to be applied in significant numbers, such as auto- mobile production, metalworking, and machinery manufacture, the incentives to robotize relate directly to preserving or recapturing competitive advantage through lowered unit costs of production and improved product quality. But for some industries, the attraction of robots is their potential to work in hazardous environments, thereby reducing the human risks associated with the work. The electric utility industry is one such industry. Although utilities are not viewed by most industrial robot manufacturers as a significant potential market, special-application robots are under development for performing inspection and maintenance tasks inside nuclear power plants, where radiation levels, heat, and humidity either rule out the presence of human workers or severely limit their ability to work. For many of these tasks in a nuclear plant, robots would be a welcome addition to the workforce, freeing humans from some of the more onerous and discomforting jobs and, possibly, permitting certain tasks to be performed while a plant remains on-line, thus avoiding costly plant downtime for inspection or maintenance. The use of remotely operated and robot-like equipment to protect nuclear workers in high-radiation areas is not new. In many industrial applications of robots, the objective is to replace human workers with machines that are more productive, efficient, and accurate. But for nuclear applications, the objective is not so much to replace workers as it is to extend their presence—for example, to project their reach into areas of a nuclear plant where the thermal or radiation environment prohibits or limits a human presence [18].

There are no explicit questions about Sustainability in the robotics subject exam because the real objective is to integrate it within the theoretical topics of each subject. Therefore, the Sustainability and Social Commitment competence is implicitly assessed with the regular exams. Anyway, a questionnaire is given to each student to know his/her opinion about the integration of this competence in the regular subject and the answers are very positive which encourages lecturers to keep on the competence and improving the contents.

5. Conclusion

In this paper authors presented an innovative pedagogical tool which offers new integrative materials to classrooms in technical/scientific degrees, such as Robotics Engineering. Why are they integrative? The maps allow us to focus on a topic and cover it comprehensively with the consequence that the information gathered in such a manner becomes revealing. One manages to capture at a glance the different angles and sides of the same topic and this is a key element to understand social and environmental issues as a part of many things that are involved in the technical/scientific field. But above all, the advantage of using an interactive map is that whatever one wants to represent is made clear to whoever uses them. In fact, the elaborated pedagogical material has been developed in order that lecturer have such a material to cover the compulsory transversal competence of “Sustainability and Social Commitment” in different technological and scientific degrees, from the complexity and critical thinking.

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**THE IMPACT OF ADVERTISEMENTS THROUGH MASS MEDIA ON CONSUMER'S
DESIRES TO BUY PRODUCTS – A CASE STUDY FOR THE PRIVATE MOBILE
OPERATOR ONE. VIP**

Abstract

This paper elaborates mass media as fundamental forms of public communication, their strengths and weaknesses, as well as their skills for successful commercial broadcasting. The world is bumming and changing in the way how the mass media is used form different point of view. Every day we are witnesses of new approaches and models in marketing, management in order to be more close to the customers, add more value for them and better segmentation of the market. The purpose of this paper is to measure the impact of advertisements that are being transmitted by television and radio, or posted on internet, on consumer's mind, desires and willingness to possess and buy products that are being advertised by the private mobile operator ONE.VIP in Republic of Macedonia. For the research of this paper a questionnaire was used. The empirical research show that television a mass media channel has a major influence on consumer`s desires and wishes to buy ONE.VIP products and to use its services, on the other side the radio as a channel do not meet consumer`s vision and sympathy.

Keywords: Advertisements, mass media, consumers

JEL Code: M3, M31, M37

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**TAMER BUDAK¹, SERKAN BENK², RAIHANA MOHDALF³, KHADIJAH MOHD ISA⁴ AND
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RELIGIOSITY AND TAX COMPLIANCE ATTITUDES IN MALAYSIA AND TURKEY

Abstract

Ensuring compliance in tax collection is very crucial as tax is one of the basic elements of public financing in almost all countries. The issue of compliance in tax research has been explored in many years from different perspectives. Initially, it was started with a negative assumption on taxpayers' compliance attitudes and recently the research has shifted to a more positive attitude of taxpayers. One of the factors that is expected to shape taxpayers' compliance attitudes is religiosity. Even though a number of studies have started to explore this issue recently, not many studies used primary data because the majority of the studies were relying on the secondary data. Therefore, this study is comparing the impact of religiosity and its components on both tax compliance components, voluntary and enforced tax compliance in Malaysia and Turkey. Surveys were used in both countries distributed to individual taxpayers. Religiosity is found to have a significant impact on voluntary tax compliance and intrapersonal religiosity is found to be the actual component of religiosity that influence taxpayers' positive attitudes in both countries. Even though religiosity seems to be an influential factor to influence tax compliance behavior, this study has shown that in certain circumstances, it might appear irrelevant.

Keywords: Tax compliance, Religiosity, Malaysia, Turkey

JEL Code: H20, H21, H26, H71, K34

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EUROPEAN VIEWS ON TAX EVASION ATTITUDES: A COMPARATIVE STUDY OF ROMANIA, GERMANY AND ENGLAND

Abstract

This paper reports on the results of a survey of 1196 university students in Romania, Germany and England. They were asked whether tax evasion can ever be justified. Their responses were measured using a Likert scale from 1 (never justifiable) to 10 (always justifiable). Results for the three countries were compared overall. Several demographic variables were also examined, including gender, age, religious denomination, marital status, student status and academic major. The survey found that there is strong opposition to tax evasion on moral and religious grounds, although tax evasion in some circumstances is acceptable. Another finding in the present study is that some demographic variables are significant while others are not. A comparison of the findings in the present study to those of prior studies that have examined demographic variables reveals that some studies support the findings of other studies, while others arrive at inconsistent results. More study is needed to determine why some results are inconsistent. The present study found that attitudes toward tax evasion sometimes differ by country. There are probably many reasons for these differences – culture, history, religion. etc.

Keywords: Taxation, tax evasion, tax justice, Germany, Romania, And England

JEL Code: H20, H26, H29, D63

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