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Added Value Model: Model of the Corporate Communication in Social Media

Olga Kazaka

Abstract—Social media are used in corporate communication more and more actively. Companies are fighting for the audience attention and that's when social media become valuable for them. However, the popular corporate communication theories and models were created at the time, when social media did not exist and could not fully reflect the special nature of the communication that is typical for the social media environment. This generates the need for a new corporate communication model. The aim of this paper is to develop the new corporate communication model for social media field. As methods the analysis of the existing corporate communication theories and models, semi-structured interviews and the questionnaire between social media users, experts and companies representatives were used. For the data processing the Grounded Theory and Multi-Grounded Theory were used. As a result of analysing the habits employed by users and brands in social media, as well as the existing models of corporate communication, the author proposes an "Added value model", which illustrates the process of corporate communication in social media. According to this model, the process of corporate communication in social media is ongoing taking into account both the company's and users' goals, selecting particular social media on the basis of their message and enriching communication with a communicative added value. The element of added value indicates that social media have a potential to become not only a communication channel, but also a platform, which provides a limited or full range of services, service support and satisfies users' needs. Thus, the proposed model could serve as a point of reference and evaluation, which is crucial for starting or improving corporate communication in social media.

Index Terms—Corporate communication, social media, model.

I. INTRODUCTION

The communication professionals from 43 countries participated in the survey by the *European Communication Monitor*, which pointed out that if in 2007 11.5% of respondents mentioned social media as the essential tools of corporate communication in their everyday work, in 2011 their amount increased up to 40.5%. The following types of social media were mentioned as the most important for corporate communication: social networks (49.8% of respondents), online video (39.5%) and micro blogs (Twitter, 32.5%). At the same time, professionals, who participated in this study, recognize that these tools may be used ineffectively due to the lack of knowledge [1].

The article offers a new framework of the corporate communication in social media, which will help companies to organize properly their communications with target audiences in social media and will provide a new analytical tool for the researchers. The new framework includes developed by the author an Added value model for the communication arrangement and evaluation in social media.

II. RESEARCH

A. Methodology

The study consists of several stages. At the beginning, 13 active social media users, as well as social media experts and company representatives were interviewed. Semi-structured interviews were held with the representatives of the entrepreneurial community who are responsible for or take decisions about communication in social media. All respondents were guaranteed to remain anonymous. It ensured openness and the diversity of opinions.

For the data processing the Grounded Theory (GT) was used, the essential feature of which is the fact that the analysis is resulting from the interaction of the data in the data collection period [2].

Data analysis was started immediately after the first interview. After each interview memo was written with the main conclusions, as well as new data was correlated with the previously acquired information. For the selection of respondents the theoretical sampling was used, each time searching for respondents, whose opinions differ from those already expressed in previous interviews. Each interview was followed by data processing, which involved coding, categorization and interpretation. The first stage of the interview was completed, when the answers of the respondents contained no new information anymore.

The first phase of the interviews was followed by the survey of the companies regarding their habits of communication in social media, in which 420 representatives of Latvian companies participated. To determine the users' preferences for communication with the brands, companies and organizations in social media, there was also a survey of 624 Latvian social media users.

At the stage of developing the theoretical framework and the model of corporate communication in the social media, the Multi-*Grounded Theory (MGT)* was used. Developing the Grounded Theory, Goldkuhl and Cronholm [3] proposed the Multi-Grounded Theory, where the empirical grounding was complemented with the theoretical grounding. The aim of MGT is to combine the inductive aspects found in

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empirical studies with the deductive aspects found in theory-based studies.

The MGT emphasises three processes: *empirical* grounding – theoretical justification using the empirical data, *theoretical grounding* – the researcher theorizes the phenomenon using previously formulated theories and *internal grounding* – clear links among the theoretical elements are established.

According to the MGT, a theory is formulated in four stages: 1) *inductive coding*, which corresponds to the open coding PT; 2) *conceptual refinement* – this stage differs from the conventional GT and involves the critical reflection of empirical statements; 3) *building categorical structures*, which corresponds to the axial coding GT; 4) *theory condensation*, which corresponds to the selective coding GT with the sole difference that the MGT does not require finding a single basic category. Prior to this last stage, all three grounding stages are performed. The authors of the Multi-Grounded Theory emphasise that their method helps preserve the focus of the study retaining the advantages of the Grounded Theory, which are related to the researcher's openness to new discoveries [4].

On the basis of the Multi-Grounded Theory, the empirical grounding was performed using the interviews with social media users, companies and experts, as well as the results of the users' and company representatives' surveys. It was followed by the theoretical grounding using the approaches of various corporate communication theoreticians, as well as the internal grounding by formulating the elements of the model and creating the model itself to reflect corporate communication in the social media. After presenting the scientific conferences and model in receiving recommendations from the reviewers, the model was recast to have a non-linear and multidimensional structure.

B. The Added Value Model

On the basis of the literature analysis and empirical research, an added value model that reflects the corporate communication process in social media is proposed.

The model includes the following elements: listening, message, social media choice, personification level, interaction, added value, community pressure, strategy pressure (Fig. 1). The added value is a key element of this model as it combines all other parts of the model. The model visualization and its conceptual clarification are provided below.

1) Listening

Listening provides the analysis of the social media content to determine the users' views of the company or brand, product or service, particular event or situation. At this stage, Van Riel's Mirror Function [5]–[7] helps to predict the impact on the audience. The study showed that 80% of the users appreciate the situation, when a company provides answers to their questions in social media. Besides, 71% appreciate that a company responds to criticism in social media. These practices can be implemented if the company monitors the social media content. Furthermore, users can also help a company to generate or to test ideas. It is recommended to start with this element to analyse the situation in social media, as well as before any active involvement in communication. The circle structure of the model indicates that it is necessary to come back to the listening element during the communication process, as well as reflects the continuous character of communication. The analysis of the situation is not limited to the company's customer communication analysis, but also includes the communication analysis of the non-clients, other interest groups, employees, and competitors.



Fig. 1. The model of corporate communication in social media (created by the Author of the Paper).

2) Message

Based on the results of the listening and communication objectives, the company formulates its messages. It is essential to make the message of the company serve as an impact factor regarding the choice of the social media. The research showed that the companies' and users' interests coincide, when messages inform of the company's product or services (75% of companies, who communicate in social media, formulate it as their goal in this environment; 84% of users have a positive attitude towards such practice in social media), the latest developments in the respective field (82% of companies consider it a basic goal in social media, and 79% of users have a positive attitude to it), giving answers to users' questions (52% of companies believe that the social media environment is favourable for this task, and 80% of users have a positive attitude to such a practice).

3) Social media choice

Further, the specific social media, where the message is going to be reported, is selected. The choice depends on the technical capabilities of the social media, as well as users' preferences in relation to the use of media. The study showed that companies tended to choose different social media to communicate different messages. For instance, Twitter is used to inform users of the latest developments in the respective field, forums are used to find out users' opinions of the competitors, whereas communication with employees is maintained via a corporate blog.

4) Personification level

Each company also makes a decision, whether its message will be delivered in social media identifying the user's relationship with the company or anonymously. The Internet and specific social media provide an opportunity to publish information both in a personified manner – in the official corporate profiles in social networks and in blogs, and anonymously – in forums, wikis and other resources. Personalized and anonymous environments exist in parallel. The study revealed that 90% of users regard positively the practice, when a company communicates in social media via a personified profile.

On the other hand, in this position a company representative decides, whether his message is addressed to a particular user or an unpersonified users group.

5) Interaction

Interaction with the audience and its involvement in corporate communication via social media enables reaching a wider audience, as well as testing or generating new ideas. However, the interaction should be based on the understanding of the audience's interests and needs because the users are less positive with their assessments of the situation, when the companies follow their profiles and are involved in their discussions. Here is an unwillingness of the users to allow the companies to come "into their territory", so it would be important for the companies in the communication with the users to let them withdraw from communication and choose by themselves, when to get involved. It is also essential for the companies to create the content that would be valuable for the users. At this stage, certain characteristics of Grunig's [8] two-way symmetrical model appear: according to it both parties change to a certain extent during communication.

6) Added value

Added value is a very essential element of the corporate communication process in social media. It affects all other elements as, by implementing each phase of the communication, the company representatives should think about the value offered by this activity to the social media users within the sphere of interest of the company. I have used the term 'added value' to describe the value, integrated by communicating party in its communication, which helps users to solve some of their problems, to improve the quality of their lives, to facilitate their daily lives or communication processes. The existence of added value determines whether the company's communication is going to be successful in social media. The necessity for added value is indicated by the following research findings: most often users point out that they are motivated to follow a corporate profile if they can receive valuable information or practical advice, and if they have to choose a company representative to communicate with, they prefer an expert, who can provide specific and useful information. Furthermore, two thirds of users stated that they have a positive attitude to the situation, when a company communicates about topics, which are interesting to users, but are not strictly business-related.

Similarly as the economic added value reflects the financial value a company has added to its product or service, the communicative added value facilitates the achievement of the company's goals with the help of communication tools.

7) Strategy pressure and community pressure

Each element of the model is subjected to the impact of two pressures. On the one hand, when communicating in social media, company representatives are forced to become integrated into the corporate communication flow of the company, and to comply with the corporate communication strategy of the company. Company goals and interests have an impact on all elements of the process, thus making the communication process meaningful according to the point of view of the company. It reflects both Argenti's [9]-[11], and Grunig's [12], [13] as well as Bruhn's [14], and Van Riel's [5]-[7] positions, where a major role is ascribed to strategic communication, which has been harmonised with the company's overall goals.

On the other hand, in social media company is under pressure from user communities that are critical in their attitude to the commercialization of social media environment, are reluctant to accept the companies, immediately distribute the scandalous information related to the companies. This pressure is also caused by the user generated content that can be created at any time and distributed in any social media. If it affects the company, it creates an additional pressure. Social media are characterized by the fact that they are not only about the target audiences of the company, but also about the communities that affect these target audiences. This explains the meaning of Cornelissen's [15] concept of stakeholders, when not only the existing or potential customers count, but also those, who can influence them.

This means that the company representatives, who are communicating in social media on behalf of the company or brand, should always take into account the two pressure sources, as ignoring one of them may cause troubles for the company: either the communication will not correspond to the interests of the company anymore or it will cause users' displeasure.

'Added value' is the central element in the proposed model. On the basis of the study results, the following added value criteria were established:

- 1) Providing consultations or practical recommendations to users in the social media profile;
- 2) The availability of the company's/organisation's experts for communication in social media;
- Responding to questions or criticism published in the company's social media profile;
- Responding to questions or criticism published in the user's profile;
- 5) Publishing information that is interesting for the user, but is not directly related to the company's/organisation's activity;
- 6) Providing services in the social media profile; granting bonuses to social media users.

III. CONCLUSIONS AND DISCUSSIONS

Specific features of the social media are associated with users' possibility to generate content, as well as to realize the mutual interaction and communication. There are no revolutions under the influence of social media in the communication field, but many of the communication processes become more visible, groups or communities that could not achieve the traditional media are entering the public sphere through the social media, what is significantly affecting the companies as well, forcing them seriously and purposefully to organize their communication in the social media environment.

The existing corporate communication theories are focused on management functions, vision of integrated communication process, concerned parties. However, these models were created at a time, when social media did not exist; therefore there is a need for a theoretical structure typical of the social media environment.

This article proposes the added value model, which reflects the corporate communication process in social media. According to this model, the corporate communication process in social media is constant, taking into account companies' and social media communities' interests and goals, choosing the specific social media according to the message, as well as creating an added value for communication. model may This facilitate the comprehension of the corporate communication process characteristic of the social media environment.

Finally, this model illustrates the potential of social media to serve not only as a corporate communication channel, but also a platform, which provides a limited or full range of services and service support and satisfies users' needs. Thus, social media become part and parcel of entrepreneurship helping to achieve the company's goals more effectively. Consequently, the proposed model may serve as a crucial point of reference for starting or improving corporate communication in social media.

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Correlation of Personal Factors on Unemployment, Severity of Poverty and Migration in the Northeastern Region of Thailand

Thitiwan Sricharoen

Abstract—This study examines characteristics of unemployment and migration of labor in the Northeastern of Thailand, and unemployment problems faced by local workers. Samples used in the study are 455 unemployed workers in Khon Kaen province, that are, 204 male and 251 female workers. The demand for assistance from the state are ranked as follow: demand on employment within the province where they live, working skill development, financial support for private occupation, unemployment compensation money, information about the labor market, helping to find a job in any province, providing financial support for agricultural work, and supporting children's tuition fees. The analysis of the poverty within the unemployed household shows that those households have an average income per capita per month below the poverty line account for 10.1%.Factors that relate to the severity of the unemployment problem are the number of time to be unemployed and household expenditure. Factors that associate with the severity of poverty are educational level, number of unemployed in household and the income prior to unemployment. Factors that relate to demand on permanent job position are age, marital status and income prior to unemployment. Factors that relate to migration are gender, age, household size, household income and expenditure.

Index Terms—Unemployment, poverty, migration, Northeast Thailand.

I. INTRODUCTION

Unemployment and labour migration occurred in the greatest number in northeastern region of Thailand. It was presented by the numerous of the unemployed persons who registered at the department of employment to request assistance from the government and the need to improve capacity in various fields. Furthermore, National Statistical Office did the labor force survey to investigate the unemployed workers who needed to develop capabilities in various fields. It was conducted simultaneously across the country through the period of 1 to 12 of January, February and March, 2011. Data were collected by interviewing household head or member. It found that the Northeast region had the highest unemployment at present [1]. In late 2008 to 2009, the economic crisis and unemployment problem occurred. In 2010, unemployment rate grew up [2]. It caused several side effects such as the higher the demand on labor who graduate secondary school or below, the lower the demand on high graduated labor [3].

Unemployment and labor migration are as a result of the shock effects, which caused by structural changes in the economy. The impact of the economic and social change affect on household level up to the institutional level. At the household level, when family members were laid off, the increasing of household's burden tight on household financial and psychological pressures. The living conditions of families will be worse off. At local level, there are several effects from criminal and law violation problems. Accordance with the national level, the unemployment and migration cause the shortage of local workers, the congestion of urban, the poverty, the investment reduction and fiscal deterioration. The impact level depends on various factors such as economic environment and the effective of labor policies to mitigate the effects that occur in each period. The unemployment problem is important. It can be solved through the implementation of monetary policy, fiscal policy and labor policy together. Therefore, this research also investigates the policy recommendation to solve these problems.

II. METHODOLOGY AND RESEARCH AREA

This research is applied research. The study was carried out by using a questionnaire to interview 455 unemployed workers in Khon Kaen province. Firstly, the descriptive analysis of the characteristic of unemployment, problems, and social and economic impact on the unemployed applied the frequency, percentage, mean and standard deviation. Secondly, the poverty analyzed from the comparison of the average annually per capita household income to the poverty line. Lastly, the hypothesis test of the relationship between personal factors and the severity of unemployment problem, the severity of poverty after being unemployed, the job requirements and the migration. Statistical analysis was used Pearson chi-squared to compare the variance of the sample.

Statistical data of the number of unemployed persons who required for the help from the government classified by province in the northeast of Thailand in 2007 indicated that there were 177,818 unemployed persons who need the aids from government [4]. Among this number, 14,419 persons came from the municipality area and 163,399 persons came from outside municipality area. Khon Kaen province had a greatest number of the unemployed who need help, accounted for 21,440 persons, and followed by Sisaket province, with 17,608 persons, and Ubonratchathani, with 15,916 persons, respectively (Fig. 1). Therefore, Khon

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Kaen province was selected as the research area.



Fig. 1. Number of Unemployed Classified by Need of Help from the Government and by Province in the Northeast by 2007 Source: National Statistical Office, 2007 [4].

III. DESCRIPTIVE ANALYSIS OF UNEMPLOYMENT

The results demonstrate that the samples in the study are 455 laid off workers in Khon Kaen province. The majority of participants (55.16%) are female. Most had never married (52.97%), a certain number (35.82%) are currently married, and the remainder had been formerly married (11.21%). On average, participants are 29 years old, and single (52.97%). Average household size is 4 persons. The education of the mostly unemployed is graduate degree as 48.35%, follow by those who graduate high school as 38.24%, respectively. The 437 unemployed are those who have working experience, only 18 unemployed persons have never worked before. It is 37.8% of the unemployed are those who use to be laid off for at least one time. Most of them do not receive the unemployment compensation money, amount for 77.58%. Within this number, the unemployed mostly work as an operating plant and machinery, account for Type of work of them mostly is the private 23.52%. employee, with 81.76%. It appears that 76.05% of them are mostly voluntary to guit the job, not be laid off. Most of them feel that it is very difficult to find work for 82.64%. Data from the survey display that 23.52% of the unemployed worked as plant and machine operators and assemblers, and 22.64% worked as the elementary occupations (Table I).

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Occupation before Unemployment	Percent	
Plant and Machine Operators and Assemblers	23.52	
Elementary Occupations	22.64	
Service Workers and Shop and Market Sales Workers	12.53	
Clerk	10.11	
Technicians and Associate Professionals	7.69	
Professional, Technical Workers.	7.25	
Skilled Agricultural and Fishery Workers	5.49	
Legislators Senior Officials and Managers	4.40	
Workers in Transport and Communications.	2.64	
Craft and Related Trades Workers	2.20	
Unemployment	1.54	
Total	100	

Considering to the industrial classification of the unemployed, a little more than one fourth of them work on manufacturing sector. The next biggest categories are private households with employed persons, wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, hotels and restaurants and construction, respectively (Table II).

TABLE II: INDUSTRIAL CLASSIFICATION OF THE UNEMP	LOYED WORKER

Industrial Classification of the Unemployed	Percent
Manufacturing	26.37
Private Households with Employed Persons	11.43
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	10.77
Hotels and Restaurants	10.77
Construction	8.13
Extra-territorial Organizations and Bodies	4.62
Education	4.40
Financial Intermediation	4.18
Real Estate, Renting and Business Activities	3.74
Transport, Storage and Communications	3.52
Electricity, Gas and Water Supply	3.08
Agriculture, Hunting and Forestry	2.64
Fishing	1.54
Mining and Quarrying	1.32
Public Administration and Defense; Compulsory Social Security	0.88
Health and Social Work	0.88
Other Community, Social and Personal Service Activities	0.22
Unemployment	1.54
Total	100

The severity of the unemployed worker's problem, the poverty and the need on employment are ranked at high level (Table III). Source of fund of the unemployed, who has money shortage are borrow from informal system, Sell, Pledge, mortgage assets, and borrow from bank (Table IV).

TABLE III: SEVERITY OF THE UNEMPLOYED WORKER'S PROBLEM, THE POVERTY AND THE NEED ON EMPLOYMENT

Problem, Poverty and Need on	Moon	Std.
Employment	Wiean	Deviation
Severity of the Unemployment Problem	4.32	0.82
Severity of the Poverty Problem	4.08	0.90
The Need on Future Employment	4.37	0.90

TABLE IV: SOURCE OF FUND IN CASE OF INCOME SHORTAGE	
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Source of Fund in case of Income Shortage	Percent
Income Cover with Expenditure	32.09
When Income Shortage, Source of Fund from:	
Informal Loan	16.92
Sell, Pledge, Mortgage Assets	12.31
Bank and Financial Institution Loans	10.33
Family Savings	9.45
Own Savings	8.57
Relatives Loan	8.13
Others: Unemployed Compensation Money	2.20
Total	100

When analyzing the family finances before and after unemployment, nearly a half of the unemployed families express the opinion that income has no change, while the expenditure has increased. About the adequacy of family income, a few (12.53%) feel family income is enough, but 32.31% of them think that family income are not enough. Note to the family's debt, it is not change after unemployment and the ability to repay debt as well (Table V).

Mentions to the attitude of unemployment, the respondents give the significance on the cause of unemployment such as

economic recession, migration, labor age, production demand, wage, demand on labor, labor's qualification, freely of labor movement (Table VI).

TABLE V: COMPARISON OF HOUSEHOLD'S INCOME, EXPENDITURE AND
FINANCE BEFORE AND AFTER UNEMPLOYMENT

	Comparison of Pre and Post Unemployment (Percent)		
	Increase	Not Change	Decrease
Income	18.68	45.05	36.26
Expense	47.47	42.86	9.67
The Adequacy of Finance	12.53	55.16	32.31
Debt	33.41	59.56	7.03
Ability to Repay Debt	4.4	65.49	30.11

TABLE VI: ATTITUDE OF UNEMPLOYMENT			
Attitude of Unemployment	Mean	Std. Deviation	
Economic Recession Cause Unemployment	4.11	0.97	
Labor Migration from Rural to Urban Cause Unemployment	3.99	0.94	
Older Labor has Higher Risk of Unemployment	3.96	0.99	
Lower Demand on Production, Lower Demand on Employment	3.86	0.94	
Low Wage Give Low Incentive to Employment and Then Lower Employment	3.82	1.07	
Employer is not Hire More Labor, Which Cause Some Labor Stop Looking for Work	3.82	1.01	
Labor's Qualification is not Match to the Need of Employer	3.81	2.13	
Some Area Has Oversupply of Labor, Some			
Area Has Excess Demand on Labor, But	3.80	0.91	
Labor are Limitation of Movement Woman with Little Child Have Opportunity to be Refuse to Work Acceptance than The Single One	3.80	1.04	
Business/Factory Move from Local Area Cause	3.77	1.05	
Unemployment			
The Need of Helping Family Work Lead to Not Participate in Labor Market	3.75	5.17	
Technological Progress Cause Unemployment	3.72	1.06	
The Wife who has High Income Husband has unnecessary to Join Labor Market	3.64	1.08	
Women Take More Risk of Unemployment than Men	3.50	1.07	
Rich Family Labor Has No Need to Find Job	3.37	1.18	

Primary factors in determining employment are domestic price, tax revenue, government expenditure, and saving of commercial bank, respectively (Table VII). Firstly, the increasing of domestic price creates the incentive for real economic sector to increase the employment position to increase the production, then the unemployment will decline. About tax revenue, the Increasing of tax collection will reduce private sector's spending. When goods cannot all sales, business will reduce the production, and then it causes of unemployment. For government expenditure, when government has the higher spending, the economic will be stimulated, and then the unemployment will decline. Note to the higher net income from aboard lead to the better trade balance and balance of payment, higher economic growth, and lower unemployment. Lastly, the higher foreign direct investment is as a result of the higher the domestic employment by multinational enterprise and the lower the unemployment.

The impact of unemployment that present at the significance level comprise of lack of liquidity, suffering on cost of living, disorganizing on family problems, receiving

the unwilling future employment, and being under pressure, stress, and lack of self-confidence (Table VIII). However, the adjustment of them after unemployment, they mostly emphasis on adjusting themselves to be more patient, confronting with the problem, endeavoring to apply for work, looking for extra work, saving the spending, assenting the underemployment work, respectively.

TABLE VII: DETERMINANT ON EMPLOYMENT					
Determinant on Employment Mean Std. Deviatio					
Domestic Price	4.32	0.86			
Tax Revenue	4.08	1.02			
Government Expenditure	3.71	1.08			
Commercial Bank Saving	3.58	1.21			
Net Income from Aboard	3.49	1.15			
Foreign Direct Investment	3.38	1.32			

TABLE VIII: IMPACT OF UNEMPLOYMENT					
Impact of Unemployment	Mean	Std. Deviation			
Lack of Financial Liquidity	4.29	0.83			
Endurance on High Cost of Living	4.32	0.85			
More Family Problem	3.88	1.01			
The Unsatisfied of Future Work	3.85	1.01			
The Pressure, Stress, Lack of Self-Confidence	3.83	1.02			

The priority of demand for assistance from the state are ranked as follow: demand for employment within the province where they live, working skill development, financial support for private occupation, the unemployment compensation money, information about the labor market, helping to find a job in any province, providing financial support for agricultural work, and supporting children's tuition fees (Table IX).

TABLE IX: THE DEMAND FOR STATE ASSISTANCE

Demand for Assistance	Mean	Std. Deviation
Working Position at Hometown Province	0.56	0.50
Improving Skill	0.55	0.50
Financing for Self-employed	0.55	0.50
Unemployment Compensation Money	0.55	0.50
Providing Information about Labor Market	0.50	0.50
Working Position in any Province	0.38	0.49
Supporting Fund on Agriculture Work	0.35	0.48
Supporting on Tuition Fee	0.32	0.47

IV. THE POVERTY WITHIN THE UNEMPLOYED GROUP

Refer to (1), the analysis of poverty among the unemployed present that there are 46 out of 455 persons, whose household income per month less than the poverty line. A poverty line of the Northeast in 2010 was equal to 1,583 Baht /person/month [5]. The poverty ratio is equal to 0.1. It infers that 10.1% of the unemployed persons are poor.

$$P_0 = N_p / N = 46/455 = 0.1010989 \tag{1}$$

 P_0 is Ratio of Poor Household

 N_p is Household that has Income below Poverty Line

N is Total Population

For an analysis of the balance or the adequacy of current income and expenses, the research outcome appears that

more than a half of the unemployed households have average income higher than average expenditure (Table X).

TABLE X: ADEQUACY OF CURRENT INCOME AND EXPL	ENSES
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Adequacy of Income and Expenses	Frequency	Percent
Unemployed Household that has Average	195	42.86
Income Less than Expenditure per Month per		
Capita		
Unemployed Household that has Average	260	57.14
Income More than Expenditure per Month per		
Capita		
Total	455	100

V. THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE SEVERITY OF THE UNEMPLOYMENT PROBLEM

The null hypothesis test on the relationship between personal factors and the severity of the unemployment problem is different personal factors of the unemployed persons have no difference impact on the severity of the unemployment problem.

The result of the Chi-square test introduce that personal factors, which are, the experience or number of times be unemployment and household expenditure are the factors that have a significance level of less than 0.05, which give the result of rejecting null hypothesis, and accepting alternative hypothesis. Both factors are correlating with the severity of the unemployment problem at the significance level of 0.05.

Besides, the result of the F-test denotes that the experience or the number of time be unemployed has been correlated with the severity of the unemployment problem due to the significance level is less than 0.05. It will be reject H_0 (accept H_1) if F> F crit. In this case, F crit = 2.37 at df1 = 4, df2 = 450and $\alpha = 0.05$, the experience or number of times use to be unemployment has F = 2.8317 which is greater than 2.37, so reject H₀. It can be said that number of time be unemployed influences on the severity of the unemployment significantly at the 0.05 level. Whereas the other variables have the significance greater than the statistical significance set at 0.05 such as gender (0.0894 <0.05), so it decided to accept the key assumptions H_0 . So, difference gender of the unemployed in the province has no different on the severity of the unemployment (Table XI).

TABLE XI: THE RELATIONSHIP OF PERSONAL FACTORS AND THE SEVERITY OF THE UNEMPLOYMENT

	Pearson	Pearson Chi-Square		Sig.	
Severity of the Unemployment Problem	Value	Asymp. Sig. (2-sided)			
Gender	8.06	0.09	2.03	0.09	
Age	13.54	0.33	0.19	0.94	
Marital Status	11.01	0.81	1.64	0.16	
Educational Level	14.30	0.58	0.49	0.74	
Household Size	7.42	0.83	1.04	0.39	
Number of the Unemployed in					
Household	23.31	0.11	1.75	0.14	
Experience/Number of					
Times be				0.02	
Unemployment	47.62	0.04	2.83	*	
Income Prior to					
Unemployment	24.17	0.24	1.54	0.19	
Household Income	23.36	0.10	0.92	0.45	
Household Expenditure	28.49	0.03	1.97	0.10	

VI. THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE SEVERITY OF POVERTY AFTER UNEMPLOYMENT

It is hypothesized that personal factors, that are gender, age, marital status, education, household size, number of unemployed member in household, number of time be unemployed, income before unemployment, household income and expenditure, has become increasingly accepted as a justification for severity of poverty. The personal factors that have the correlated with the severity of poverty are education level, number of the unemployed in household, and income before being unemployment (a result of the Chi Square test), while age and educational level of the unemployed have the correlated with the severity of poverty (result of F-test). The education variable is significant, which consistent with both test (Table XII).

TABLE XII: THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE SEVERITY OF POVERTY AFTER UNEMPLOYMENT

Severity of Poverty	Pearso	n Chi-Square	F-test	Sig.	
after Unemployment	Value	Asymp. Sig. (2-sided)			
Gender				0.5	
Gender	2.84	0.58	0.71	9	
٨ σο				0.0	
Age	17.16	0.14	2.59	4*	
Marrital Status				0.7	
Maritar Status	15.51	0.49	0.49	5	
Educational Laval				0.0	
Educational Level	29.14	0.02	2.61	4*	
Household Size				0.1	
Household Size	11.71	0.47	1.55	9	
Number of the					
Unemployed in				0.0	
Household	55.54	0.00	2.21	7	
Experience/Number of				0.5	
Times be Unemployment	33.81	0.38	0.79	3	
Income Prior to				0.4	
Unemployment	38.50	0.01	0.95	4	
Household Income				0.7	
Household Income	14.37	0.57	0.42	9	
Household Expanditure				0.6	
nousenoia expenditure	16.95	0.39	0.66	2	

VII. THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE DEMAND ON EMPLOYMENT IN THE FUTURE

It is hypothesized that personal factors have the effect on future demand on employment significantly.

Factors that have correlate with the personal factors and the needs of future employment are age, marital status and income prior to unemployment (results of chi square test). Other factors have the significance level greater than 0.05, so the null hypothesis is accepted and the alternative hypothesis is rejected. In summarize, these other factors have no correlate with the demand on future work.

By the way, the comparison of personal factors and the needs of future employment by using one-way analysis of variance (ANOVA) indicate that sex, age, household size and the number of times be unemployed have the correlated with the needs of future employment. Its significance level is less than the statistical significance value at 0.05. This case *F* crit = 2.37 at df1 = 4, df2 = 450 and $\alpha = 0.05$. Gender (*F* = 2.3889), age (*F* = 2.4195), household size (*F* = 2.4867), and number of times be unemployment variables (*F* = 3.4425) have *F* value more than 2.37. So, we reject H_0 (accept H_1) since *F*> *F* crit.

Hence, gender, age, household size, and number of times be unemployment variables have the correlate with the need on future work differently at the statistically significant level of 0.05. The variable that is consistent with both tests is age variable (Table XIII).

TABLE XIII: THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE DEMAND ON EMPLOYMENT IN THE FUTURE

Demand on Employment in the Future	Pearson Chi-Square		F-test	Sig.
	Value	Asymp. Sig.	-	
Gender	9.46	(2-sided) 0.05	2.39	0.05
Age	26.20	0.01	2.42	0.04 *
Marital Status	28.86	0.02	2.00	0.09
Educational Level	13.00	0.67	1.51	0.20
Household Size	13.58	0.33	2.49	0.04 *
Number of the Unemployed in Household	15.45	0.49	1.08	0.36
Experience/Number of Times be Unemployment	35.22	0.32	3.44	0.01 *
Income Prior to Unemployment	44.54	0.00	1.70	0.15
Household Income	10.71	0.83	1.54	0.19
Household Expenditure	9.56	0.89	0.84	0.50

VIII. THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE DEMAND ON MIGRATION

It is hypothesized that personal factors of the unemployed workers influence on the demand on migration in the future of the unemployed workers differently. The correlation between personal factors and the needs of migration in the future represents that gender, age, household size, household income and expenditure are significant (Table IX).

TABLE IX: THE RELATIONSHIP BETWEEN PERSONAL FACTORS AND THE	
DEMAND ON MIGRATION	

Demand on Migration	Pearson Chi-Square		F-test	Sig.
	Value	Asymp. Sig. (2-sided)		
Gender	4.74	0.03	4.77	0.03 *
Age	12.29	0.01	11.65	*
Marital Status	5.16	0.27	0.67	0.41
Educational Level	1.77	0.78	0.00	0.94
Household Size	11.40	0.01	1.34	0.25
Number of the Unemployed in Household	5.13	0.27	1.13	0.29
Experience/Number of Times be Unemployment Income Prior to	14.38	0.07	7.40	0.01 *
Unemployment	7.30	0.20	3.80	0.05
Household Income	27.71	0.00	23.56	0.00 *
Household Expenditure	19.23	0.00	14.34	0.00 *

IX. POLICY RECOMMENDATIONS

The findings have important implications for policy recommendation. Cite to the young unemployed worker,

most of the unemployed workers age between 26-30 years, followed by the age 21-25 years. They mostly graduate bachelor degree with 48.35% and high school with 38.24%, respectively. To implement the policy to solve the unemployment among the high education worker, the government should expand public organizations and academic departments to reduce the number of unemployment and the problem of brain drain from the young workers migration. Discussing about working experience, most of the unemployed have been working less than five years. It indicates that experience is a key part in making decisions on employment. The solving of the unemployment can be done by carried out the training courses to increase knowledge and skills to meet the needs of employer and to increase their chances of better employment in the future. According to labor welfare arrangement and unemployment compensation money provision, the study signifies that the unemployed mostly do not receive it. It may because the scope of unemployment insurance is not covering the informal workers. Incidentally, among those who received the compensation, they express the opinion that it is a little money comparing to the high living cost. Therefore, government should pay more attention on the informal workers and consider of the improving of the compensation adjusting to the economic and social change.

Once more, the unemployment problem solving should be reviewed to various causes, which are as follows: 1) a temporary solution of unemployment problem solving may do by providing information to workers and employers or held the appointment for the workers and employers find each other in labor market, 2) the issue of seasonal unemployment, this labor groups should be encouraged to do other tasks during the wasting time of no farm activities, 3) to solve the problem of unemployment due to changes in economic structure and technological change, the training and practicing of workers to be able to switch themselves to work in the industrial sector, instead of agricultural sector. Moreover, government can impose the tax if that particularly technology is unnecessarily use. The technology can be substituted labor in case of labor shortage.

In addition, mention to monetary and fiscal policy, it should be adjusted to reflect economic conditions, such as monetary policy, the government should use financial measures to increase the amount of money circulating in the country, which will result in lower interest rates, higher investment and productivity, and then higher employment growth. Talking about the fiscal policy, government should increase spending and reduce tax rates consist to economic conditions to stimulate production, exports and consumption, which will give the result of higher employment. Finally, mention to education policy, government should set the education plan for people, especially those in this study age and determine the educational structure suit to the country's economic structure, meets the needs of the market, and the need of the country.

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The Linkage of Trade Reform and Poverty Reduction in East Asian Transition Economies

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Abstract-The relationship between trade reform and poverty reduction is likely to provide the foundation of one of the most critical debates of the Doha Round of international trade negotiations as well as national debates. For transition economies, trade and trade-policy reform are fundamental features of economic transition to a market oriented-economy. The reforms included significant changes not only in trade policies but also in property rights, price regimes, and in the institutions coordinating economic exchanges which create impacts on poverty and food security in transition countries. A clearer understanding of the often-obscured effects of trade reform on food security is therefore essential if the drivers of further reform are to result in changes to the benefit of insecure and vulnerable groups in transition countries. The aim of this paper is to investigate whether the choice of the reform program-and in particular implementing a strategy geared at trade openness -has had a material impact on poverty reduction.

Index Terms—Transition economies, trade reforms, East Asia, poverty reduction, food security.

I. INTRODUCTION

Economic transition is a process of institution building and policy reforms designed to establish an effective system of macroeconomic management and resource allocation based on market mechanisms [1]. According to literature, due to the different initial conditions during the emerging transition process, there is no convergence on the forms moving towards a market economy. Some argue that the gradualism approach is likely to work better than a "bigbang" (or "Shock therapy"), because the adjustment cost involved is so large that the implementation of a comprehensive reform would create strong political resistance, and because the amount of information needed to make such reform feasible would be never fully available. In contrast, others refer to the risk of sliding towards a piecemeal and partial reform of the step-by-step approach that would not necessarily bring about successful results in the long run. East Asian countries (China, Vietnam, Lao, Cambodia) are often referred to as illustrative cases of the "gradualist" approach, compared with reform and growth experiences in the Central and Eastern European Countries (CEECs).

In the case of transition countries, poverty alleviation is not only the first and foremost objective but also the main reason leading to economic reforms. The concept of poverty

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reduction is quite broad and controversial so far. The complexity of measurement mirrors the complexity of definition, and the complexity increases where participatory methods are used and people define their own indicators of poverty. We do not want to make an emphasis on this debate, so, by default, this paper is limited to only two aspects concerning household-level income and food security in evaluating how trade reform impacts on poverty alleviation.

In our view, a critical feature of East Asian's transition strategy exits in an essential shift in the orientation of trade. Trade-policy reform is component and parcel of their economic transition to a market economy. Before reforms, foreign trade in these countries was just a balancing factor to fill gaps in supply and demand under national strategy. There was no need for a trade policy as such. The imposition of tariffs was purely for revenue-raising purposes. However, as decentralization of export activities took place and as more and more imports were conducted outside of mandatory planning, trade policy came to play an increasing role in their economic transition from the viewpoint of development strategies, especially both incomes and food security. As yet, there is no clear consensus on answers to general questions, such as "will transition countries gain benefits from trade openness in economies?", let alone more specific questions which might involve whether their poverty situation can be improved by reforms in market and trade policy.

II. TRADE REFORM IN EAST ASIAN TRANSITION ECONOMIES

Trade reform is generally one of ingredients composing a wider set of economic and institutional reforms. Under a classical planned-economy trade regime, trade in each product is monopolized by a foreign trade corporation. The role of policy measures such as tariffs, quotas, licenses, and exchange rates is modest, since most decisions about the level and composition of exports and imports are controlled through the planning system. Reform of such a system to a more market oriented trading system needs following steps:

- 1) Opening up the trade system to competing traders
- Developing indirect policy instruments such as tariffs and quotas and moving progressively to price-based measures
- 3) Removing exchange rate distortions,
- 4) The possible introduction of measures to reduce the impact of continuing distortions.

These steps must take place in the framework of full and fundamental reforms in the domestic economy. In particular, it is required property rights to be defined in a manner that provides sufficient autonomy for managers to respond to market signals rather than, or in addition to, planning

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mandates. Additionally, mechanisms must be introduced to allow market prices to exist, and to link with world prices through the trade regime. These adjustments can potentially be made all at once, or they can be phased in. Either approach can work quite well. Cambodia also followed a relatively rapid, and relatively successful, approach to reform. A phased approach has been used, with great success, in China, whose growth in trade and output during the reform period has been extremely rapid. The performance of most of the East Asian transition economies has been very strong over the periods during the 1990s. The average export growth rate of the East Asian transition economies was 22%. Connected with this was an extremely strong growth average GDP growth rate of 7.5%. Notably, in none of the East Asian economies was there anything resembling the sustained and deep output contractions that have been carried out in the Former Soviet Union. Of the East Asian transition economies, only Mongolia had a minimal growth rate, and even here the average economic growth rate over the period increased slightly, at 0.7% per year [2]. Cambodia and Vietnam did quite well, recorded a growth of almost 50% and around 70%, respectively, in export volume as percentage of GDP between 1989 and 2009 [3].

The initial focus of their trade policy was placed on internal development with emphasis on the development of import-substituting industries and the agricultural sector which use about 70% of the total labor force. As a consequence, their trade regime was strongly inwardoriented at the inception of economic reform. In the second phase, their trade policy has shifted fundamentally in favor of export production. This corresponds to their de facto adoption of the coastal development strategy, an active encouragement of FDI through various fiscal motives. The liberalization and decentralization of export activities are main sources of trade reform in these countries because an open trade regime has at least four major advantages compared with a closed-economy approach to economic development [2]:

- 1) The comparative-static benefits from trade;
- 2) The ability of sectors with relatively high productivity to grow far beyond demand in the country itself;
- 3) Dynamic welfare gains thanks to continuous rises in productivity;
- 4) Reductions in the incentives for unproductive activities and corruption associated with trade barriers.

It is frequently said that trade policy should have more aims than efficiently linking domestic to world markets. These objectives typically include: revenue raising; the protection of infant industries; and environmental and social goals. The trade-policy reform has also brought about significant changes in trade patterns. As the reforms progress and market forces come to play a greater part in resource allocation, the trade pattern has tended to move towards one which is more determined by its comparative advantage. They had increased the degree of specialization in a relatively narrow range of exports, mainly laborintensive The liberalization products. and the decentralization of trade controls have released the country's strong comparative advantage in specific activities requiring the intensive use of low-skilled labor. By unleashing strong forces of comparative advantage, trade-policy reforms have fostered exports of labor-intensive goods. Most dramatic in this aspect are shifts in the product composition of their export structure. For example, the diversification in the structure of exports has become more popular with the increasing share of manufactured products in total merchandise exports, from roughly 50% in 1980 to 80% in 1992. The share of Vietnam's machinery and equipment exports grew from 9% in 2005 to 13% in 2010¹.

III. TRADE REFORM AND POVERTY REDUCTION: A POSITIVE LINKAGE?

Some philosophers ignore and even sometimes reject the crucial finding that, generally, free trade helps the poor. Because, according to Slaughter (2001), free movement of goods, services, and persons will go a long way toward decreasing world poverty, any theory of global justice should employs a difference-in-differences approach to find out the effect of very specific trade liberalization events on income growth dispersion, and sees no systematic link between trade liberalization and per capita income convergence, encourage and foster the establishment of free trade and the reduction of barriers to immigration. However none of the major scholars on distributive justice or socio-economic rights, namely, those concerned with poverty, suggest unrestricted trade, and some of them even claim that free trade hurts the world's poor.

Meanwhile, many commentators recommend that a positive correlation lies between more open trade regimes and economic growth. Barlow (2006) appears to be the contribution that focuses most explicitly on the connection between trade policy liberalization by itself (as well as other separate aspects of liberalization) and growth in transition economies. He thinks that the level of trade liberalization raises the growth rate especially in transition countries in the case of CEECs [4]. Trade liberalization (as represented by the improved Sachs-Warner indicator) has mostly had a positive impact on economic growth in the transition economies. According to [5] it can be argued that trade liberalization appears as a key component of a successful transition strategy when evaluated in terms of growth performance. In this writing, we claim, following the general consensus in the economic literature, that liberalizing trade would go a long way toward reducing poverty. In trade reform of transition economies, trade liberalization implies a change in the relative prices of traded and non-traded goods and factors in a previously protected sector or economy. The change in relative prices will induce shifts in the allocation of resources to different activities and thereby changes in both subsector and aggregate levels of production. In turn, shifts in income levels (which are expected to increase in aggregate as resources are used more efficiently) have the potential both to reduce poverty levels and in doing so, to improve the food security status by increasing the access of the poor to food [6]. The international dimension is significant, since trade policy influences on both global food availability (in

¹ Global Insight 2011; McKinsey Global Institute analysis

the case of a major importer or exporter), and national food availability (through both imports and production). The impacts on food imports will be mediated by any implications of trade policy for foreign exchange earnings. Some authors (Giavazzi and Tabellini (2005), Feyrer (2009)) see that trade has a significant impact on income, qualitatively confirming the Frankel-Romer results (1999). Especially, Giavazzi and Tabellini (2005) also apply a difference-in-differences approach to find a positive and significant effect of economic liberalization on per capita income growth of: 0.9% if a country only opened to trade; 2.2% if a country opened to trade first and then experienced also political liberalization [7].

Also, trade policy will have implications for poverty alleviation through the correlation with incomes and expenditures. Any change in the trade regime will have a direct effect on both rural and urban incomes, and employment and through these on income distribution. Furthermore, there will be an impact on government revenues through, for example, a change in the level of revenue from import levels. Both effects of national food availability and government revenues at the household level have influences on household access to food directly and indirectly through household incomes.

According to [9], in a comprehensive paper on this topic, winter [8] identifies several key linkages, which are reiterated in large part by Bannister and Thugge (2001). Potential links include changes in:

- 1) The price and availability of goods;
- 2) Factor prices, income, and employment;
- 3) Government taxes and transfers influenced by changes in revenue from trade taxes;
- 4) The incentives for investment and innovation, which affect long-run economic growth;
- 5) External shocks, in particular, changes in the terms of trade;
- 6) Short-run risk and adjustment costs.

In general, on the basis of above arguments, the causal relationship between trade reforms and poverty reduction can be depicted in following Figure:



Fig. 1. An analytical framework for linkage trade reforms and poverty alleviation.

The policy used by individual countries to improve their food security status is one of the key factors in understanding the relationship between trade liberalization and food security. Two broad options have generally been followed by countries attempting to chive adequate levels of food security include food self-sufficiency and food selfreliance. (1)Food self-sufficiency or the provision of a level of food supplies from national resources above that implied by free trade, represents a strategy followed by a wide range of countries. (2) Food self-reliance: this strategy reflects a set of policies where the sources of food are determined by international trade patterns and the benefits and risks associated with it. This strategy has become more common because global trade has become more liberal. In this strategy, agricultural sectors in poor economies are often not well placed to benefit from trade liberalization even when this has had a significant influence on both income levels. This is due to the inflexible structure of production and trade in this sector, often manifested in limited market access and weak institutional development, as well as limited capacity to respond to increase motivations. However, food importers are impacted in the short-term via higher import bills. Consequently, there is often a hiatus during which the food security situation worsens.

IV. CASE STUDY: EAST ASIAN TRANSITION ECONOMIES

During the past two decades, East Asian transition countries have enjoyed substantial benefits in food production and real incomes. Although some scholars see the relative modest progress on structural reform in East Asian transition economies, Fischer (2000) and Martin (2001) agree that the performance of the East Asian transition economies in export and income growth has been more positive than Eastern Europe [2]. Several factors contribute to this growth, including long-term investments in infrastructure, education and agricultural research. The major factors behind these trends in food production are well-known: long-term investments in infrastructure, education and agricultural research, coupled with rapid labor-intensive growth and productivity increases in nonagricultural sectors often associated with outward-oriented development strategies. However, the specific role that trade and related economic reforms played is far less well understood. The experiences of several countries propose that specific agricultural trade reforms have often led to increased real incomes and improvements in food security. In China, Vietnam, Lao, Cambodia, the evidence suggests that trade and related economic reforms also played an important role in these positive developments. The changes that were sprung from the first reforms undoubtedly have effects on agricultural performance and food security in transition countries. Amongst them, the highest levels of economic growth can be seen in China and Vietnam that achieved the most significant reductions in poverty. It is contrasted with the Cambodian experience of high growth but low rates of poverty reduction. In China, incomes and food security have increased dramatically within the rural population. Daily energy intake was about 2100 kcal per capita per day and levels or severe poverty in the 1980s reached 44.7% (about 3044 kcal per capita).

Secondly, the impacts of trade liberalization would be considered in association with other realms of economic integration in the regional and global economy such as increased flows of capital and labor. Capital inflows from the West gone along with integration in WTO and regional trade agreements have contributed to not only macroeconomic stability but also social welfare, household incomes. In detail, these FDI has played a key role in creating strong and sustainable productivity growth in their agricultural economies. Large foreign investments in the food industry and input supply industries have provided productivity gains and institutional innovations throughout the food chain, with important spill-over effects on domestic companies and on farms, and thereby rural households. Moreover, increased involvement with global markets has, in the second phase of transition, also strong brought about growth in these economies. The effect was indirect through contributing to new jobs and growth in non-agricultural sectors, hence allowing rural labor to move out of agriculture into higher learning activities, and reducing the pressure on agricultural incomes.

For example, in China, processing export-oriented enterprises became one of the major channels absorbing excess labor released from the primary sector in rural areas. The migrants, many of whom used to live in poverty in the rural areas, got the chance for employment in these enterprises and finally divorced poverty. They sent a large portion of their income back home for the family in rural areas, to support the elderly and children and to build new houses for better living standards. From 1986 to 1993, the average per capita income in poverty counties rose from 206 to 483.7 Yuan (US\$28.44 to US\$44.82), the population under poverty line in the rural areas dropped from 125 to 80 million, and the ratio of poverty population to total rural population decreased from 14.8 to 8.7% [10].

In the case Vietnam, the overall net impact on poverty of export liberalization was found to be positive. Thanks to the liberalization of Vietnamese agriculture beginning with the introduction of the contract system in 1981, by which cooperatives contracted farm households to produce a specified amount of crops on the household's own plots, but any surplus could be sold on the open market. This meant that farmers can buy, own and sell agricultural inputs, with the allowed amount of 40% of production produced under contracts on cooperative-owned land. Some studies found that increased production of the principal agricultural exports raised a household's chances of escaping from poverty. In 1989, Viet Nam began exporting rice, made profitable by a substantial depreciation of the currency, in 1989. In 1997, Viet Nam had become the world's second largest rice exporter after Thailand. Rice producers/farmers, those for which 75% of the production value is from rice, initial higher yield made considerable contribution to moving them out of poverty. For coffee, the influences of trade liberalization were more highly visible. Being a net coffee producer increased the probability of a household moving out of poverty by 800%. However, multi-market model simulations by [11] showed that eliminating the rice export quota would raise domestic rice prices by 14 to 22% (depending on whether internal marketing restrictions were also removed) and have a negative effect on urban households, non-farm rural households and households in the central highlands of Viet Nam. Net gains to farmers and consumers, however, would be US\$200 million; threequarters of this net gain would represent a transfer from the state-owned enterprises that received the implicit export quota rents (estimated to be the equivalent of a 22% export tax). Besides, there are some good results regarding employment due to the reduction of trade barriers. For example, Textile and garment (T&G) manufacturing as well as footwear have become a major source of non-farm employment, particularly women migrating from rural areas. T&G increases at an annual average rate of 10% during the 1990s, much higher than the national GDP growth and the share of T&G in manufacturing output was about 10.5 % in 2000. In terms of employment generation, T&G industries account for 23% of manufacturing jobs in 2002. In 1993-2006, Vietnam's trade openness (the sum of exports and imports in relation to GDP) more than doubled with exports as the leading engine of growth, thereby increasing real GDP on average by 7.5% a year. On a Purchasing Power Parity basis, per capita income grew more than four-fold from \$630 in 1990 to \$2700 in 2008. Vietnam's country's poverty rate – measured as the percentage of people who live below US\$1 a day – has decreased from about 58% in 1993 to 13.5% in 2008. Accordingly, about 35 million people have escaped poverty [12].

V. CONCLUSION

The induced growth effect of trade reform would bring about changes in poverty through the increase in the average income per capita and also through increased resources available for poverty reduction programmes. Trade liberalization (or more broadly, a liberalized domestic and international trade regime) may guarantee food security through increasing real incomes of farmers in Viet Nam or food production in China. Arguably, trade reform has been a decisive factor behind the escape from poverty of hundreds thousand of rural households. Whether liberalized trade regimes played a major role or not, increases in domestic production have increased availability of food at the national level across many countries in Asia. Because deeper world markets for rice and other grains, availability of foreign exchange from increased export earnings, and trade liberalization have also helped to stabilize availability of food through more reliable opportunities for imports in years of domestic production shortfalls. As a result, availability of food at a national level is no longer a binding constraint for food security in most countries in most years. Trade and economic integration have mainly re-enforced these effects in direct and indirect ways at national, regional and household levels. General trends indicates that trade is combined positively with lower poverty and food security in transition economies.

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Is the Financial Crisis in Europe Special?

Daniel Mareš

Abstract—Italy, Greece, Spain and many other European countries are currently struggling with major financial problems. But the question is whether in the history of Europe the moment, when the financial system works, was able to a few year operations without ending in a spiral towards the impact. When we studying the economic and historical contexts we find, that "special" was a time of prosperity.

Index Terms—Prosperity, economic and historical contexts, crisis in Europe.

I. INTRODUCTION

In general, the company knows two basic kinds of political and financial arrangements. Capitalism and Socialism. Both species have been and are in the world used and practiced. It is necessary to admit that capitalism is present in large quantities, not only today but also in the perspective of history. However, a problem occurs when one considers the sustainability of the financial system in general. Generally, if something is not a person, then he has to look for other options, how the thing can be done differently. History is full of mistakes, attempts at reform, which more or less failed. Match with the state deficit is a theme for many generations, but none of them have learned anything from the mistakes of the previous one.

II. THE JOURNEY FROM THE PAST TO THE PRESENT

A. Capitalism

Capitalism is an economic system in which the means of production are privately owned and operated for profit. Economic parameters (e.g. prices) are determined by the free market (supply and demand), and even the price of labor, not only managed state intervention (as controlled or planned economies).

The state usually leaves the possibility of such a system to regulate economic laws such as the Labour Code and the Commercial Code. Anarchokapitalismus is the name for the system of capitalism without the presence of any state regulation.

B. Communism

Communism¹ (from Latin communis = "common") is primarily a political ideology advocating and requiring joint

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¹ If we look into the 15 century, we find that erupted in the Czech Lands "Husick é" revolution. Poor people revolted against the king and the church. The way in which this revolution funded, was very folk. There were located the tanks, and people throwing their money that they gave to all, in every city. We can say, that at that time was the first germ of socialism. Again, however, we can see a different access to public finance. ownership and rejecting class differences between people. Its proponents are communists, usually organized into political organizations-parties, often named as a communist.

The main features of the communist "economy" are common property, where everyone involved in the business operations.

III. ECONOMICS, POLITICS - HISTORY AND FUTURE

In subsequent rows we will try to put into context the historical moments, important financial reforms in Europe. It will attempt to find the root causes of failures in the financial sector and draw basic hypotheses as to why the system failed at the time and what we remember.

A. France

Although France was one of the richest countries in the world, could not fully satisfy the needs of his ruler. He constantly suffered from lack of funding. Lavish balls, buildings, parades, army, all lead to large expenses, paid by the state. Deadly for the state, showed two things: construction and subsequent operation of Versailles [1].

France has long been teetering on the brink of national bankruptcy. The economic situation has deteriorated significantly since the early 80 years of the 18th century. There began to be implemented reforms to stimulate production (abolition of internal customs duties, certain fees burdensome production) in France. But aristocracy hates reform, because they must pay great taxation. The reforms, however, have failed. They saw that they had nothing to eat, but the king still has a lot of money. Started riots.

France finds itself in the revolution. From this, comes a strong personality revolution - Napoleon. Napoleon unleashed a cycle of wars.

We can identify a situation, where the poor crowd stands up against wealthy king. This sentence is for an article worth remembering.



Fig. 1. System of revolution.

B. Austria

If we look at the situation in Austria, we find that it, too, had to be reformed because its budget was just before the bankruptcy [2]. Tax reform (1789) during the reign of Joseph

II. Situation in the country was calm and save.

Joseph II was in such a bad financial situation, considering that the sale of many gems (palaces, castles) to nobility, in order to save the state money. Joseph II wanted to sell the Prague Castle in order to obtain finance.



Fig. 2. Prague castle.

If we continue in the old line we find that a definitive end to Napoleon's campaign in the political field was the Congress of Vienna (1815).

TABLE I: FINANCIAL REFORM IN EUROPA				
Country	Austria	Russia ²	England ³	
Reform	1789	1703	1832	

Across Europe, we see (18th and 19th century) a diversification of funding in two areas - the common people and the state. The state, represented by the monarch and the nobility living their "dream" of power and does not care about subdirectories of their actions (Marie Antoinette⁴). Government has to change financial policy when the situation was very serious. But it was late.

There's one more, an important moment in the history of Europe. All economies in Europe have stood on its feet, not because of austerity, but thanks wars. Thanks to large investments in the war industry and later in the reconstruction of countries.

Hypothesis no. 1

At the beginning of the 18th century the first wave of "industrial revolution" that swept much of Europe. However, the ruling class did not use favorable economic situation and cast many countries into poverty.

Hypothesis no. 2

Responsible "officials" did not take benefit of raw materials - gold, silver. The simplest example is in the form of Spain, who in the early 19th century poor state.

Hypothesis no. 3

From a historical and economic perspective, we can say that in this period occurs the first time the effect of "rescue war", which gave the opportunity for economies recover. This fact is alarming [3]. Here we can not speak of a stable economy setting, the system which would overcome decades. The financial system is always collapsed or faced collapsed. The reforms did not help.

IV. 20TH CENTURY

Congress of Vienna returned to Europe a few years of peace, but also prepares position cruelest part of human history - World War. We all certainly know that in history lessons, pupils are taught, that there were two world wars. Lenin on the outbreak of the First World War, said post:

The war broke out in accordance with Lenin as a result of the extreme sharpening of contradictions between world powers in the struggle for spheres of influence, colonies, material resources, outlets and markets.

However, I am of the opinion that the war was only one. It lasted from 1914 - 1945. Break in the form of peace in 1918 -1939 in retrospect we can call it "economic war". Germany was under constant pressure from the treasury - reparations, internal uncertainty. The question is what would happen if the financial situation of reparation and Germany has been resolved differently, but under the circumstances, the Second World War a direct consequence of the war first. And it may be because the financial situation at the time, because happy, working people would certainly have left so easily manipulated.

Is not so well-known fact that Hitler had big financial problems? If he does not steal state reserves of each conquered state, then within a few months the whole of Germany went bankrupt.

After the arrival of communism in Europe, we see how the country outside the "communist influence" slowly recovering from war damage, but the new Communist countries are still in a very poor financial condition [4].

Hypothesis no. 4

Europe in the 20th century underwent major upheavals. Many of them, however, can be described as the pursuit of fiscal consolidation - reparations, a new war.

V. BIG BANG AFTER THE WARS

A. Postwar Era

After the Second World War, we witness the unfolding democratic countries that invest in their development, regeneration. This condition may be called the "first postwar impulse".

The second can be found after the fall of communism, when you need to work on the restoration of economically unhealthy countries. Now everything is restored and a new conflict that would cover up the inability to create a stable financial system is not working.

In the postwar period, we can see the struggle between Soviet parts of Europe (Czech Republic, Slovakia, Poland, the Balkans, etc.) and the rest of Europe (Democratic area). Also this situation can be characterized as a "war" since all countries have invested their resources in preparation for possible conflicts "Cold War".

Other investments flowed in research and technology. Not for the vision of progress, in order to "be better" than the other. Competition was unprecedented. Powers raced to

 $^{^{2}}$ the mercantile policy = manufactories and business support, tariff protection, trade relations with the Western powers, invited foreign experts

³ High unemployment and prices catch up with some of the workers to the brink of famine. Spontaneous destruction of machines (called "ludistické" movement) tried to prevent workers layoffs. British cabinet minister attempted to improve the social situation of a fundamental reform of the electoral system in 1832.

⁴ Queen of France (1774-1793) as the wife of Louis XVI. Unpopular because of her extravagance and insensitivity toward the masses, she was tried by the Revolutionary Tribunal and executed.

develop a better technique, evidence that they are better. Hypothesis no. 5

System (whether capitalism, communism) is built not on the market or on the freedom of joint ownership, but mainly on predation and competition. Outlets for both systems (political and financial) are in disputes competitions.

Hypothesis no. 6

Europe is currently located in the longest period of peace in history.

VI. 21TH CENTURY

Looking at the current situation in Europe we find that since the last "war" (1945) 68 years have passed. At first glance, this is a very long time and we can talk about stability in the region. But here we must consider the effect of the Soviet Union, which collapsed in 1989 (significant independence of republics in Europe). The situation in these "free" countries might be called post-war. Everything had to build again. Just as after the war, it was also necessary investment in the renewal and new introduction of financial principles and rules[5]. Thus we can say that Europe is experiencing the current economic status since 1989.

In the communist era, all performed poorly transactions, investments and conceal the system was not so much to know. Today everything is readable and we know immediately of any situation in which a state gets. Linked to this is the fact that real capitalism, free trade in Europe is only 24 years throughout its history.

It is alarming that the system, which is based on freedom and the individual's conduct after 24 years in utter disarray. Let's look at Italy, Greece, Spain, France, Portugal, Cyprus and more.

Upon closer comparison we find that the basic parameters are the same. There is a layer of very rich (nobility) and very poor. The problem is that if we compare the approach to public finance, it is the same. People who are in power are just as corrupt and greedy as it was 200-300 years ago. The reforms that are being implemented are short term and are intended only to have rescued the situation to the culprits could "live" in peace.

From this we can conclude that the situation is almost always the same. We cannot talk about stability.



Fig. 3. Way to nationalism.

Very interesting economic fact is that at this time we cannot determine anything from the past. Financial markets are changing at breakneck speed so that it is very difficult to predict future results. It is very difficult to determine whether the crisis in the W-shaped or V or other symbols, because there are not enough facts for correct decision making.

However, it is necessary to take into account also the political impact of the financial crisis in Europe. There is, in election gets into Parliament nationalist political - Golden Dawn, in Greece. Many political analysts believe, that the success of this political is because, bad policy (Greece), financial situations, improper reforms, but above all - a great debt to the EU [6].

A. A Very Important Fact

As already mentioned, then in Germany Hitler came to power due to the fact, that Germany was forced to pay huge reparations - was financially dependent on neighboring states. There is a similar situation in Greece.

Greece is dependent on funding from the EU rescue fund. At this stage, a save, which is reflected in unemployment, wages, etc.

TABLE II: UNEMPLOYMENT ⁵				
Country	Czech Republic	Greece	Germany	USA
Population	10 505 445	11 283 293	81 831 000	312 355 000
Unemployment (percent)	9,4	$26,8^{6}$ (56,6 ⁷)	6,9	7,8

If the entire article permeates economics and history, then in the subsequent paragraph will be no different. During the First World War E. M. Remargue (writer) tried to capture the young generation - calling it a lost generation. Lost Generation were young people in the First World War entered the army and fought in trench warfare. The burden of deeds that have experienced there was so large that it is accompanied by a lifetime [7].

Young Greeks today, who are unemployed (56.6 percent 24 years), are name like "lost generation". Their future is difficult and no prospects, since their most productive age spend at home, on the streets [8]. Do not get practice and their application each year decreases. The state's economy is losing an entire generation, and this is fully reflected aspect for another 5 years.

VII. CONCLUSION

We all know that we need to learn from history. European history is full of financial missteps, missed opportunities and unnecessary losses. All this is happening now. The entire financial system was and still is in Europe built on demand. If, however, the situation does not occur, which causes the demand, it is not possible to keep the system running.

Today, as in France, 18th century, we see how the crowd rebelling against reform and turn their anger against the government and against the rich (banks). Previously, he was the richest king - one person, one reason to revolt. Today is led protest against banks - a symbol of wealth and governments - a symbol of power and change, which harms the poor.

Europe is at peace, but through the revolutions. People

⁵ December 2012

⁶ total unemployment

⁷ Unemployment young people under 24 years

already do not kill monarchs, but with the same force as it once was in an uproar.

In Europe, the situation is already several times. Thanks incompetence, selfishness individuals forfeited and economies of doing with mere cosmetic changes. But this is nothing new.

Like in France people could not finance the king's demands, and then today it is difficult to finance large state apparatus.

World (not just Europe) needs very urgently to find a new system of finance, trade, growth. Current systems are historically untenable. Crisis in which constantly we are, are associated with basic human nature - greed, selfishness. All efforts to restructuring have failed precisely these reasons. If we want to maintain the current status, must then be at least once every ten years, major event.

The financial crisis in Europe is common. Crisis accompanied the history of Europe and increasingly in the absence of fundamental changes, and then it will be accompanied by a long time. Existing systems are bad.

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Relationship between Some Indicators of Business Environment: Evidence from the European Union

Michal Tvrdon

Abstract—Presented paper deals with possible relationships between some indicators of business environment among the selected European Union Member States. The main observed indicators were Employment protection legislation, Product market regulation and Ease of doing business. First, these measurements of business regulation were compared (reference year 2008). Empirical results showed that favorable level of business regulation existed in United Kingdom and Ireland. Second, non-parametrical approach was applied. Values of Spearman ś rank correlation coefficient suggested that there existed positive correlation between individual rankings, especially between Product market regulation and Ease of doing business.

Index Terms—Business environment, European Union, comparison, regulation, Spearman ś rank correlation coefficient.

I. INTRODUCTION

It is well known that the regulation of the economy through institutions have a major impact on economic performance and hence on economic growth. Moreover, according to most theoretical studies, anticompetitive business regulations (e.g., entry restrictions, price controls) generally reduce equilibrium output and thus labor demand, as in [1]. Regulatory measures alone may have the nature of a legislative or administrative one. Moreover, some institutional factors can have influence on the corruption (e.g. taxes), as in [2].

The paper is structured as follows: (i) in the first part, the paper deals with some general aspects of the business regulation and its influence on the economy; (ii) the second part consists of methodology background; (iii) the third part focuses on empirical results - we deal with the main trends in the development of the selected indicators of business environment among EU countries. The last part concludes.

II. REVIEW OF LITERATURE

According to Scarpetta *et al.* [3] there is evidence that stringent regulatory settings in the product market have a negative bearing on productivity and (although the results are more tentative) on market access by new firms. In addition, strict employment protection legislation, by reducing employment turnover, may in a number of circumstances lead to lower productivity performance and discourage the entry of firms.

Haidar [4] studied the impact of business regulatory reforms on economic growth rates over the period 2006–2010. Main finding is that there is statistically significant evidence, across 172 countries, for economic growth response to business regulatory reforms. There is fairly robust evidence of positive impacts of regulatory reforms and these estimated impacts are sizeable and plausibly large. Each additional reform during 2006–2010 is associated, on average, with a 0.15% increase in economic growth.

According to Djankov *et al.* [5] the relationship between more business-friendly regulations and higher growth rates is consistently significant in various specifications of standard growth models. Moreover, results of this study suggest that countries should put priority on reforming their business regulations when designing growth policies. In addition, identifying and implementing such reforms can accelerate economic growth.

Nicoletti and Scarpetta [6] argue, based on the regression analysis, that that less restrictive product market regulation is conducive to growth. In other words it means that an improvement of $\frac{1}{2}$ index points of barriers to entrepreneurship would translate into approximately a 0.4% higher average annual rate of GDP per capita growth.

Klapper *et al.* [7] found that costly regulations hamper the creation of new firms, especially in industries that should naturally have high entry. In addition, Brandt [8] suggest that the process of firm entry and exit plays an important role for structural change and economic performance. New firms seem to be important for shifting resources to expanding markets and for enhancing productivity growth especially in newly emerging sectors. Moreover, Product market regulations which constitute direct or indirect barriers to entry may impinge on a country's ability to exploit the potential of young firms' contribution to innovation and productivity growth in younger markets.

Feldman [1] analyzes to what extent anticompetitive business regulations, like price controls and administrative obstacles to start a new business, affect labor force participation and employment rates in his study. Results of the regression analysis show that they lower both.

If we look at regulation of the labor market, we can find out two parallel view of Employment protection legislation (EPL). The first one supposes that strict EPL can impede effective labor market performance and implicitly the economy. The latter one is based on an opinion that employment will be more stabile and individual contracts long-term if EPL is stricter. In other words – strict EPL reduces hiring and firing and stabilize the flows within labor

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market.

One possible reason why EPL exists is a finding that in many models and besides this in reality too the market interactions are not such as to ensure that laissez-faire employment relationships achieve complete efficiency, as in [9]. Cazes and Nesporova [10] mention that strictness of EPL could influence both employers decision making and employees decision making: the main argument supporting EPL has connection with employees safety during job performance, job and income security and not least an advantage of stabile employment relationship that encourages investment in specific human capital and thereby upgrade the productivity of the worker. Another argument in favor of EPL has connection with willingness of workers to accept technological change and internal job mobility, with a potential increase of productivity. At the macro level, EPL is considered a stabilizer in labor market adjustment process in case of economic shock. Strict EPL significantly increase unemployment rate, as in [11]-[12], and [13].

III. METHODOLOGY

The Spearman's Rank Correlation Coefficient is a nonparametric (distribution-free) rank statistic proposed by Ch. Spearman in 1904 as a measure of the strength of the associations between two variables. The Spearman rank correlation coefficient can be used to give an R-estimate, and is a measure of monotone association that is used when the distribution of the data make Pearson's correlation coefficient undesirable or misleading. As with any other hypothesis test, for Spearman's test you take a sample, work out the test statistic from the sample and compare it to the critical value appropriate for the sample size, the required significance level and whether the test is 1- or 2-tail.

The Spearman s rank correlation coefficient is defined by Gujarati and Porter [14]:

$$r_{s} = 1 - \frac{6\sum_{i=1}^{n} (i_{x} - i_{y})^{2}}{n \cdot (n^{2} - 1)}$$
(1)

where, $(i_x - i_y)$ is the difference in the ranks given to the two variable values for each item data, and n is number of individuals of phenomena ranked. r_s value +1 means perfect positive correlation, r_s value close to zero means no correlation and r_s value -1 means perfect negative correlation. Moreover, the smaller the correlation coefficients the more likely the data points will be scattered on the graph. Without considering scatter lots, t-test significance analysis, and slope analyses it is easy to misinterpret correlation coefficients. In our case, we computed this r_s for two variables: the overall EPL index (year 2008) and the unemployment rate (year 2008). The sample size (n) was 20 countries. According to Hudec et al. [15] in examining the two measurable variables it must be expected that the same values of both variables can be found. Then same values are assigned the same serial number that is calculated as the average of the serial numbers. For this purpose we used a corrected version of the Spearman correlation coefficient, where the term n (n2-1) replaced by n

(*n*2-1):

$$r_{s} = 1 - \frac{6\sum_{i=1}^{n} (i_{x} - i_{y})^{2}}{n \cdot (n^{2} - 1) - c}$$
(2)

where *c* is correction coefficient which is computed as:

$$c = \sum_{j=1}^{k} (c_j^3 - c_j)$$
(3)

where c_i is a number of repetitions.

Because the ranks used in Spearman test are not drawn from a bivariate Normal population, the tables of critical values are worked out differently from those for the Pearson s product moment correlation coefficient and, hence, have different values.

The null hypothesis should be written in terms of there being no association between the variables. This conveys the purpose of the test: investigating possible association in the underlying population. Now the question remains whether the true population correlation is 0. If the sample size exceeds 10, the test statistic is approximated by a *t*-statistic with *n*-2 degrees of freedom, as shown in Equation 4:

$$t = r_s \sqrt{\frac{n-2}{1-r_s^2}} \tag{4}$$

where, r_s is Spearman's correlation coefficient and n is sample size.

Then the null and alternative hypotheses are:

H0: $\rho s = 0.0$

HA: $\rho s \neq 0.0$

If the computed t value exceeds the critical *t* value, we may accept the hypothesis of heteroscedasticity; otherwise we may reject it.

IV. EMPIRICAL RESULTS

OECD has developed a system of indicators for the measurement of the level of job protection or in other words labor regulation. These indicators consist of 21 items that quantify the costs and procedures associated with firing and hiring. Individual dismissal of workers with regular contracts: incorporates three aspects of dismissal protection: (i) procedural inconveniences that employers face when starting the dismissal process, such as notification and consultation requirements; (ii) notice periods and severance pay, which typically vary by tenure of the employee; and (iii) difficulty of dismissal, as determined by the circumstances in which it is possible to dismiss workers, as well as the repercussions for the employer if a dismissal is found to be unfair (such as compensation and reinstatement).

Additional costs for collective dismissals: most countries impose additional delays, costs or notification procedures when an employer dismisses a large number of workers at one time. This measure includes only additional costs which go beyond those applicable for individual dismissal. It does not reflect the overall strictness of regulation of collective dismissals, which is the sum of costs for individual dismissals and any additional cost of collective dismissals.

Regulation of temporary contracts: quantifies regulation of fixed-term and temporary work agency contracts with respect to the types of work for which these contracts are allowed and their duration. This measure also includes regulation governing the establishment and operation of temporary work agencies and requirements for agency workers to receive the same pay and/or conditions as equivalent workers in the user firm, which can increase the cost of using temporary agency workers relative to hiring workers on permanent contracts.

The OECD Indicators of Product Market Regulation (PMR) are a comprehensive and internationally-comparable set of indicators that measure the degree to which policies promote or inhibit competition in areas of the product market where competition is viable. They measure the economy-wide regulatory and market environments in 30 OECD countries in (or around) 1998, 2003 and 2008. They are consistent across time and countries. Users of the data must be aware that they may no longer fully reflect the current situation in fast reforming countries. The indicators cover formal regulations in the following areas: state control of business enterprises; legal and administrative barriers to entrepreneurship; barriers to international trade and investment.

The Doing Business Report (DB) is a study elaborated by the World Bank Group since 2004 every year that is aimed to measure the costs to firms of business regulations in 183 countries in 2012. We used 2008 ranking because of data consistency. The Ease of doing business index ranks economies from 1 to 178 (in 2008). The index is calculated as the ranking on the simple average of country percentile rankings on each of the 10 topics covered in Doing Business 2008. The ranking on each topic is the simple average of the percentile rankings on its component indicators.

If an economy has no laws or regulations covering a specific area—for example, bankruptcy—it receives a "no practice" or "not possible" mark. Similarly, an economy receives a "no practice" or "not possible" mark if regulation exists but is never used in practice or if a competing regulation prohibits such practice. Either way, such a mark puts the country at the bottom of the rankings on the relevant indicator.

As seen from Fig. 1 the best rankings among both observed categories obtained United Kingdom, Ireland, Denmark, Netherlands, Finland and Sweden. In other words we can say that favorable level of business regulation and product market regulation existed in these countries. While in the case of the Czech Republic, Poland and Greece high level of both business regulation and product market regulation was found. Although it was not the purpose of this paper to find a relationship between the level of regulation of business and economic performance we can state, according to previous studies, that this high level of regulation can have some negative effects.

In Fig. 2 we also compared rankings (Product Market Regulation and Employment Protection). As in the previous case, United Kingdom and Ireland achieved the best result in both rankings. The group with low ranking positions consists of Luxembourg, Greece, Portugal, Spain, France, Slovenia and Belgium. Slovakia and Poland achieved relatively good ranking in the case of EPL (less strict regulation of hiring and firing workers). However, product market regulation was high in these countries.



Fig. 1. Relationship between ease of doing business and product market regulation rankings; source: OECD and World Bank



Fig. 2. Relationship between product market regulation and employment protection legislation rankings; source: OECD.

Fig. 3 contains comparison of Ease of Doing Business and Employment Protection Legislation rankings. As seen from the figure we obtained similar results in comparison with previous figures.



Fig. 3. Relationship between ease of doing business and employment protection legislation rankings; source: OECD and World Bank.

Spearman's rank correlation coefficient in the first case (possible correlation between product market regulation and employment protection legislation) was 0.413689 and our computed the test statistics was 1.927835. From this value of

 r_s (0.413689), we can say that it shows that the two sets of data show weak, positive correlation. It means, in other words, that the coefficient's value suggested positive relationship between EPL and PMR (the level of EPL strictness is correlated with the level of PMR among selected countries). To test the null hypothesis using the t-statistic, we go to the t-distribution table with n-2=18 degrees of freedom for the appropriate significance level. Using a significance level of 0.05, we get critical t-values equal to 1.734000 so the null hypothesis, that there is no association in the underlying bivariate population, would not be accepted. In the second case, we tested possible correlation between employment protection legislation and ease of doing business. Spearman s rank correlation coefficient was 0.434586 and our computed the test statistics was 2.047227.

To test the null hypothesis using the t-statistic, we go to the t-distribution table with n - 2 = 18 degrees of freedom for the appropriate significance level. Using a significance level of 0.05, we get critical t-values equal to 1.734000 so the null hypothesis, that there is no association in the underlying bivariate population, would not be accepted. In the third case, we tested possible correlation between product market regulation and ease of doing business. Spearman's rank correlation coefficient was 0.711278 and our computed the test statistics was 4.293146. To test the null hypothesis using the t-statistic, we go to the t-distribution table with n - 2 = 18degrees of freedom for the appropriate significance level. Using a significance level of 0.05, we get critical t-values equal to 1.734000 so the null hypothesis, that there is no association in the underlying bivariate population, would not be accepted.

V. CONCLUSION

The presented paper deals with possible relationships between some indicators of business environment among the selected European Union Member States. According to literature there is evidence that stringent regulatory settings in the product market could have a negative bearing on productivity and economic growth. The main observed indicators of the business environment of regulation were Employment protection legislation, Product market regulation and Ease of doing business. First, these measurements of business regulation were compared (reference year 2008). Empirical results showed that favorable level of business regulation existed in United Kingdom and Ireland. Second, non-parametrical approach was applied. Values of Spearman's rank correlation coefficient suggested that there existed positive correlation between individual rankings, especially between Product market regulation and Ease of doing business.

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Factors Affecting Consumer Loyalty of Music Products in Indonesia

Reni Diah Kusumawati, Detty Purnamasari, and Sardiyo

Abstract—The music industry in Indonesia has decreased each year. One major cause of the decline is due to the development of technology and internet which can influence consumer behavior. The development of technology and internet resulted in consumers prefer to download music for free through the internet. This study aimed to examine internal and external factors to music products that can affect loyalty to consume music legally. Respondents in this study were consumers of music lovers. Data were obtained through questionnaires, and analyzed using multiple regression analysis techniques and path analysis. The results showed that only brand variable has significant affect either directly and indirectly on consumer loyalty of music products.

Index Terms—Consumer loyalty, consumer satisfaction, marketing mix.

I. INTRODUCTION

Technology and internet are growing very fast, and can help music industry in introducing their products, but on the other side can also be a cause of declining sales of music products, because consumers become easier to obtain products with downloading music for free through the internet. Piracy also give contribute to decline of sales music legally. The digital era has changed consumer behavior to stay away from the loyal attitude [1].

The music industry needs to think in order to increase sales volume by providing satisfaction to consumer to keep the loyalty of consumers to consume their music product legally. Satisfaction and loyalty can not replace each other [2], [3], it is possible for consumers to feel satisfied, but not loyal because of many other options available.

This research aims to provide information for the music industry about the factors that can be used to revive music industry through satisfying the needs of consumers in order to increase the volume of music sales.

II. LITERATURE REVIEW

The music industry in the world has decreased each year due to piracy and downloading music through the internet. Downloading illegally recorded in Indonesia reached 70 million downloads per month, with a loss rate of IDR 12 trillion, and since 2003 there were approximately 90% of Compact Disks (CD) and cassettes in circulation are counterfeit [4]. These data indicate the need for treatment is seriously, so that consumers have a loyalty to consume music product legally.

Loyalty is a strongly held commitment to buy or use the product again [3]. In the current era of modern marketing, loyalty can be determine directly by customer expectations of products offered, nor the application of marketing mix applied [5]-[7]. Consumer loyalty can be formed due to the satisfaction of consumer.

Consumer satisfaction is an evaluation of after-sale where selected alternatives provide the same or exceed customer expectations [8]. Marketing mix elements can be used to provide satisfaction to consumer, thus increasing consumer loyalty to a product [9], [10].

Marketing mix is a set of controllable marketing variables that the company uses to produce the desired response in the target market [11]. One of the elements of the marketing mix is product characteristic which may affect to customer satisfaction and customer loyalty, besides that, the economy, consumer demographic and market characteristics may also influence customer satisfaction and customer loyalty [12]-[14]. Consumer loyalty and consumer satisfaction may also be influenced by other marketing mix variables, such as price [15], [16], promotion [17], and distribution channels [18]. Consumer loyalty can be influenced by consumer attitudes toward the brand [19]-[21], quality products [22], [23], and environment [24], [25].

III. METHODOLOGY

The populations in this study are music lovers in Indonesia, with the number of samples used are 150 respondents. Research instrument used was a questionnaire. Likert scale 1-5 is used as a measurement in this study. Hypothesis used in this research are multiple regression analysis techniques and path analysis. The grand theory of this research is the Theory of Planned Behavior [26]. The research model used is a modification of a previous study that discussed the marketing mix, consumer satisfaction, and consumer loyalty [7]-[10], and the modified research models used by researchers as presented in Fig. 1.

Fig. 1 is a model of consumer behavior to examine the effect of marketing mix variables, brand, and environment on consumer satisfaction directly, and to examine the effect of marketing mix variables, brand, and environment on consumer loyalty directly and indirectly through the variable of consumer satisfaction.

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Fig. 1. Research model.

IV. RESULT

Validity test results for the variables of product, price, promotion, distribution, brand, environment, consumer satisfaction, and consumer loyalty showed values above r table 0.14 and have a value of 100% for all variables, which means that all item questions contained in questionnaire were valid for the research.

Reliability test results have an alpha values 0.946 greater than 0.80, which means that every item questions used in the questionnaire for variables of product, price, promotion, distribution, brand, environment, consumer satisfaction, and consumer loyalty have a good level of reliability, which means that the data from the questionnaire can be trusted.

Test of normality for the variables of product, price, promotion, distribution, brand, environment, consumer satisfaction, and consumer loyalty shows the value above 0.05, which means that all variables used in this research were normally distributed.

Variables of product, price, promotion, distribution, brand, environment, will be tested to determine the effect of these variables on consumer satisfaction, and to determine variables of product, price, promotion, distribution, brand, environment on consumer loyalty directly and indirectly through consumer satisfaction. The test results of each variable as presented in Table I.

Results for sub-structural 1 showed that only distribution and brand variables have significant affect on consumer satisfaction partially, because it has a value greater than the tables 1.976, significance value smaller than an alpha to 0.05. Partially results for sub-structural 2 showed that variables of price, brand, environment, and consumer satisfaction have significant affect on consumer loyalty.

Result for all variables showed a value of 15.302 and 39.819 simultaneously, greater than the value of F table 2.433, which means that these variables affect on consumer satisfaction and consumer loyalty.

TABLE	I: SUMMARY OF P	ARAMETEI	R ESTIMATI	ON MODEL	
Model	Path Coefficient	t	р	F	R ²
Sub Structural	1 (X ₁ X ₂ X ₃ X ₄ X ₅	X ₆ to X ₇)			
$X_1 (p X_7 X_1)$	-0.028	-0.423	0.673		0.391
$X_2 (p X_7 X_2)$	-0.011	-0.135	0.893	15.302	
$X_3 (p X_7 X_3)$	0.129	1.616	0.108		
$X_4 (p X_7 X_4)$	0.190	2.401	0.018		
$X_5 (p X_7 X_5)$	0.281	2.326	0.021		
$X_6 (p X_7 X_6)$	0.183	1.861	0.065		
Sub Structural	2 (X ₁ X ₂ X ₃ X ₄ X ₅	$X_6 X_7$ to Y)		
$X_1 (pY X_1)$	0.051	1.035	0.302		
X ₂ (p Y X ₂)	0.324	5.184	0.000		
X ₃ (p Y X ₃)	0.118	1.954	0.053	39.819	0.662
X ₄ (p Y X ₄)	-0.067	-1.116	0.226		
X ₅ (p Y X ₅)	0.295	3.209	0.002		
X ₆ (p Y X ₆)	0.183	2.464	0.015		
$X_7 (p Y X_7)$	0.151	2.414	0.017		

R-square value of the sub-structural 1 showed the value of 0.391, which means that the contribution of the variables of product, price, promotion, distribution, brand, and environment on consumer satisfaction is 39.1%. R-square value of the sub-structural 2 for variables of product, price, promotion, distribution, branding, environmental, and consumer satisfaction is 0.662, which means that the variables of product, price, promotion, distribution, branding, distribution, brand, environment, and consumer satisfaction had contributed 66.2% on consumer loyalty. The rest is influenced by other variables that are not included in the model.

V. DISCUSSION

The digital era has changed consumer behavior. Consumers can obtain a variety of information and can easily purchase products through the internet. The development of technology and internet for the music industry can be very harmful, because it can be one cause of the decline in sales of music products. Creativities of musicians are not appreciated by consumers by consuming the products of illegal music, making the music industry worse off.

The decline of the music industry in Indonesia was characterized by high rates of illegal music downloading by consumers via internet every month, and the data from ASIRI [4] showed the numbers of piracy are constantly increasing every year on music products as presented in Fig. 2.



The results tests conducted on the product variable indicate that the product variable has no significant affect on the music consumer satisfaction and consumer loyalty in the music products. These results state that consumers are no longer loyal to consume music product legally, this is because consumers have found the easy way to obtain music products, although consumers get music products by illegally, seen from the number of illegal music sales continue to rise. Consumers no longer care about the quality of the products that the music they listen to, as long as they can get the songs they want albeit illegally, and this means that consumers can not appreciate the creativity of the musicians.

The results of this study are not consistent with previous researches which state that the product is one element of the marketing mix that influence consumer loyalty [6], [7]. These results are also not consistent with research conducted by previous researchers who claim that the product can provide satisfaction to consumer [9], [10].

The test results for price variables showed that the price has no significant affect on consumer satisfaction, but the price has significant affect on consumer loyalty. This means that consumers will continue to feel satisfied even though they consume music products with not good quality because it obtained for free through illegal downloading. Otherwise, consumer loyalty to the musical product can be determined by the price, as the product of legal music will definitely give you a price for consumers to consume, while consumers of illegal products can be obtained free of charge via the internet.

The results are consistent with research which states that the price of a product can influence consumer loyalty [6], [7], [13]. However, these results are not consistent with the results of research which states that the price of a product can influence consumer satisfaction to a product [9], [10].

Promotion variable results states that the promotion of music products have no affect on consumer satisfaction and consumer loyalty. As much as any attempt by the music industry and musicians to promote their products, the consumers are still more likely to choose getting the music product for free. This makes the music industry, especially in Indonesia worse off.

These results are not in line with the previous research which state that promotional activities for the product can provide satisfaction for consumers to increase consumer loyalty to a product [6], [7], [9], [10], [17]

The test results indicate that the variable distribution of music products distribution activities have significant affect on consumer satisfaction, but the music product distribution activities have no significant affect on consumer loyalty. The results meant that the good activities of distribution music products to be able to reach consumers to provide satisfaction to the consumer. Distribution activities can be do via the internet legally, channeled through the music store or with bundling as is currently done on the emerging fast-food restaurants that do product bundling music with food, distribution activities made to give satisfaction to consumer. However, efforts are still not able to maintain the loyalty of consumers to consume music product legally, because the availability of the ease of obtaining music illegally.

The results are consistent with research conducted by several previous researchers which state that distribution activities have significant affect on consumer satisfaction [9], [10]. However, these results are not in line with research which states that distribution activity has significant affect on consumer loyalty [6], [7], [18].

Brand variable in a music product is the singer or band offered on a music product. In this study, the brand has a variable effect on satisfaction and consumer loyalty. This means that consumers will only repurchase the music of the artists or bands they like, while for another artist or band that consumer not really like, they will obtain illegally. This activity has resulted in the value of legal music sales is very different compared with music illegally.

The results obtained in this study is consistent with the results of research conducted by several researchers which state that brand influence on consumer satisfaction and consumer loyalty [19]-[21].

The test results conducted on the environment variables showed that the environment has no significant affect on consumer satisfaction, but environment have significant affect on consumer loyalty. These results imply that environment factors such as social and cultural, as well as lifestyle products in consuming music can not affect consumers. However, environment factors can affect on consumer loyalty of music product, it happened because of consumer lifestyle factors who always want to look good to others.

These results are not consistent with the results of research which states that the environment can affect consumer satisfaction [8]. However, the results are consistent with research which state that environment factors will influence consumer loyalty to a product [24], [25].

The results for the consumer satisfaction variables showed that consumer satisfaction in the music products have significant affects on consumer loyalty. This result means that if customers are satisfied with the quality possessed by music products with the value contained in the product, and the ease of obtaining music product, it can lead to loyalty within consumer products to keep taking music legally, so can increase sales volume of music products legally.

The results are consistent with research conducted by some researchers who claim that consumer satisfaction can give significant affect on consumer loyalty of a product [5]-[8].

This study only uses the marketing mix variables, brand, and the environment to determine the level of consumer satisfaction and consumer loyalty in Indonesia for music products. Partial test results showed that only variables of price, brand, environment, and consumer satisfaction have significant affect on consumer loyalty of music product, but simultaneously test results showed that all the variables have significant affect on consumer loyalty and contributed 66.2%, the rest is influenced by variables that are not included in the research model.

The results of this study are expected to provide information for the music industry, especially music industry in Indonesia to revive consumer interest in music products to consume music products legally. Various ways can be done by the music industry and musicians, including the innovation of products that provide legal music advantages over illegal music products, as well as easy for consumers to obtain legal music products, so that consumers are interested in repurchasing the music products legally. These activities are expected to enhance the creativity of musicians, to revive the music industry.

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Financial Management of Local Governments in Poland–Selected Problems

Tomasz Uryszek

Abstract—The article examines the value and structure of local revenues, financial autonomy of local governments, equalization of fiscal imbalances and public debt management at the local level in Poland. The research shows that the Polish public finance sector is already considerably decentralised, however the level of financial autonomy of local governments is low and the local revenues are unable to cover expenditures. Thus, the amounts of local public debt keep expanding. Though a system of equalizing grants was introduced to diminish horizontal fiscal imbalances, its' efficacy is still limited.

Index Terms—Debt, decentralization, expenditures, financial autonomy, local government, public finance, revenues.

I. INTRODUCTION

The progressing decentralisation of public finances in Poland calls for discussing the most important problems concerning financial management of local governments. Local governments act within a legal regime defined by the legislature, which reduces the range of options they can exercise to determine the structure of their revenues and expenditures and to take on obligations. At the same time they have to carry out tasks in their own name and on their own account. The range of the tasks keeps extending with public finance becoming more decentralised.

The purpose of this article is to present the results of research into the financial situation of Polish local governments and the major problems in the management of public funds the governments face. The article is based on the Polish and international literature on the subject and the presented data were made available by the Polish Ministry of Finance and Eurostat.

II. LOCAL GOVERNMENT STRUCTURE IN POLAND

Poland received its new administrative division on 1 January 1999. The new system divided the country into three tiers of territorial government: voivodeships, poviats and communes. The new division has been somewhat modified over time. Today Poland has 16 voivodeships, 379 poviats and 2479 communes. Voivodeships fall into the category of the regional level of government, but official EU's statistics recognise it as local government. Local authorities at all levels are elected every four years in general and direct elections. The central administration offices in the voivodeships are outside the local government structure. Local governments are responsible for fulfilling their own tasks as well as those requested by other authorities, including the central government. To be able to do this, local governments were provided with different sources of revenues, for instance they can take on financial obligations including bank credits and loans and issue debt instruments. They are also allowed to grant sureties and guarantees. Specific laws governing these actions have been provided in statutes enacted by the national parliament.

III. REVENUE STRUCTURE

The sources of revenues available to local governments in Poland are provided in a separate statute [1]. According to its provisions, these are local governments' own revenues, conditional and unconditional grants from different form the national budget and form other public institutions. It is worth noting at this point that while the boards of self-governing units of local administration are free to decide about the allocation of their own revenues and unconditional grants, conditional grants must be spent on the specified purpose [2].

The catalogue of the sources of own revenues is extensive and the sources differ depending on the level of local government. The local government revenue act of 2003 broadly indicates local taxes and charges, local governments' share of national taxes, revenues from local governments' property and capital investments, as well as other sources (e.g. legacies and gifts bequeathed to the local government, revenues from fines, etc.). The classification of shares in national taxes as own revenues of local governments appears to be inconsistent with the principles of fiscal federalism and international literature [2]. The size and structure of local governments' revenues in Poland in 2009, based on the data form Polish Ministry of Finance is shown in Table I.

TABLE I: SIZE AND STRUCTURE OF LOCAL GOVERNMENTS' REVENUES IN POLAND IN 2009

Revenues	Amount in PLN	Share in total revenues (%)	
Own revenues	75 297 351 734,62	48,63	
- inc. Shares in national taxes	33 593 945 329,18	21,70	
Conditional grants	34 249 722 728,64	22,12	
- inc. Investment grants	11 495 705 039,24	7,42	
Unconditional grants	45 295 386 768,00	29,25	
-incl. equalization grants	11 355 962 408,00	7,33	
Total revenues	188 436 406 560,44	100	

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Among all levels of local government, communes have access to the widest range of fund-raising options, but the range of tasks they are expected to fulfil is also the widest. Communes are the only level of local government that can use local taxes for revenue purposes, but the Polish law does not allow them to create taxes [3]. The power to create taxes has been granted to the Parliament of the Republic of Poland by the Constitution of Poland [4]. Nevertheless, communes can impose local levies (including taxes) in the extent allowed by the relevant acts [4]. Their power to model the burden of local taxes primarily involves their right to determine the object of taxation, the taxpayer, and tax rates (in compliance with the laws in force) [5].

The Polish communes' control of taxes is therefore limited by the country's political and law-making systems. Communes can determine their budget revenues (e.g. by changing the rates of local taxes or by granting tax reductions or exemptions to taxpayers) only within the statutory limits defined by the Parliament.

According to Eurostat data the value of local governments' revenues to GDP ratio in Poland has been significantly higher than the average of European Union countries (see Table II).

TABLE II: LOCAL GOVERNMENTS' REVENUE TO GDP RATIO – POLAND AND EUROPEAN UNION (YEARS 2008-2011)

	2008	2009	2010	2011
Poland	14,0	13,7	13,9	13,4
European Union	11,4	12,1	11,9	11,7

Local governments' revenues fall short of their expenditures, which creates budget deficits. Table III makes a comparison of budget balances and revenue-to-expenditure ratios of local governments in Poland with EU-27 averages between 2000 and 2010 (Eurostat data, ESA).

TABLE III: BALANCES OF LOCAL GOVERNMENTS'	BUDGETS AND
REVENUE-TO-EXPENDITURE RATIOS – POLAND AND E	EUROPEAN UNION

Fiscal Year –	Deficit or surplus (in % GDP)		Revenue-to-expenditure ratio (in %)		
	Poland	European Union	Poland	European Union	
2000	-0,40	0,00	96,27	100,00	
2004	0,10	-0,20	100,78	97,37	
2006	-0,30	-0,20	97,81	98,25	
2007	0,00	-0,10	100,75	99,12	
2008	-0,20	-0,20	98,58	98,26	
2009	-1,00	-0,40	92,52	97,56	
2010	-1,10	-0,40	92,00	96,72	

The data show considerable variations in the budget balances of local governments in both Poland and the EU, but in Poland they are stronger than in the other EU member states. In addition, the period of economic crisis seriously deteriorated the financial results of Polish local governments (more than the EU average).

IV. FINANCIAL AUTONOMY

The problem of local governments' autonomy, including financial autonomy, has been extensively covered in the literature. Financial autonomy can be considered in terms of revenue autonomy, expenditure autonomy or their combination [6]. Revenue autonomy is frequently equated with local government's right to create sources of revenues for its budget. If a somewhat wider approach is taken, the revenue autonomy of authorities can also be considered with respect to their right to pursue fiscal policy within their territorial jurisdiction [7]. This includes, for instance, the right to create the sources of own revenues (e.g. local taxes or charges), the granting of tax reductions or exemptions or tax payment deferrals, but also, to some extent, the management of assets held by the local government with the purpose of generating revenues. The scope of revenue autonomy plays an important role in the decentralisation of public finances [8].

Expenditure autonomy can be interpreted in terms of local governments' freedom to spend their funds. It is therefore limited by the amounts and structure of revenues in local budgets, because expenditure autonomy of local governments depends on the availability of revenues that they can fully control under the law in force [7].

Revenue autonomy is strongly related to expenditure autonomy, because the scope of expenditure autonomy is determined by revenue amounts and their structure in local budgets. It is so, because expenditure autonomy of local governments arises from their ability to have revenues that they can allocate as they wish within the limits of the law [7]. The freedom to create budget revenues should be accompanied by the freedom to spend them [7]. It is therefore not possible to treat expenditure autonomy and revenue autonomy as completely separate notions. A significant amount of local governments' revenue autonomy (such as their right to create various "unique" sources of revenues) is likely to increase the level of tax competition [9]. The efficacy of this mechanism shows territorial variations, though, and depends, inter alia, on the specific solutions implemented by particular countries [10] and on the mobility of the population [11].

The results of empirical studies [12], [13] show that the scope of revenue autonomy of Polish local governments is relatively narrow. As far communes are concerned, local taxes represent a relatively small proportion of their budget revenues (less than twenty per cent). Secondly, communes are in principle not allowed to create their own "unique" taxes or other significant source of revenues. Their active revenue policy consists in setting tax rates below their maximal levels, the granting of tax reliefs and exemptions, as well as the remission of overdue taxes. Communes exercise these rights to adjust the amount of their revenues. In general, however, their power to determine the structure of their revenues is very limited, so their authorities have fewer chances of participating in tax competition. A considerable share of communes' revenues is represented by intergovernmental grants. Their amounts are not fully (let alone directly) controlled by communes, so they reduce the scope of their revenue autonomy. Poviats and voivodeships are not allowed to create local taxes to draw revenues. In fact, their ability to determine local revenues is insignificant. These two tiers of self-government hardly have revenue autonomy at all.

The scope of local governments' revenue autonomy is determined not only by the amount of their own revenues but also by the value of unconditional grants paid by the state
budget and other local governments. The available analyses show that the value and structure of local governments' transfer revenues are important for their expenditure autonomy. Fast expanding amounts of grants between 2004 and 2010 had an adverse effect on the expenditure autonomy of local governments. However, this finding should not be treated as showing an obviously negative phenomenon, because the increase in conditional transfers to local governments was caused by greater amounts assigned to projects co-financed from EU sources. In this specific case, reduced expenditure autonomy was accompanied by a significantly growing volume of investment spending. The structure of the unconditional transfers made to local governments shows that most of them were calculated and awarded based on the educational needs of local communities. The amount of equalization transfers also increased, pointing to attempts being made to constrain further growth of territorial disproportions in local governments' capacity to create revenue. The increasing amounts of unconditional grants enlarged financial resources fully controlled by local governments, but in the years 2004-2010 local government's revenues from the unconditional grant grew more slowly than from the conditional grants. Among the OECD countries, the Polish rate of transfer revenues used to finance local governments is average [14]. However, the positive thing is that the structure of the revenues is more favourable from the perspective of revenue autonomy than the OECD average.

V. HORIZONTAL FISCAL IMBALANCES

The equalization of local governments' revenues mainly serves the purpose of reducing differences in the economic (or revenue) capacity of local governments at the same level (i.e. of diminishing horizontal imbalances). In very simple terms, the process of equalization involves monetary transfers that the national budget directs to the economically weakest governments or direct transfers from the "better off" local governments to the "poorer" units. Equalization transfers very frequently take a form of an unconditional grant [15], which is calculated with a formula based on measures characterizing the economic and financial or social situation in the region (area). Particular countries develop specific solutions suiting their needs. In practice, equalization funds are frequently supplied by the "more prosperous" local governments. A local government exceeding the levels of predetermined indicators (e.g. economic growth indicators) is required to contribute specific amounts to the national budget which form an equalization fund and are subsequently distributed among other, economically "weaker" units. The theory of fiscal federalism calls these contributions negative transfers (negative grants). The serious problem that appears at this point is the following: if the relatively "rich" local governments must support the "poorer" ones, how can it be established that they have "too much funds" and the poor one "too little?" Trying to identify the specific amounts to be transferred is even more difficult.

It is noteworthy that the equalization function of unconditional grants raises doubts [16]. Unconditional grants support the "weaker" regions (and make it easier for particular local governments to compete with each other) but an equalization system may also decelerate the development of the "richer" local governments (because of the aforementioned negative grants and similar systems). Moreover, the "poor" governments receive funds to meet their basic needs, so they may lose interest in seeking sources of revenue on their own [2]. Even these authors who accept the equalization function of the unconditional grants frequently indicate that equalization funds are not a necessary characteristic of relations between the national government and local governments [17]. The less developed regions frequently have a surplus of unutilized factors of production (such as relatively inexpensive labour) and fairly low costs of investment than the better developed and "rich" regions. These assets can trigger their fast economic growth without the use of equalization grants [18]. There are also direct arguments pointing to the weaknesses of the equalization function; if we assume that the ultimate purpose of revenue equalization is to support the less prosperous citizens and to provide them with higher standard of living, a system equalizing the revenues of local governments is not the best way to achieve this. Aid offered to the poorer local government goes to all their residents - the poorest and the richest alike. There are many disputes and debates on these subjects, both theoretical and underpinned by empirical data. Their multitude cannot change the fact that many of the economically "weaker" local governments simply need help. This conclusion can be found in the European Charter of Local Self-government [19] that Poland signed too. According to the Charter, financially disadvantaged local communities must be protected by equalization procedures or balancing measures that mitigate the impacts of unequal distribution of the potential sources of incomes and of expenditures the communities must make.

The economic situation of local governments in Poland is strongly diversified. The differences can be illustrated with GDP per capita. Considerable territorial differences can also be found in Poland regarding the amounts of own revenues derived by local governments at all levels. The amounts show very strong correlation with regional GDPs. The rate of correlation between regional per capita GDPs and the amounts of local governments' own revenues in particular regions stands at 97%. It is so, because the catalogue of own revenue sources available to local governments includes taxes (both collected locally as well as their share of national taxes [1]) the amounts of which directly depend on the activity and sales of local enterprises [20], etc.

As a result of strong differences in per capita GDPs and local governments' own revenues equalization transfers are necessary to reduce differences in the development of particular regions. The document that the Polish Ministry of Finance distributed among city and town councils and poviat boards explains that the solutions provided in the local government revenue act are intended to further the decentralization of public tasks and funds, and thereby to increase the availability of public funds to local governments as well as their economic responsibility by enlarging the proportion of locally raised revenues in the total revenues [21]. These purposes correspond to the trends presented in the literature on fiscal federalism [15]. The document addresses also the problem of considerable regional differences in the revenues of particular local governments on all levels (i.e. communes, poviats and self-governing voivodeships). The differences were the reason why an equalization system protecting the economically weakest governments was introduced Poland. The system is based on equalization transfers: horizontal differences in the revenues of communes and poviats are made up for using the so-called equalization part and the balancing part of the unconditional grant, whereas voivodeships are entitled to the equalization part and the regional part of this grant. In 2009, the total value of equalization transfers made to local governments exceeded 11 billion PLN, so they accounted for over 7% of all local governments' revenues. The per capita values of equalization transfers made to local governments varied strongly between regions, showing high correlation between the economic capacity of particular regions (expressed through GDP per capita and own revenues per capita) and the amounts of equalization transfers.

The Polish system of equalization transfers also has a mechanism requiring the "better off" local governments to make financial contributions to the appropriate components (*parts*) of the unconditional grant directed to the "poorer" governments (in terms of fiscal federalism this system might be called a system of *negative grants*).

When the principles of fiscal federalism are applied to evaluate the Polish revenue equalization system we find that the system and the principles are generally consistent (as far as the tools and the very concept of equalization are concerned). On the other hand, between 2009 and 2011 equalization transfers accounted for only 7%-8% of all local governments' revenues in Poland. Further, there are strong differences in regional GDPs and local governments' own revenues. This situation contrasted with the long time availability of equalization transfers leads to the question about the efficiency of their use (or granting) [22]. The values of GDP per capita and equalization grants (based on the data of Polish Ministry of Finance) in Polish regions are given in Table IV.

TABLE IV: GDP AND EQUALIZATION TRANSFERS IN POLISH REGIONS (VOIVODSHIPS)

Voivodship	GDP per capita	Own revenues per capita		Equalization grants per capita	
	year 2007	year 2008	year 2009	year 2008	year 2009
Dolnośląskie	33 567	2 481,83	2 365,85	173,25	200,34
Kujawsko- -Pomorskie	26 801	1 763,27	1 708,64	296,57	362,03
Lubelskie	20 913	1 332,71	1 249,30	421,90	518,14
Lubuskie	27 350	1 770,07	1 706,43	288,77	344,69
Łódzkie	28 371	1 969,18	1 879,26	220,00	259,01
Małopolskie	26 4 56	1 835,51	1 819,92	251,70	296,32
Mazowieckie	49 415	3 417,68	3 260,43	203,85	255,66
Opolskie	25 609	1 782,39	1 643,71	268,07	334,03
Podkarpackie	20 829	1 389,29	1 335,51	414,37	508,54
Podlaskie	22 896	1 561,76	1 600,29	392,95	460,19
Pomorskie	30 396	2 287,44	2 152,35	199,13	231,95
Śląskie	32 761	2 335,15	2 196,87	85,35	104,73
Świętokrzyskie	23 741	1 506,06	1 500,59	399,17	487,64
Warmińsko- -Mazurskie	22 961	1 652,32	1 542,92	391,56	474,24
Wielkopolskie	32 266	2 020,72	1 978,83	185,60	227,55
Zachodniopo- morskie	27 708	2 066,94	2027,91	273,25	329,62

It is very difficult to make an unambiguous evaluation of the system. It generally follows the principles of fiscal federalism, but its efficacy seems moderate. The amounts of equalization transfers show significant and negative correlation with the economic and financial situation of local governments (e.g. expressed through GDP per capita and own revenues per capita). This is positive phenomenon, as it shows that equalization funds go to the weakest local governments and that rates of own revenues per capita or GDP per capita rising in local government units decrease the amounts of equalization funds. Poland uses also a system of negative grants which is typical of fiscal federalism.

VI. LOCAL GOVERNMENTS' DEBT MANAGEMENT

The debt of local governments in Poland is steadily driven upwards by their growing demand for funding. During the recent economic slowdown (crisis) the rate of debt growth even accelerated. The Polish law does not allow local governments to have debt in excess of 60% of their revenues. This rule does not apply to obligations assumed to cover the costs of projects co-financed by EU and to non-repayable foreign funds. The value of local government debt to GDP ratio in Poland is much lower than the average for all European Union countries (see Table V – Eurostat data).

 TABLE V: LOCAL GOVERNMENT DEBT TO GDP RATIO IN THE YEARS

 2008-2011 – POLAND AND EU

	2008	2009	2010	2011
Poland	2,3	3	3,9	4,3
European Union	5,2	5,8	5,9	5,9

The predominant items in the structure of local governments' debt are definitely bank credits and loans (see Table VI). In 2010 they accounted for 91.5% of all local debt (bank credits represented over 67%). Debt instruments (municipal bonds and bills) were used definitely less often than bank credits and loans. At the end of December 2010, municipal debt instruments (bonds) represented 8% of all debt of local governments. Despite local governments' growing interest in municipal bonds, they still seem to underestimate the benefits offered by instruments that enable funds to be raised quickly and at low cost.

TABLE VI: STRUCTURE OF LOCAL GOVERNMENT DEBT - YEAR 2010

Debt	All cre	All creditors		Foreign creditors
instrument	PLN million	structure (%)	PLN million	PLN million
Bank credits and loans	50 406,70	91,49	41 914,10	8 492,60
- long-term	49 886,90	90,55	41 394,30	8 492,60
- short-term	519,8	0,94	519,8	0
Debt securities	4 406,20	8,00	3 289,40	1 116,80
- long-term	4 399,20	7,98	3 282,40	1 116,80
- short-term	7	0,01	7	0
Other	281	0,51	281	0
Total	55 093,90	100,00	45 484,50	9 609,40

Municipal debt instruments were mainly purchased by domestic commercial banks whose portfolios accounted for over 72% of the debt instruments (bonds and bills) issued by local governments. Local governments preferred to issue long-term debt (with maturities exceeding 1 year) that represented 98.5% of their total liabilities. Short-term debt was issued only occasionally. Interestingly, a large group of entities investing in municipal debt was foreign investors that accounted for around 17.4% (over 9.6 billion PLN) of total debt issued by local governments.

The debt mainly serves investment purposes. Both correlation analysis and regression models show a clear relationship between local governments' investment spending and their debt levels [23]. Because Poland needs projects fostering its development, the steadily rising volume of investment spending must be recognised as a positive phenomenon. However, many local governments have found themselves very close to the mandatory debt limits.

VII. CONCLUSION

The analysis presented above shows those local governments in Poland struggle with several serious problems even after the public finance sector in Poland has been considerably decentralised. Deficit is a permanent feature of their budgets, which means that revenues are not sufficient to cover expenditures. As a result, the amounts of local public debt keep expanding. This debt, mainly bank credits, is one of the most important sources of funding that local governments use to finance their investments. Many local governments are nearing the maximum level of debt allowed under the law. The scope of financial autonomy granted to local governments in Poland is relatively narrow. Only communes have revenue autonomy, as they are the only units that can derive revenues from local taxes (but not to create them). However, their fiscal policy must fit within the limits of the national law enacted by the Parliament. The expenditure autonomy of local governments is restricted by the substantial proportion of conditional grants in the structure of their revenues. Additionally, particular local governments differ considerably from one another regarding their capacity to generate revenues and "wealth". To eliminate the differences, a system of equalization grants has been constructed on the principles of fiscal federalism, but its efficacy is very limited.

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A Long-Run Relationship between Real Exchange Rates and Real Commodity Prices: The Case of Mongolia

Tsenguunjav Byambasuren

Abstract—In Mongolia, the mining sector has been upgraded and developed very sharply last few years and some international experts stated that this growth will be hold up related to the strategic deposits such as Oyu tolgoi, Tavan tolgoi. It shows that Mongolia will become more relative to the foreign economy in the further. So, this paper tries to examine whether the real exchange rate and the real price of commodity exports move together over time in case of Mongolia. In this paper, we used the Engle and Granger (1987) co-integration approach to assess the long-run relationships between two variables and according to empirical results, the increase in price of Mongolian commodity exports appreciates the domestic real exchange rate. Also, the average half-life of adjustment of real exchange rates to commodity price is found to be about six months.

Index Terms—Commodity currency, exchange rates, cointegration approach, developing country.

I. INTRODUCTION

For commodity-exporting countries, primary commodities dominate their exports and export income of particular country depends on the fluctuations in price of their commodity exports. According to the hypothesis developed by Balassa-Samuelson, however, prices of commodity exports influence on national real exchange rate since the most purchasing countries of commodity exports are tend to be developed and industrialized countries.

There are only a limited number of empirical studies that investigated the long-run relationship between real exchange rates and real commodity prices. For instance, Paul Cashin, Luis Cespedes, and Ratna Sahaya (2002) examined this relationship for 58 countries and a long-run relationship between two variables was found for about two-fifths of the commodity-exporting countries. Also, while Edwards (1989) resulted in that terms of trade fluctuations have been considered a key determinant of real exchange rates for 4 member states of OECD, Taline Koranchelian (2005) found that the Balassa-Samuelson effect together with real oil prices explain the long-run evolution of the equilibrium real exchange rate in Algeria. Most of these studies were basically focused on the behavior of the real exchange rate of commodity currencies of developed and more industrialized countries such as America, Europe and OECD. However, behavior of the real exchange rate of commodity currencies in developing countries with transition economies such as Mongolia has been largely neglected.

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But, Mongolian exports upgraded last few years related to the boom in mining sector such as Oyu tolgoi, Tavan tolgoi, and other strategic deposits and mineral goods (gold, copper, coal) constitute 70 to 80 percent of commodity exports approximately. Thus, this paper examines whether the real exchange rates of Mongolia and the real prices of its commodity exports move together over time.

The Engle and Granger (1987) co-integration approach which implies that deviations from any long-run relationship are self-correcting was applied to assess whether the level of real exchange rates and real commodity prices move together. We then ascertain the direction of causality between the two series using the error correction methodology (ECM) of Engle and Granger (1987). This approach enables us to determine the long-run and short-run relationship simultaneously and average half-life of adjustment of real exchange rates to commodity price. The estimation of error correction methodology is based on monthly time-series of data from the Reports of the Bank of Mongolia for the periods of 2000 through 2010. Also, in this study, terms of trade is used as a proxy for the real commodity exports price because of some difficulties in its calculation and we used the three kinds of real exchange rates (weighted by total exports, weighted by total imports, and weighted by total turnover) to investigate the relationship between two variables.

By applying the error correction methodology and based on time series data over the period 2000-2010, it is determined that the increase in real prices of Mongolia's commodity exports appreciates national real exchange rates and the average half-life of adjustment of real exchange rates to commodity-price is found to be about seven months, which is approximate with the results from the studies in this research field.

II. THEORETICAL FRAMEWORK

In this study, we consider the following assumptions for theoretical sentential:

- Consider a small open economy that produces two different types of goods: a non-tradable good and an exportable good.
- We associate the production of this exportable good with the production of a primary commodity (agricultural or mineral product).
- Factors are mobile.
- The exportable good (as well as non-traded good) is produced domestically [1], [2].

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A. Domestic Production

There are two different sectors in the domestic economy: one sector produces exportable goods that called "primary commodity"; the other sector consists of a continuum of firms producing non-tradable goods. For simplicity, we assume that the production of these two different types of goods requires labor as the only factor [3]. In particular, the production function for the primary commodity is:

$$y_X = a_X * L_X \tag{1}$$

where L_x is the amount of the labor input demanded by the commodity sector and a_x measures how productive labor is in this sector. In a similar fashion, the non-traded good is produced through the production function:

$$y_N = a_N * L_N \tag{2}$$

where L_N is the employment of labor in the non-tradable sector and a_N captures the productivity of labor in the production of this good. Crucially, we assume that labor can move freely across sectors in such a way that labor wages must be the same across sectors. Profit maximization in both sectors yields the familiar conditions:

$$p_x = \frac{w}{a_x} \tag{3}$$

$$p_N = \frac{w}{a_N} \tag{4}$$

In equilibrium, the marginal productivity of labor must equal the real wage in each sector. We assume that the price of the primary commodity is exogenous for (competitive) firms in the commodity sector, and that there is perfect competition in the non-traded sector. Therefore, we can rewrite the price of the non-traded good in order to express it as a function of the price of the exportable and the relative productivities between the export and non-tradable sectors. We obtain:

$$p_N = \frac{a_X}{a_N} p_X \tag{5}$$

Thus, the relative price of the non-traded good p_N with respect to the primary commodity p_X is completely determined by technological factors and is independent of demand conditions. Notice that an increase in the price of the primary commodity will increase the wage in that sector (see equation (3)). Given our freely mobile labor assumption, wages and prices will also rise in the non-traded sector.

B. Domestic Consumers

The economy is inhabited by a continuum of identical individuals that supply labor in-elastically (with $L = L_X + L_N$) and consume a non-traded good and a tradable good. This tradable good is imported from the rest

of the world and is not produced domestically. Our assumptions on preferences imply that the primary commodity is also not consumed domestically. Each individual chooses the consumption of the non-traded and tradable good to maximize utility, which is assumed to be increasing in the level of aggregate consumption given by:

$$C = k C_N^{\gamma} C_T^{1-\gamma} \tag{6}$$

where C_N represents the purchases of the non-traded good, C_T represents the purchases of the imported good and $k = 1/[\gamma^{\gamma} (1-\gamma)^{(1-\gamma)}]$ is an irrelevant constant. The minimum cost of one unit of consumption *C* is given by:

$$P = P_N^{\gamma} P_T^{1-\gamma} \tag{7}$$

where P_N is the price in local currency of one unit of the tradable good. As usual, P is defined as the consumer price index. Now, the law of one price is assumed to hold for the imported good:

$$P_T = \frac{P_T^*}{E} \tag{8}$$

where *E* is the nominal exchange rate, defined as the amount of foreign currency per local currency, and P_T^* is the price of the tradable (imported) good in terms of foreign currency. We now specify in more detail the rest of the world.

C. Foreign Production and Consumption

So far we have assumed that the primary commodity is not consumed by domestic agents and is therefore completely exported. In addition, the domestic economy also imports a good that is produced only by foreign firms. The foreign region consists of three different sectors: a nontraded sector; an intermediate sector; and a final good sector. The non-traded sector produces a good that is consumed only by foreigners using labor as the only factor. The technology available for the production of this good is given by:

$$Y_{N}^{*} = a_{N}^{*} L_{N}^{*}$$
(9)

The foreign economy also produces an intermediate good that is used in the production of the final good. This intermediate good is produced using labor as the only factor. In particular, the production function available to firms in this sector is represented by:

$$Y_{I}^{*} = a_{I}^{*} L_{I}^{*} \tag{10}$$

Labor mobility across (foreign) sectors ensures that the (foreign) wage is equated across sectors. Again, we can express the price of the foreign non-traded good as a function of relative productivities and the price of the foreign intermediate good:

$$P_N^* = \frac{a_I^*}{a^*} P_I^*$$
(11)

The production of the final good involves two intermediate inputs. The first is the primary commodity (produced by several countries, among them our domestic economy). The second is an intermediate goods produced in the rest of the world. Producers of this final good, also called the tradable good, produce it by assembling the foreign intermediate input (Y_I) and the foreign primary commodity (Y_X) through the following technology:

$$Y_T^* = \nu \left(Y_I^* \right)^\beta \left(Y_X^* \right)^{1-\beta} \tag{12}$$

Now, it is straightforward to show that the cost of one unit of the tradable good in terms of the foreign currency is given by:

$$P_T^* = \left(P_I^*\right)^{\beta} \left(P_X^*\right)^{1-\beta} \tag{13}$$

Foreign consumers are assumed to consume the foreign non-traded good and this final good in the same fashion as the domestic consumers. They also supply labor inelastically to the different sectors. Therefore, the consumer price index for the foreign economy can be represented by:

$$\boldsymbol{P}^* = \left(\boldsymbol{P}_N^*\right)^{\gamma} \left(\boldsymbol{P}_T^*\right)^{1-\gamma} \tag{14}$$

D. Real Exchange Rate Determination

It is now straightforward to show how the real exchange rate is determined in the domestic economy. We define the real exchange rate as the domestic price of the basket of consumption relative to the foreign price of a common basket of consumption [4], [5]. Using equations (7) and (14) we can show that:

$$\frac{EP}{P^*} = \left(\frac{a_x}{a_I^*} \frac{a_N^*}{a_N} \frac{P_x^*}{P_I^*}\right)^{\gamma}$$
(15)

In this equation, the term P_X^*/P_I^* corresponds to the commodity terms of trade (or the price of the primary commodity with respect to the intermediate foreign good) measured in foreign prices, a_X/a_I^* reflects the productivity differentials between the export and import (foreign) sectors, and a_N^*/a_N accounts for the productivity differentials between the local and foreign non-traded sectors. These last two terms embody the Balassa-Samuelson effect–an increase in productivity in the commodity sector will tend to increase wages, which translates into an increase in the price of the primary commodity is exogenously determined, the final effect will be an appreciation of the real exchange rate [6].

III. METHODOLOGY

In this paper, we use the Engle and Granger (1987) cointegration approach to assess whether the level of real exchange rates and real commodity prices move together over time. We then ascertain the direction of causality between the two series using the error correction methodology of Engle and Granger (1987) when cointegration can be established between real exchange rates and real commodity prices [7]. Finally, we measure the speed with which the real exchange rate of "commodity currencies" revert to both their constant equilibrium level and test the stability of regression parameters by using special methods.

IV. DATA

The data used to examine whether there is a relationship between the real exchange rate and the real price of commodity exports are monthly time series, obtained from the Reports of the Bank of Mongolia over the period January 2000 to December 2011, which gives a total of 144 observations.

In this paper, we measure the real exchange rates by using International Monetary Fund (IMF) method and substitute the real commodity prices by terms of trade because of some calculation difficulties [8], [9].



Fig. 1. Dynamics of real commodity prices and real exchange rates.

Fig. 1 shows that the real exchange rates and terms of trade are move together over time besides the nominal exchange rates.

V. EMPIRICAL ANALYSIS

A. Economic Condition

In this section, we show the dynamics of foreign trade turnover, total exports, and total imports by following figures.



Fig. 2. Total exports of Mongolia, by products.

B. Empirical Results

1) Unit root test (ADF test)

According to result of Augmented Dickey-Fuller Unit root test, terms of trade, nominal exchange rates (export weighted, import weighted, and foreign trade weighted), and real exchange rates (export weighted, import weighted, and foreign trade weighted) are all I(1) process and these results are summarized in Table I [10], [11].

	TABLE I: THE RESULT OF ADF TEST							
	Variables	0 order	1 order	Integrated order				
1.	Terms of trade	0.187	0***	I(1)***				
2.	NEER, weighted by foreign trade	0.195	0***	I(1)***				
3.	NEER, weighted by exports	0.195	0***	I(1)***				
4.	NEER, weighted by imports	0.227	0***	I(1)***				
5.	REER, weighted by foreign trade	0.043**	0***	I(1)***				
6.	REER, weighted by exports	0.096*	0***	I(1)***				
7.	REER, weighted by imports	0.760	0***	I(1)***				

Notes: (***), (**), (*) indicate probability to reject the null hypothesis that there is a unit root, with respectively 1, 5, 10 percent significance.

2) Granger causality test

As a result of Granger causality, terms of trade and nominal exchange rates have systematic relationships and terms of trade causes the real exchange rates (export weighted, import weighted, and foreign trade weighted).

Null Hypothesis:	Obs	F-Stat	Prob.
TOT does not Granger Cause NEER_EX	137	2.446	0.022
NEER_EX does not Granger Cause TOT		2.241	0.035
TOT does not Granger Cause NEER_IM	137	2.255	0.034
NEER_IM does not Granger Cause TOT		2.493	0.019
TOT does not Granger Cause NEER_TURN	137	1.909	0.073
NEER_TURN does not Granger Cause TOT		2.367	0.026
TOT does not Granger Cause REER_EX	137	3.219	0.003
REER_EX does not Granger Cause TOT		1.237	0.287
TOT does not Granger Cause REER_IM	137	2.564	0.016
REER_IM does not Granger Cause TOT		1.683	0.119
TOT does not Granger Cause REER_TURN	137	3.698	0.001
REER_TURN does not Granger Cause TOT		1.481	0.180

Mongolia is a small open economy country and it (real exchange rates) cannot influence to the world price (terms of trade). So it is impossible that real commodity prices and real exchange rates have systematic relationship. Thus, we conclude that there might be any relationship between the terms of trade and real exchange rates [12], [13].

3) Engle-granger co-integration test

We determine the long-run equilibrium relationship between real commodity prices and real exchange rates, based on Granger causality results [14]. The ADF test result suggests that residual series is stationary, which means there is any long-run relationship between the terms of trade and real exchange rates. By generalizing above results, error correction model is written as follows:

$$\Delta REER _ EX = -0.176 * RESID _ REER _ EX(-1) + (16) + 0.077 * \Delta TOT(-2) + 0.187 * \Delta REER _ EX(-1) + u_{1}$$

 $\Delta REER_TURN = -0.217 * RESID_REER_TURN(-1) + (17) + 0.165 * \Delta REER_TURN(-2) + u_{2t}$

$$\Delta REER _ IM = -0.091 * RESID _ REER _ IM (-1) + (18) + 0.064 * \Delta TOT (-2) + 0.281 * \Delta REER \quad IM (-1) + u_{24}$$

From error correction model, an increase in terms of trade appreciates the real exchange rate and average half-life of adjustment of real exchange rate is found to be about six months, five months, and 11 months for exchange rates weighted by exports, foreign trade, and imports, respectively.

4) Model stability and error analysis

We performed the error analysis of the error correction model by using Vensim software.



Fig. 3. Fanchart of the model of ToT and real exchange rates weighted by imports.

In Fig. 3, we can see the error correction model that indicates the relationship between real commodity price and real exchange rate is relatively stable.

VI. CONCLUSION

The exports of Mongolia have become largely dependent from mineral or primary products. Thus, this paper examines the Balassa-Samuelson hypothesis which an increase in price of primary goods appreciates the real exchange rates in case of Mongolia, based on monthly time series over the period 2000 to 2011.

For the data set we consider the terms of trade instead of real commodity prices and three kind of real exchange rates (weighted by exports, imports, and foreign trade) and we use Engle and Granger (1987) co-integration approach to assess whether the real exchange rates and real commodity prices move together over time.

As a result of empirical analysis, terms of trade is one of the factors that fluctuate the real exchange rate and average half-life of adjustment of real exchange rate is found to be about six months, five months, and 11 months for exchange rates weighted by exports, foreign trade, and imports, respectively.

Also, we check the stability of error correction model that indicates the short and long-run relationships between real commodity prices and real exchange rates by using Fanchart.

The main object of this paper was to examine whether there is any long-run relationships between two variables and in the further, it is interesting to develop the systematic model that can be implemented in policy decisions by determining other factors of real exchange rates.

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Regional Disparities in the European Union: Focused on the Wages and Their Development

K. Gajdov áand P. Tuleja

Abstract—Regional economy is evolved in each region in different ways. It means that there are formed differences. These differences are called the regional disparities. They are formed in many areas. Also, the wages in the regions are evolving in different ways. These are the disparities of the wages. The disparities of the wages are formed as between regions within a country (national) and as between countries (international). Sometimes the wage is motivation for the worker for moving to another region (or another country).

This article focuses on the different wages in the countries of the European Union. The aim of this article is to capture the important points in the evolution of the gross average monthly wages in the countries of the European Union and to analyse the differences between countries.

Index Terms—Gross average monthly wage, nominal wage, real wage, regional disparities.

I. INTRODUCTION

Each country, each region, wants to develop and constantly improve their competitiveness. However, there are differences in the development among countries (regions). These differences may be called the regional disparities. It is a concept which is very frequent in the last decade. The regional disparities are formed in different areas. In this article, we discuss about the disparities of the wages. Because the wages are a very important factor that affects everyone. Recently, more and more people are willing to move to another country for higher wage.

Also, the wages of each country are evolving in different ways and at different paces. In this article there is the analysis of wages in the European Union. At first there are examined gross average monthly wages. These are wages, which are actually provided to employees. Many people do not realize that in the other country, there are higher wages (nominal wages), but also the cost of living is higher. It means that real wages for them may be disadvantageous for change the residence.

The main aim of this article is to capture the important points in the evolution of the gross average monthly wage in the countries of the European Union and to analyse the differences among countries. The other aim is to determine the causes of the trends, especially in times of crisis, which hit the countries of the European Union. At first, the article focuses mainly on nominal wages. It examines their development. It was assumed the nominal wages will always rise. The research shows this is not always true. Moreover in the article there are the basic calculations for closer examination. There is calculated the average rate of growth of wages. There is a comparison between the rate of growth of nominal wage and the rate of growth of gross domestic product. Just the gross domestic product is an indicator to determine the performance of the economy.

The last part of this article is to compare the real wages and labour productivity, specifically the comparison of the average growth of real wages and the average growth of labour productivity. Prevent this transfer of nominal wages to real wages.

Many parts of the analysis show some problems, which are manifested in the economies of the countries of the European Union.

The authors of this article wanted to come out of the concrete absolute values of gross average monthly wages. As well as, they wanted based on publicly available sources. The authors explored the international statistical portals. The data, which were not available on these portals, were traced on the national statistical offices of EU countries.

The analysis of wages is a very interesting area and it is a large area. More research of the wages in the European Union will be subject of further examination. It seems interesting to look at the dependence of migration on wages. It is precisely many authors stated this dependent.

II. LITERATURE REVIEW

Each country, each region, wants to constantly develop and improve their competitiveness. However, the development of individual countries in the European Union is not homogeneous. There are disparities among countries. They are in terms of economic, social, ecological, cultural and other characteristics. One of the most important economic indicators is the income of the population (it is understood in the sense of earnings). It shows some qualitative and quantitative characteristics of each society. It can be monitored at the international level.

Reference [1] the regional disparities are phenomenon and very frequent term last decade. Object of interest and research are complex of social objects and uneven development of parts of these objects. The differentiation and the inequality of these parts are called as disparity. The term disparity comes from the Latin word "*disparatus*", which literally means "split". Ministry of regional development CZ defines the regional disparities as "unfounded regional differences in the economic, social and environmental

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development of the regions" [2].

The regional disparities can be reduced in specific ways. The basic factor in reducing of the regional disparities within the group (e.g. EU) may be the migration. The neoclassical theories explain the migration as a factor that balances the regional disparities. Some people are willing to move among countries for the vision of a better standard of living. Their decision depends on the higher probability of finding a job and getting the higher wages. The most common cause of migration is a different level of incomes (wages) among regions (countries). This differential of income is the cornerstone of neoclassical especially, but also the other theories of migration. It is important to note for migrants is especially important the real wage. But the nominal wage can be the cause for work in another country [3]. At first the person who is thinking of emigrating is probably looking at the gross average wage, which is offered in another country. Then, of course, this person looks at the costs of living in the country. It means that this person will be interested in the real wage.

A. Definitions of the Wages

The nominal wage is paid as a monetary reward for work performance defined by agreement between the employer and the employee.

The real wage is an economic term that refers about the actual value of earnings (wages). This reflects what can be bought for a monetary reward. It expresses the purchasing power of wages. It is the ration of the nominal wages to prices of goods and services (the purchasing power).

The gross average monthly wage is the wage without other personal costs. It is the share per employee of registered number per month. The wages include the basic wages and the salaries, the bonuses and the additional wage or salary, the other bonuses, the compensation for the wages and the salaries, the remuneration for work readiness and other parts of wages and salaries, which were charged to be paid for the period. This wage is gross it means it is before the reduction of the premium to the health insurance and social security, advance income tax personal income tax and other statutory collision.

The increase (the decrease) in the average nominal wages expresses percentage increase (decrease) the wage in a given period compared to the same period last year.

$$g_{w;n} = \frac{W_{n;t} - W_{n;t-1}}{W_{n;t-1}} \times 100$$
(1)

The increase (the decrease) in the average real wages expresses percentage increase (decrease) in the index of the average nominal wages and consumer price index for the same period.

$$g_{w;r} = g_{w;n} - \pi \tag{2}$$

III. COMPARISON OF THE WAGES IN THE EUROPEAN UNION The wages in the European Union are developing in

different ways, at different speeds and directions. The nominal wages can be expected to have the constant growth. However, the analysis of the nominal wages in the countries of the European Union shows that it is not always.

During the analysis of wages in the countries of the European Union, we first proceeded from the values of the nominal wages. It is wages which employees actually receive. In the most countries, employees receive the wage per month. At first, we used the gross average monthly wage for comparison of individual wage of countries of the European Union. For most countries wages cover total economy and are expressed per full-time equivalent employee. This enables comparison of different countries irrespective of the length of working time and the share of part-time and full-time workers. The specific values of wages are taken from the UNECE Statistical Division Database and National Statistical Offices [4]. All of the values are converted to the same currency, the U.S. dollar. Wages common currency (US\$) estimates: are computed by the UNECE Secretariat using the nominal exchange rates.

Table I shows the gross average monthly wages in the EU in the years 2002-2011 (in this view it is possible to see only the odd numbered years, but the analysis is performed on the monitored period). It shows that the gross monthly wages are at the different levels among countries. Moreover, it shows that the gross monthly wages for each year are evolving differently. However, all countries have one common feature. Up to 2008 in all countries, the gross average monthly wages increased, but then came the change, since 2008 wages began to decline. After it, between 2009 and 2010 the gross average monthly wages began to grow. All this was caused by the manifestation of the economic crisis. Since 2008 the EU faces the economic crisis. The primary cause was the U.S: mortgage crisis 2007 which gradually grew into the global financial crisis in 2008, then in the years 2008 and 2009 it affected the entire EU. This caused an increase in the unemployment rate in almost all states and regions of EU, a decrease in the number of job vacancies, as well as a decrease of wages.

In some countries this decline is more intense in some countries the decline is less intense. The largest reduction in the gross average monthly wages was in Malta and in Ireland. The gross average wage in Malta is in the range of low values in comparison to other EU countries. The decline in wages is very intense. It is mainly for this reason that Malta has only small quantities of the raw materials and the domestic market is very small. In recent years the development of the economy is based on tourism, which constitutes 30% of GDP. The development of the economy is also based on exports, which constitutes 75% of the total exports of the state. Malta exports mainly semiconductors. Just these sectors are among the sectors most affected by the crisis. Ireland had a similar problem. Ireland specializes in manufacturing and service industries. Also these are the sectors affected by the crisis.

The contrast, the smallest decline was in Bulgaria in this period. Bulgaria is a rapidly growing and modernizing country, with significant amounts of foreign investment coming in. The economy has made impressive progress in recent years by maintaining long-term financial stability and sustainable growth in a number of sectors.

So far we have looked at the effects of the crisis. When we look at the whole monitored period, it means the period from 2002 to 2011. The gross average monthly wages increased in all countries. This finding has been made so that 2002 is taken as 100%. Between 2002 and 2003, the largest increase was in Slovakia. But from other years, the largest cumulated increase was in Romania (always compared to 2002). From 2002 to 2011 in Bulgaria the gross average monthly wages rose of 289% (it is from \$162.5 in 2002 to \$632 in 2011). However in this country there is quite high inflation. It is the 7th highest inflation in comparison with other EU countries.

On the other hand, in the period from 2002 to 2011, the smallest cumulated increase was in the United Kingdom. It was only 39 % increase. It is from \$3020.3 in 2002 to \$4198.6 in 2011.

In the last reporting year, it is the year 2011 the employees receive the minimum gross monthly wages in Bulgaria (\$470.5), in Romania (\$632) and in Lithuania (\$818.9). On the contrast the employees receive the maximum gross monthly wages in Luxembourg (\$6102.6), in Denmark (\$6091.3) and in Ireland (\$5575.7). The gross average monthly wage in the EU27 is paid in amount of \$2975.3.

TABLE I: THE GROSS AVERAGE MONTHLY WAGES IN THE EU (US\$, AT CURRENT EXCHANGE RATES)

	2003	2005	2007	2009	2011
EU27	1876.9	2227.6	2674.6	2829.1	2975.3
Austria	2881.9	3313.0	3901.5	4200.8	4368.7
Belgium	3177.1	3629.4	4252.1	4495.6	4689.5
Bulgaria	160.2	207.8	304.2	427.9	470.5
Cyprus	1888.0	2296.1	2735.3	3012.9	3469.1
Czech Rep.	639.4	847.8	1126.4	1262.6	1408.5
Denmark	3849.2	4544.2	5333.4	5871.6	6091.3
Estonia	486.4	642.0	992.2	1167.4	1227.7
Finland	2718.5	3205.7	3791.6	4133.0	4424.1
France	2605.7	3064.9	3581.6	3797.8	3976.9
Germany	2787.9	3147.7	3572.3	3711.0	3916.9
Greece	1591.0	1915.1	2268.9	2555.2	2370.5
Hungary	698.7	931.6	1136.3	1116.2	1176.5
Ireland	3566.0	4392.2	5258.6	5607.0	5575.7
Italy	2182.3	2589.3	3001.0	3152.5	3260.6
Latvia	341.9	440.9	780.7	910.3	886.7
Lithuania	385.8	493.0	755.1	801.4	818.9
Luxembourg	3956.6	4674.6	5509.9	5849.9	6102.6
Malta	1294.0	1485.7	1752.0	1967.5	1968.2
Netherlands	3208.9	3684.9	4314.0	4640.0	4751.9
Poland	635.6	791.4	987.3	980.3	1146.8
Portugal	1281.7	1485.0	1734.0	1918.9	1879.8
Romania	201.8	327.1	551.4	577.0	632.0
Slovakia	634.7	832.4	1086.9	1208.8	1293.3
Slovenia	1388.9	1749.0	2154.9	2398.6	2557.3
Spain	1908.6	2226.4	2644.6	3006.3	3133.2
Sweden	2803.0	3241.1	3881.4	3691.5	4536.7
United King.	3402.4	3988.0	4806.0	3924.4	4198.6

For a more detailed view on the problem it has been calculated annual changes in gross average monthly wages in the countries of the European Union. The change in the average nominal wages expresses the % change in the wage in the monitored period compared to the same period last year. Subsequently, it was calculated the average growth rate of gross wage. We measure the average rate of growth by the geometric average of annual growth rates.

$$G(g_{w;1}, g_{w;2}, ..., g_{w;n}) = \sqrt[n]{g_{w;1}, g_{w;2}, ..., g_{w;n}} = \left(\prod_{i=1}^{n} g_{w;i}\right)^{\overline{n}}$$
(3)

Fig. 1 shows the well-arranged comparison of the average growth rates of individual countries in the European Union. The data are sorted from the highest value to the lowest. This analysis proves that the largest annual increase in gross average wages is in Romania (16.29%), followed by Bulgaria (15.73%), Estonia (14.20%), Latvia (13.53%). The smallest annual increase is in the United Kingdom (3.73%), Germany (6.13%) and Belgium (6.76%). In the whole European Union there are wages increasing year on year of 7.69%.



Fig. 1. The comparison of the average rate of growth of wage in the EU.

Table II shows the comparison of the gross average monthly wages and gross domestic product. Values are given in percentages.

Wages are compared with gross domestic product, because it is an important indicator for determining of performance of economy. The Gross domestic product is a key indicator of the development of the national economy it measures the performance of the economy. It is an indicator showing the newly created value. It is used to estimate the economic development of the country. The gross domestic product in the financial expression represents the value of everything what has been newly created in the country during the reporting period.

The largest difference between the growth of nominal wages and gross domestic product is in Romania. In this country wages are rising much faster than gross domestic product. It is alarming. After Romania the largest difference is also in Bulgaria and Estonia.

On the contrary the smallest difference between the growth of the nominal wages and gross domestic product is in Slovakia, Luxembourg and Poland.

In Slovakia there is a rate of growth of gross domestic product is higher than the rate of wages. It is the only country in the European Union with following results in this monitored period.

TABLE II: THE COMPARISON OF GROSS AVERAGE MONTHLY WAGES AND GROSS DOMESTIC PRODUCT (IN %)

	Average rate of growth of wage	Average rate of growth of GDP	Difference
EU27	7.69	2.68	5.01
Austria	7.05	3.53	3.51
Belgium	6.76	3.62	3.14
Bulgaria	15.73	9.12	6.62
Cyprus	9.89	5.46	4.43
Czech Rep.	11.88	7.08	4.81
Denmark	7.78	3.01	4.76
Estonia	14.20	8.06	6.14
Finland	8.10	2.98	5.12
France	7.20	2.87	4.33
Germany	6.13	2.10	4.03
Greece	7.38	3.10	4.28
Hungary	8.92	3.72	5.20
Ireland	7.93	2.54	5.40
Italy	6.91	2.11	4.80
Latvia	13.53	8.30	5.22
Lithuania	11.45	8.34	3.11
Luxembourg	7.27	6.69	0.57
Malta	7.43	3.65	3.78
Netherlands	6.93	2.97	3.95
Poland	7.57	6.42	1.15
Portugal	6.83	2.19	4.64
Romania	16.29	9.15	7.14
Slovakia	11.47	11.50	-0.03
Slovenia	10.06	4.37	5.69
Spain	8.11	4.42	3.69
Sweden	7.99	4.27	3.72
United King.	3.73	0.24	3.48

TABLE III: THE COMPARISON OF REAL WAGES AND LABOR PRODUCTIVITY (IN %)

	Average rate	Average rate of	
	of growth of	growth of labor	Difference
	real wages	productivity	
EU27	5.28	0.84	4.43
Austria	4.99	0.63	4.36
Belgium	4.44	0.52	3.92
Bulgaria	9.79	3.14	6.65
Cyprus	7.32	0.47	6.85
Czech Rep.	9.71	2.91	6.80
Denmark	5.75	0.60	5.15
Estonia	9.67	3.38	6.29
Finland	6.27	1.01	5.26
France	5.29	0.78	4.51
Germany	4.40	0.72	3.68
Greece	3.92	0.37	3.56
Hungary	3.55	1.84	1.72
Ireland	6.45	1.71	4.73
Italy	4.64	-0.23	4.87
Latvia	7.34	4.56	2.78
Lithuania	7.35	4.22	3.13
Luxembourg	4.35	-0.39	4.74
Malta	4.96	0.49	4.47
Netherlands	5.26	0.88	4.38
Poland	4.58	2.77	1.81
Portugal	4.61	0.93	3.68
Romania	8.24	4.24	4.00
Slovakia	7.88	3.85	4.03
Slovenia	6.92	2.15	4.77
Spain	5.32	0.85	4.47
Sweden	6.17	1.85	4.32
United King.	0.99	0.96	0.03

Until now it was analysed only the gross average wage, which is paid directly to employees and it is regarded as nominal wage. The better explanatory power has the real wage. This is the nominal wage reduced of the inflation. It shows the purchasing power.

The last analysis, which is included in this article, is a comparison of Average rate of growth of real wages and Average rate of growth of labour productivity. At first, the real wage index was calculated (1), (2). Then the average rate of growth of real wage was calculated (3).

Table III shows a comparison of Average rate of growth of real wages and Average rate of growth of labour productivity [5]. Values are given in percentage.

It is evident that wages grow faster than labour productivity in all countries of the European Union [6]. If wages grow faster than productivity, it means that the costs of companies grow faster and prices rise.

The largest difference between the rate of growth of real wages and the rate of growth of labour productivity is in Cyprus, the Czech Republic and Bulgaria.

On the contrary, the smallest difference between the rate of growth of real wages and labour productivity is in the United Kingdom, Hungary and Netherlands.

IV. CONCLUSION

In this article the gross average monthly wage in the countries of the European Union was analysed. After theoretical insights on disparities in wages the analysis itself. This is the basic analysis, which will be followed by a more detailed analysis. This analysis will be focused more on the dependence of migration on wages in the countries of the European Union. This will be the subject of the further research, because it is a very interesting area.

The aim of this article was to capture the important points in the evolution of the gross average monthly wage in the countries of the European Union and to analyse the differences among countries. There was the comparison of gross average monthly wages of EU countries from 2002 to 2011. Some values were difficult to detect. The collection of data of several countries was more complex and it had to be explored via individual national statistical offices. There were other necessary data traced.

At first, it was based on Table I, which monitors the evolution of the gross average monthly wages in the countries of the European Union. It was assumed that the nominal wages always rise. But it was found that this is not always true. In times of crisis, there has been a decline in the nominal wages in all countries of the European Union. The largest decline was recorded in Malta and in Ireland. When we looked at the whole monitored period we proceeded from the basic assumption: year 2002 = 100% and we found out the increase from this year. The largest cumulated increase in wages was recorded in Romania. In 2011, the last reporting year, the lowest wages were in Bulgaria, Romania and Lithuania. The highest wages were in Luxembourg, Denmark and Ireland. Another part of the analysis was focused on developments in more detail. It was calculated the average growth rate. The highest average growth rate was recorded in Romania, Bulgaria, Estonia and Latvia.

Last analysis, which was included in this article, was a comparison of the real wages and the labour productivity in the countries of the European Union. It is evident that wages grow faster than labour productivity in all countries of the European Union. If wages grow faster than productivity, it means that the costs of companies grow faster and prices rise. And it is a problem of European Union.

For processing the article was used a large amount of resources, they were mostly internet sources. These were based on publicly available databases.

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Comparison of Services Trade Development among Shanghai, Hong Kong and Singapore

Zha Gui Yong

Abstract—In Sep 2009, International Trade Center (ITC) has become another important development strategy of Shanghai after International Finance and Shipping Center. As the necessary component of ITC, Services Trade in Shanghai is lagged. Shanghai should improve Services Trade by drawing on the experience of ITCs in Hong Kong, Singapore and etc. So it is necessary to analyze the effective factors and put forward corresponding references of the development of Services Trade by comparing the development of Service Trade among Shanghai, H.K. and Singapore.

Index Terms—Comparative analysis, effective factors, international competitiveness, services trade.

I. INTRODUCTION

In Sep 2009, Shanghai (SH) set a goal to build International Trade Centre (ITC) and determined the six specific measures, including developing Services Trade. By Comparing with Hong Kong (H.K.) and Singapore (SGP), Shanghai has great development in International Goods Trade, but International Services Trade has great gap with H.K. and Singapore. With the increasing dependence of economy and society on services, the poor Services Industry and Services Trade will be a limitation for Shanghai to build ITC. So, on the basis of comparing the comparison of the development of Service Trade among Shanghai, H.K. and SGP, this paper analyzes the effective factors on the development of Service Trade and puts forward corresponding suggestions for Shanghai to develop Service Trade and improve building of ITC.

II. COMPARING THE SCALE OF SERVICE TRADE AMONG SH, HKG AND SGP

From the 21st Century, Services Trade of Shanghai has developed dramatically (Table I). From 2000 to 2011, the Services Export increased by 13 times while the Services Import increased more than 19 times. But its overall scale was still less than those of H.K and SGP.

III. ANALYZING THE INTERNATIONAL COMPETITIVENESS OF SERVICE TRADE

A. Construction of International Competitiveness Indexes

There are some main indexes to count and compare international competitiveness in the regarding studies [1].

	HK EX	HK IM	SG EX	SG IM	SH EX	SH IM
200 0	403.62	245.88	280.75	293.79	36.07	43.05
200 1	410.56	247.97	273.07	316.50	46.05	48.90
200 2	445.46	258.33	294.28	333.14	56.97	58.75
200 3	465.00	259.94	362.43	398.67	77.40	83.08
200 4	551.03	309.83	467.32	495.50	121.26	123.52
200 5	636.51	338.38	531.51	549.02	161.30	163.55
200 6	726.74	369.05	639.77	644.72	192.68	210.69
200 7	846.43	424.50	804.90	746.87	250.91	308.22
200 8	923.18	458.49	829.34	788.68	324.03	411.66
200 9	863.06	443.79	738.50	741.14	299.26	448.1
201 0	1061.6	510.06	1123.1	964.63	406.4	640.3
201 1	1214.7	558.77	1291.8	1140.7	473.2	819.6

TABLE I: THE SCALES OF SERVICE TRADE OF SH, HKG AND SGP

Resources: WTO, International Trade Statistics 2012 , www.wto.org ; Shanghai Municipal Commission of Commerce , Shanghai Service Trade Development Report, Shanghai Joint Publishing Press, 2011.

International Market Share (IMS) refers to the ratio of the export of j product of i country in the total export of j product of the world. The IMS is more high, the competitiveness of j product of i country is more strong.

Export Contribution Rate (ECR) refers to the ratio of the export of j product in the total export of i country. The ECR is more high, the competitiveness of j product of i country is more strong.

Competitive Advantage Index (CAI), also called Trade Special Index (TSI), Net-export Ratio Index (NRI) and Trade Competitiveness Index (TCI), refers to the ratio of the trade balance in the total trade of *j* product of i country.

The formula is as follows:

$$\text{TCI}_{i,j} = (X_{i,j} - M_{i,j}) / (X_{i,j} + M_{i,j})$$
(1)

Therein, $X_{i,j}$ is the export of *j* product of *i* country, $M_{i,j}$ is the import of *j* product of *i* country.

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CAI is from -1 to 1; CAI is equal to 0, the competitiveness is average; CAI is above 0, the competitiveness is strong, and CAI is more near i, the competitiveness is stronger; CAI is under 0, the competitiveness is weak, and CAI is more near -1, the competitiveness is weaker. As relative data, CAI can remove the effects of macroeconomics such as currency or economy inflation, economy scale and etc.

Revealed Comparative Advantage (RCA) refer to the ratio between the proportion of the export of j product of i country in the total export of j product of world and the proportion of the total export of i country in the total export of world. The formula is as follows:

$$RCA_{i,j} = \left(X_{i,j} / X_i\right) / \left(X_{w,j} / X_w\right)$$
⁽²⁾

Therein, $X_{i,j}$ is the export of *j* product of *i* country, X_i is the total export of *i* country; $X_{w,j}$ is the export of *j* product of the world, X_w is the total export of the world.

If RCA is above 2.5, the competitiveness of the Service Trade of i country is very strong; If RCA is from 1.25 to 2.5, the competitiveness is much strong; If RCA is from 0.8 to 1.25, the competitiveness is average; If RCA is under 0.8, the competitiveness is weak.

		IMS(%)			ECR(%) CAI		CAI		
	НК	SGP	SH	НК	SGP	SH	нк	SGP	SH
2000	2.66	1.88	0.24	16.6	17.2	5.53	0.24	-0.03	-0.09
2001	2.69	1.88	0.30	17.7	19.1	6.34	0.25	-0.06	-0.03
2002	2.71	1.88	0.35	18.1	19.8	6.51	0.26	-0.04	-0.02
2003	2.46	2.01	0.41	16.9	19.2	6.45	0.28	-0.03	-0.04
2004	2.41	2.11	0.53	17.2	19.6	6.99	0.28	-0.02	-0.01
2005	2.48	2.17	0.63	17.9	19.5	7.06	0.30	-0.01	-0.01
2006	2.55	2.28	0.66	18.4	19.6	6.74	0.33	0.009	-0.05
2007	2.43	2.44	0.72	19.5	22.1	7.10	0.33	0.065	-0.10
2008	2.36	2.54	0.83	20.0	22.7	7.61	0.33	0.063	-0.12
2009	2.48	2.68	0.86	20.8	25.7	8.43	0.33	0.082	-0.20
2010	2.77	2.93	1.06	20.9	24.2	8.76	0.35	0.076	-0.22
2011	2.86	3.04	1.12	21.1	24.0	8.65	0.37	0.062	-0.27
		RCA			RTCA		NRCA		
	НК	SGP	SH	НК	SGP	SH	нк	SGP	SH
2000	0.86	0.89	0.28	0.31	-0.09	-0.15	0.06	-0.01	-0.03
2001	0.89	0.96	0.32	0.33	-0.16	-0.12	0.07	-0.03	-0.02
2002	0.89	0.97	0.32	0.33	-0.16	-0.13	0.07	-0.03	-0.02
2003	0.84	0.95	0.32	0.32	-0.22	-0.12	0.07	-0.04	-0.02
2004	0.86	0.98	0.35	0.32	-0.19	-0.13	0.07	-0.03	-0.02
2005	0.91	0.99	0.36	0.37	-0.16	-0.21	0.08	-0.02	-0.04
2006	0.95	1.01	0.35	0.41	-0.16	-0.28	0.09	-0.02	-0.05
2007	0.98	1.11	0.36	0.43	-0.07	-0.38	0.09	0.001	-0.07
2008	1.02	1.16	0.39	0.45	0.009	-0.48	0.09	0.012	-0.09
2009	0.95	1.18	0.39	0.43	0.021	-0.52	0.10	0.013	-0.10
2010	1.04	1.20	0.44	0.51	-0.02	-0.58	0.11	0.005	-0.11
2011	1.11	1.26	0.46	0.57	-0.04	-0.68	0.11	0.002	-0.12

Note: The goods trade of Shanghai is on the basis of the customs area in order to be in line with Hong Kong and Singapore, and the same below.

Resources: UNCTAD, Handbook of Statistics 2012, www.unctad.org; Shanghai Municipal Commission of Commerce, Shanghai Service Trade Development Report, Shanghai Joint Publishing Press, 2011; Shanghai Statistics Office, Shanghai Statistics Yearbook, 2012.

RCA can objectively reflect the relative advantage by eliminate the impact of the gross volume fluctuate of the country and the world.

$$\operatorname{RTCA}_{i,j} = RCA_{i,j} - \left(M_{i,j}/M_i\right) / \left(M_{w,j}/M_w\right)$$
(3)

Revealed Trade Competitive Advantage (RTCA) refers to the gap between the relative export proportion and the relative import proportion of j product of i country in the world. The formula is as follows: Therein, $M_{i,j}$ is the import of *j* product of *i* country, M_i is the total import of i country; $M_{w,j}$ is the import of j product of the world, M_w is the total import of the world.

RTCA is above 0, the competitiveness of j product of i country is strong, and is weak if RTCA is under 0; RTCA is more big, the competitiveness is more strong, and vice versa.

Net-export Revealed Comparative Advantage (NRCA) refers to the gap between the ratio of the export of j product in the total export of i country and the ratio of the import of j product in the total import of i country.

The formula is as follows:

NRCA_{*i*,*j*} =
$$X_{i,j} / X_i - M_{i,j} / M_i$$
 (4)

RTCA is above 0, the competitiveness of j product of i country is strong and is weak if RTCA is under 0; RTCA is more big, the competitiveness is more strong, and vice versa.

Because NRCA indicates the both impacts of the export and import by eliminating the affect of intra-industry specialization and trade, so it the best index to appraise the international competitiveness of industry.

B. Comparison of the International Competitiveness of Services Trade References

The above indexes of Services Trade among SH, HK and SGP are showed in Table II.

According to Table II, all of these six indexes indicate the competitiveness of Shanghai Services Trade is much lower than that of H.K. and SGP. Especially, CAI, RTCA and NRCA in view of the import indicate the competitiveness of Shanghai Services Trade is worsening, while those of Hong Kong and Singapore are enhancing or improving. In a word, Shanghai has only start to build ITC and must make great endeavor to settle a lot of difficulties.

Then, according to the classification of WTO, this paper counts the CAI, RCA and NRCA of ten kinds of sub-industries service trade of SH, HKG and SGP in order to analyze deeply their international competitiveness of service trade¹.

According to CAI, Shanghai has competitiveness only in Computer & Information, Other Business Service, personal and cultural and recreational services. When comparing with H.K. and SGP, Shanghai is in the lead in communications, Computer and Information Service, and is middle in contraction, other business service, personal and cultural and recreational services, and is lag in other sub-industries of service. Especially the insurance and financial service has a great lag and does not comply with the building of ITC and International Finance Center.

According to RCA, Shanghai has competitiveness only on personal and cultural and recreational services because the RCA is above 1.25 from 2005, all other sub-industries of service has no competitiveness because all the RCAs has been kept under 0.8. Comparing with H.K. and SGP, Shanghai is lead in computer and information, and is middle in construction and insurance service, and is laggard in other sub-industries of service.

According to NRCA, Shanghai has competitiveness only on construction, computer and other business service.

Comparing with H.K. and SGP, Shanghai is lead in communication, computer and information, and is middle in construction, royalties and license fees.

By comparing comprehensively, Shanghai has a strong competitiveness in computer and information, which maybe due to the development of Information Technology Outsourcing (ITO). But foreign investments take over leading role in ITO, so we must review the competitive advantage of computer and information [2]; Shanghai has a middle competitiveness in other business service, personal and cultural and recreational services.

IV. EFFECTIVE FACTORS OF COMPETITIVENESS OF SERVICE TRADE OF SH, HKG AND SGP

The international competitiveness of Services Trade in Shanghai is far lower than those of H.K. and SGP, and can not adapt to the building of ITC at a certain extent. So, it is important and necessary to analyze the cause of the gap between Shanghai, H.K. and SGP, in order to provide references for Shanghai to improve the competitiveness of service trade.

A. The Gap of Labor Productivity of Service Industry

Labor productivity is a determining factor of the economic growth potential and international competitiveness. Generally, more high labor productivity means more low socially necessary labor time, producing cost and price, and more strong international competitiveness [3]. Table III shows the rank of labor productivity of services industry is consistent to the rank of international competitiveness of SH, H.K. and SGP. Shanghai must improve labor productivity of service industry.

TABLE III: LABOR PRODUCTIVITY OF SERVICE INDUSTRY IN SH, HKG AND

			SOP (USD	/L)		
	2003	2005	2007	2009	2010	2011
чи	51286.	54522.	61044.	63683.	6737	71882
ш	3	7	5	4	2	/1862
ŝ	50455.	61648.	79586.	82854.	9540	10638
20	4	2	0	0	4	4
CII	9971.4	11806.	16437.	22052.	2381	27729
SH 9	9	6	8	4	6	21130

Resources: Hong Kong Stats Office, Hong Kong Statistics Yearbook 2012, www.censtatd.gov.hkg; Singapore Stats Office, Singapore Statistics Yearbook 2012, www.singstat.gov.sg; Shanghai Stats Office, Shanghai Statistics Yearbook, 2012.

B. The Development Level of Service Industry

According to the National Diamond Theory, a country must build its own competitive industries in order to gain international competitiveness, because the development level of industries is a material foundation and a key factor of the competitiveness of the industry.

Table IV shows that the rank of development level of service industry indicated by the ratios of add value and employment of service industry is totally consistent with the rank of the international competitiveness of service trade in SH, H.K. and SGP, and indicates that the development of service industry in SH has lagged behind relatively and can not provide a solid foundation to the service trade in Shanghai, and Shanghai's service trade has no competitiveness. Shanghai must fleetly develop the service

¹ The ten kinds of sub-industries service trade refer to transport, travel, communications, contraction, insurance, financial service, computer and information, royalties and license fees, other business service, personal and cultural and recreational services. The data of indexes are not listed, please contact the author directly if need.

industry.

2 22 (70)							
		200 4	200 5	200 7	200 9	201 0	201 1
Ratio of	HK	89.9	90.6	92.3	92.6	93.2	93.4
Service Industry GDP In Total GDP	SG	68.0	69.0	71.0	74.6	71.7	75.0
	SH	50.8	50.5	52.6	59.4	57.3	57.9
Ratio of	HK	84.9	85.4	86.3	87.9	88.4	92.8
Industry	SG	75.2	77.3	76.4	77.1	77.9	79.2
Employment in Total Employment	SH	54.2	55.6	56.4	55.7	55.9	56.3

TABLE IV: DEVELOPMENT LEVEL OF SERVICE INDUSTRY IN SH, H.K. AND

Resources: Chinese Stats Office, International Statistics Yearbook, 2011, www.stats.gov.cn; Shanghai Stats Office, Shanghai Statistics Yearbook, 2012, www.stats-sh.gov.cn.

C. The Scale of Goods Trade

The operation of goods trade needs the input of services, so the rapid expansion of goods trade is the crucial prerequisite of the emergence and development of the service trade. Especially in modern society, service industry becomes an inalienable part of the manufacture and marketing of lots of finished products because that services industry can provide various necessary inputs such as engineering design and data processing etc., and promote the sales of products by providing after-sale services.

Table V shows that the rank of the scale of goods trade is totally consistent with the rank of international competitiveness of service trade in SH, H.K. and SGP, namely Shanghai must strive to develop goods trade in order to strengthen the foundation of service trade.

TABLE V: TOTAL AMOUNT OF GOODS TRADE IN SH, HK AND SGP (BILLION

			Ũ	52)			
	2000	2005	2007	2008	2009	2010	2011
HK	416.7	592.3	719.5	763.2	681.7	842.1	912. 4
SG	272.4	429.7	562.5	658.0	515.7	662.7	775. 3
SH	109.3	350.7	520.9	606.6	515.5	684.7	812. 3
Recourc	es WTC) Intern	ational T	rade Sta	tistics 20)12 www	v wto or

Resources: WTO, International Trade Statistics 2012, www.wto.org; Shanghai Stats Office, Shanghai Statistics Yearbook, 2012, www.stats-sh.gov.cn.

D. FDI Inflow of Service Industry

The international capital flow can optimize the capital allocations all over the world, and has a deep impact on the industry development and international competitiveness upgrade of the host country by spillover effect [4]. Table VI shows that the rank of FDI inflow is totally in line with the rank of international competitiveness of Service Trade in SH, H.K. and SGP. Shanghai must accelerate the opening of service industry and enlarge the FDI inflow to Service Industry.

E. Comparison of Human Capital

With the development of science and progress of society, service industry has a change in its interior construction –the human capital intensive emerging service industry and special service industries appear in abundance and become dominant, then the make service industry be human capital intensive [5], and the international competitiveness of service industry is up to the human capital at a large degree.

The human capital is measured by the ratio of public expense in GDP and the ratio of the enrolment students in high education institutions in total population. Table VII shows that the ranks of these two ratios are totally accordant to the rank of the international competitiveness in Service Trade of SH, H.K. and SGP. So, Shanghai must increase the investment in education, especially in high education.

TABLE VI: RATIO OF FDI INFLOWS TO SERVICE INDUSTRY IN THE TOTAL

	FDI INFLOWS IN SH, H.K. AND SGP (%)								
	2004	2005	2006	2007	2008	2009	2010		
HK	93.9	93.0	94.3	94.1	94.4	95.5	97.2		
SG	66.5	69.3	71.6	75.3	78.3	70.2	84.0		
SH	44.6	51.1	62.1	67.1	67.8	72.3	79.4		

Resources: UNCTAD, Foreign Direct Investment database 2012, www.unctad.org; Shanghai Stats Office, Shanghai Statistics Yearbook 2012, www.stats-sh.gov.cn.

TABLE VII: HUMAN CAPITAL OF SH, H.K. AND SGP (%)

					· · ·	
		2003	2005	2009	2010	2011
Ratio of Public	HK	4.35	4.2	4.62	3.34	3.27
Education	SG	3.83	3.02	3.22	3.19	3.30
Expense in GDP	SH	1.96	2.00	2.31	2.43	2.96
Ratio of Enrollment	HK	3.28	3.27	4.36	4.31	4.19
In	SG	3.97	4.16	4.32	4.34	4.30
High Education Inst. In Total Population	SH	2.21	2.49	2.32	2.24	2.18

Resources: Hong Kong Stats Office, Hong Kong Statistics Yearbook 2011, www.censtatd.gov.HKG; Singapore Stats Office, Singapore Statistics Yearbook, 2012, www.singstat.gov.sg; Shanghai Stats Office, Shanghai Statistics Yearbook 2012.

F. Development of Information Technology

With the development of science and technology, especially the IT revolution in 1960s, there are great changes in the items and kinds of the services which can be utilized trans-nationally, and the development of service industry and service trade depend on the advanced IT and Communications technology at a very large extent. That is to say, the international competitiveness of service trade is up to the informatization level of a country [6].

Table VIII shows that the rank of the development level of IT measured by the popularizing rate of broadband and person computers is accordant to the international competitiveness of Service Trade in SH, HKG and SGP. Hence, Shanghai must still improve the application and popularization of IT.

TABLE VIII: DEVELOPMENT LEVEL OF IT IN SH, HKG AND SGP

				,		
		2004	2005	2008	2009	2010
Broadband Number per 1000 Persons	HK	220.8	241.9	279.2	294.2	301.6
	SG	120.8	156.0	207.3	225.2	238.8
	SH	82.03	125.2	199.5	212.8	224.7
International	HK	559.6	617.3	685.7	614.0	704.0
Internet Users Per 1000	SG	617.3	660.0	743.2	684.5	711.1
Persons	SH	218.8	253.6	378.9	565.5	677.5

Resources: World Bank, World Development index 2012, www.worldbank.org; Shanghai Stats Office, Shanghai Statistics Yearbook, 2012, www.stats-sh.gov.cn.

G. Free Trade Area (FTA) in Service Trade

of Service Trade and improve the progress of liberation.

With the development of service trade which becomes the new growth point of national trade and economy, more and more FTAs break through the goods trade and bring the service trade into their categories in order to improve the liberalization and competitiveness of service trade. For a long time, Hong Kong has been carrying out free trade and competitive policies, and has built an open and transparent environment for trade and investment, and keep to be one of the most open economics allover the world. So, Hong Kong has been building good environments for the development of Service Industry and Trade, and has provided a stronger international competitive system.

As one member of ASEAN, Singapore has benefited lots from the liberalization of service trade of ASEAN, because the ASEAN Framework Agreement on Services and the four following Package Agreements have significant influences on the international competitiveness of Singapore Service Trade. Except for Asia-Pacific trade agreement (Bangkok Agreement), Singapore has signed 11 pieces of bilateral FTAs with New Zealand, Japan, EU, Australian and etc, and has reached consensuses in signing bilateral FTAs with Egypt, Bahrain, Kuwait and United Arab Emirates, and is negotiating bilateral FTAs with Canada, Mexico and Pakistan. Especially, Singapore signed the first FTA crossing three continents with New Zealand, Chile and Brunei.

Except for *CEPA* and *Bangkok Agreement*, China has issued 9 pieces of bilateral FTAs with Chile, Pakistan, New Zealand, Singapore, Peru, Costa Rica and ASEAN and is negotiating to sign FTAs with GCC, Australia, Ice Land, Norway and SACU.

Comparatively speaking, Shanghai falls behind Singapore in quantity and quality (the economy development level of contracting parties) of FTAs, and lead to a relatively laggard Service Industry and weak international competitiveness. Hence, Shanghai must find out a new route for the liberation V. CONCLUSION

The lower international competitiveness and laggard development of Service Trade will be the principal bottlenecks for Shanghai to build ITC. Hence, Shanghai should learn the experiences and lessons from Hong Kong and Singapore to accelerate the development and improve the international competitiveness of its service trade, and tamp a reliable and solid foundation for the building of ITC.

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Role of Literacy Level in Financial Inclusion in India: Empirical Evidence

Pallavi Gupta and Bharti Singh

Abstract—Sustainable development of a country is closely related to the level of inclusion of the population into the financial net. Financial Inclusion is the issue at global level. Various authors have developed the Financial Inclusion Index based on different dimensions. The present study tries to assess the correlation between the Usage Dimension of Financial Inclusion Index and literacy level in India. Correlation has been statistically tested by using Karl Pearson coefficient of correlation. The results depict a large variation in extent of correlation among the different states of the country with a very low correlation at the national level. Thus, the Government should promote the use of Information Communication Technology models like biometric ATM, telecentres to achieve Financial Inclusion in India as these models does not compulsorily requires high literacy levels.

Index Terms—India, financial inclusion, financial exclusion, literacy rate.

I. INTRODUCTION

India is one of the fastest growing economies of the world. Despite such a high economic growth our rural population seems to miss the benefits of this growth. At around 350-450 million people or some 70-80 million families, India has the largest absolute number of world's poor as reported in Human Development Report (2006) [1]. A major concern nationwide is that rural poor have benefited very little from the fast pace economic growth. As a result of this exclusive growth, the migration of rural poor to urban areas has increased the urban poverty and migration related social problems. Increasing globalization throws tremendous opportunities to grow but this growth will prove to be beneficial to the society if it is all inclusive growth. There has been the widening gap between have and have nots of the society. One of the reasons of this disparity is financial exclusion and this can be bridged through the inclusion of the rural sector of the society in the financial system, that is, financial inclusion. Rangarajan Committee (2008) on financial inclusion stated that: 'Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by the vulnerable group such as weaker sections and low income groups at an affordable cost' [2].

Financial exclusion can be defined as the divide with an increased range of personal finance options for a segment of high and upper middle income population and a significantly

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large section of the population lack access to even the most basic banking services. Vast majorities of population living in rural areas of the country have serious issues in accessing formal financial services as shown in Fig. 1.



Fig. 1. Supply side factors of financial exclusion.

Financial Exclusion can be viewed from two angles viz. supply of financial services and demand of financial services. Supply of financial services means the adequate supply of finance options like loan facilities, credit cards, debit cards, saving accounts, loan facilities in rural areas. Demand for financial services means the acceptability of financial products by the rural poor i.e level of awareness and understanding the advantages of the financial product or it can also be termed as financial literacy. In a country like India with large population, financial exclusion has a geographic dimension as well - inaccessibility, distances, and lack of proper infrastructure hinder financial inclusion. According to Sinha and Subraniam (2007) as per Census 2001, in India only 36% of the people use some kind of banking services and the Boston Consulting Group Report on financial inclusion in India also affirms that financial exclusion reflects the stark socioeconomic divide that characterizes the emerging markets [3].

II. FINANCIAL EXCLUSION WORLDWIDE

Financial Exclusion is an issue to be addressed at global level; even developed countries are confronted with this issue. According to United Nations Report (2006) "Financial inclusion has become worldwide concern, relevant equally in the economies of the underdeveloped, developing and developed nations. Building an inclusive financial sector has gained growing global recognition bringing to the fore the

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need for development strategies that touch all lives, instead of a selected few" [4]. According to Vighneswara (2011) even in the developed nation like USA 9% percent of the population do not have the bank account [5]. In United Kingdom the government has established a framework for ensuring improved financial inclusion by setting up a Financial Inclusion Fund of 120 million pound sterling over three years alongwith Financial Inclusion Task Force to oversee its progress. Accoring to Mohan (2006), in Sweden approximately 2% of adults did not have a bank account in 2000 and in Germany the figure was around 3% [6]. Extent of Financial Exclusion in some selected countries is given in Table I.

TABLE I: FINANCIAL EXCLUSION WORLD WIDE

Country	Percentage of population with bank account	Extent of Financial Exclusion
USA	91	9
Denmark	99	1
Europe	89.6	10.4
Botswana	47	53
Brazil	43	57
South Africa	31.7	68.3
Namibia	28.4	71.6
Mexico	21.3	78.7

Source: Mohan (2006)

III. FINANCIAL EXCLUSION IN INDIA

A. Extent of Financial Exclusion

Vital financial exclusion statistics as per NSSO survey as reported in IDBI Gilts Report 2007 are discussed here [7]. In general 51.4 percent of farmer households are financially excluded from both the formal and informal sources of credit. Of the total farmer households, only 27 per cent access formal sources of credit; one third of this group also borrows from non-formal sources. Overall, 73 percent of farmer households have no access to formal sources of credit. Region wise exclusion is most acute in Central, Eastern, North Eastern regions, having concentration of 64 percent of all financially excluded farmer households in the country. Overall indebtedness to formal sources of finance alone is only 19.66 percent in these three regions. From occupational groups perspective, marginal farmer households constitute 66 percent of total farm households. Only 45 percent of these households are indebted to either formal or non-formal sources of finance. About 20 percent of indebted marginal farmer households have access to formal sources of credit. Among non-cultivator households nearly 80 percent do not access credit from any source. Social groups perspective shows that, only 36 percent of Scheduled Tribes (ST) farmer households are indebted, with Scheduled Castes (SC) and Other Backward Classes (OBC) comprising 51 percent. Most of them borrow from informal sources.

In India financial inclusion is not evenly distributed, some states are much more financially excluded than the others. Table II reflects such disparities.

TABLE II. FINANCIAL EXCLUSION IN INDIA				
Extent of Financial Exclusion	States			
Above 75%	Meghalaya, Arunachal Pradesh, Uttarakhand, Assam, Mizoram, Manipur, Jharkhand			
50% to 75%	Bihar, Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, Nagaland, Odisha, Sikkim, Tripura, Uttar Pradesh			
25% to 50%	Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, West Bengal			
Below 25%	Andhra Pradesh			

Source: Mohan (2006)

B. Reasons for Financial Exclusion

Major reasons for Financial Exclusion in India are:

- High cost: Providing and utilizing financial services is not available free of cost for both the service provider and service utilizer. (i) Cost for service provider: Setting up of branches in rural areas are generally not advantageous due to high cost and low business (ii) Cost for service utilizer: It has been observed that poor living in rural area are reluctant to utilize these services due to high cost example, minimum balance requirements in saving account, fixed charges in credit cards and debit cards, loan processing charges etc
- 2) Non price barriers: Access to formal financial sources requires documents of proof regarding person's identity, postal address, income etc. poor people generally do not have these documents and thus are excluded from financial services.
- 3) Behavioral aspects: As per IDBI Gilts Report 2007 research in behavioral economics has shown that many people are not comfortable using formal financial services due to difficulty in understanding the language and reading the document [7]. Poor people also think that financial services and financial products are meant only for the upper strata of the society.

Government of India has set up National Mission on Financial Inclusion to promote inclusive growth in the country through universal access to finance of the poor and vulnerable groups within a specified time frame. The 'No Frills Account' scheme of Reserve Bank of India has brought significant progress in financial inclusion scenario in India. The Reserve Bank of India has undertaken a project titled as 'Project Financial Literacy'. The objective of the project is to disseminate information regarding the central bank and general banking poor, defence personnel and senior citizens. Government of India has taken various steps to deal the above mentioned reasons of financial exclusion. As per the suggestions of Rangarajan Committee the Financial Inclusion Technology Fund (FITF) had been set up in 2007-08 for five years with a corpus of Rs 500 crores each [2]. The objective of FITF has been to enhance investment in Information Communication Technology for promoting financial inclusion and stimulating the research in financial inclusion.

TABLE II: FINANCIAL EXCLUSION IN INDIA

C. Financial Inclusion Index

This study is based on the Financial Inclusion Index (FII) developed by Chattopadhya and published in RBI Working Paper Series [8]. Various researches have shown several parameters to measure financial inclusion like number of bank accounts, geographic branch penetration, loan income ratio, deposit income ratio, etc. These individual indicators gives the misleading picture about the Indian economy therefor Chattopadhya developed the single indicator in the form of Financial Inclusion Index based on three dimensions. The Index has been framed on three dimensions:

Dimension 1: Banking Penetration - Banking penetration is the size of the banked population that is the number adults having the bank accounts in respective states.

Dimension 2: Availability of Banking Services -Availability of banking services is the availability of financial services like bank branches, ATM etc in respective states.

Dimension 3: Usage of Banking Services - Usage of banking services is the number of transactions taking place in the bank account that is the actual use of financial services.

The Index divides twenty-three states of the country in three categories - States with high, medium and low financial inclusion as shown in Table III. Financial Inclusion Index ranges between 0 to 1 where o denotes the low financial inclusion and 1 denotes the complete financial inclusion.

The present study tries to assess the correlation between Usage Dimension of Financial Inclusion Index and literacy level in India.

IV. RESEARCH METHODOLOGY

To study the relationship between the Financial Inclusion Index and literacy rate, the Karl Pearson Coefficient of Correlation has been used. Karl Pearson Coefficient of Correlation is defined as:

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{n(\sum x^{2}) - (\sum x)^{2}}\sqrt{n(\sum y^{2}) - (\sum y)^{2}}}$$

The coefficient of correlation (r) lies in between -1 and +1. When r is negative it means that there is a negative correlation between two variables while if r is positive it means that there is positive correlation between the two variables. For conducting the present study the SPSS software has been used.

V. DATA ANALYSIS AND DISCUSSION

Data has been analyzed for the usage dimension of Financial Inclusion Index and the literacy rate by applying the statistical test of Karl Pearson Coefficient of correlation. Analysis is based on the data compiled in Table III. This data has been subjected to SPSS and the statistical resuts are shown in Table IV.

Table IV reveals that on an overall basis literacy rate does not have a high negative relationship with financial inclusion. Negative relationship exists at all the three levels of financial inclusion index, that is, high, medium and low. While positive correlation exists at the country level. Negative correlation shows that literacy rate does not affect the financial inclusion. Low positive correlation at country level indicates the literacy level has low impact on financial inclusion in the country.

TABLE III: FINANCIAL INCLUSION INDEX AND LITERACY RATE IN INDIA	٢
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	Index	Financial	Kate				
		Inclusion Index					
High Financial Inclusion							
Kerala	0.54	.28	93.91				
Maharashtra	0.53	1	82.91				
Karnataka	0.53	.46	75.6				
Medium Financial Inclusion							
Tamil Nadu	0.48	.38	80.33				
Punjab	0.45	.29	76.68				
Andhra Pradesh	0.41	.41	67.66				
Himachal Pradesh	0.33	.18	83.78				
Haryana	0.32	.34	76.64				
Sikkim	0.32	.12	82.2				
Low Financial Inclusion							
West Bengal	0.28	.23	77.08				
Gujarat	0.26	.16	79.31				
Uttar Pradesh	0.24	.15	69.72				
Orissa	0.20	.14	73.45				
Rajasthan	0.19	.08	67.06				
Madhya Pradesh	0.16	.11	70.63				
Bihar	0.15	.12	63.82				
Assam	0.13	.14	73.18				
Meghalaya	0.21	.09	75.48				
Tripura	0.20	.08	87.75				
Arunachal	0.17	.08					
Pradesh			66.95				
Mizoram	0.16	.07	91.58				
Nagaland	0.05	.07	80.11				
Manipur	0.01	.01	79.85				
1. Chattopadhya, S. K., RBI Working paper Series WPS DEPR: 8/2011 Financial Inclusion in India: A case study of West Bengal [8].							

2. Census India 2011 [9]

TABLE IV: SUMMARY ANALYSIS

Category	High Financial	Medium Financial	Low Financial	Overall Analysis				
	Inclusion	Inclusion	Inclusion	-				
Correlation coefficient (r)	351	739	223	.123				

VI. MODELS FOR FINANCIAL INCLUSION

An effective inclusive growth model for rural areas in India will have to be driven by Information Communication Technology. Technology can be leveraged to open up the channels beyond branch network and create the required banking footprints to reach the unbanked; the technology has to enable the branch to go where customer is present instead of the present scenario that the customer should go to the branch. RBI's Annual Policy for 2007-08 urged the banks to scale up the efforts for IT based financial inclusion and develop the technologies that are highly secure, amenable to audit and follow widely accepted open standards to allow interoperability among the different systems operated by the bank [10]. RBI has set up an advisory group for IT enabled financial inclusion to facilitate development of IT solutions for delivery of banking services, the group will advise certain minimum parameters and standards that are essential for setting up robust interoperable systems on open platforms. Technology has grown tremendously in the past decade and has changed the way the various sectors operate.

Some models that can be used without litercay being a precondition for their application have been listed here. These ICT-based models can be used aggresively in India as they are based on the strengths of the country. They can also be used in countries where literacy levels are low.

A. Biometric ATM

As a measure of financial inclusion First Bank of Nigeria has introduced biometric ATM. Bank plans to issue cards with biometric authentication functionality to the elderly and illiterate. The Podkarpacki Bank Spoldzielczy from Sanok plans to equip its ATM machines with the biometric readers, the reader will scan the fingerprint and also the bloodvessel pattern. Union Bank of India has launched the regions first solar powered, voice enabled biometric rural ATM in Ludhiana District (www.indainexpress.com). The ATM works on solar power and can support the biometric and pin based transaction.

B. Mobile Based Payment System

It is estimated that today while there are 15 crore saving account holders in India, there are approximately 43 crore mobile subscribers with 1 crore being added every month, so mobile payment technology offers immense scope for financial inclusion as quoted by Tushar et.al., 2010 [11]. Mobile money transactions will require the collective efforts of banks, telecom service providers and the technology developers. Yes Bank has already made the effort under National Innovation Program to deliver the business model of crop insurance through mobile technology.

C. Smart Card (Business Correspondent)

To obtain the card an individual has to provide documentary evidence of residency for more than one year and they should be registered under minimum employment guarantee scheme and social security pension program of India. The mechanism of operating the smart card is very simple, the business correspondent will carry a handheld device to the rural area, where the villager will swipe the card and authenticate the withdrawal using his fingerprint impression, afterauthentication the correspondent will give him the cash.

Indian Bank and Tata Consultancy has entered into agreement in which Tata Consultancy will provide the technology infrastructure, handheld devices and business correspondents to help the bank extend its coverage to consumers living in the rural areas through handheld devices which will support biometric authentication verification. Karnataka Bank Ltd has launched biometric smart cards for cash withdrawals, these smart cards have been launched in two rural districts of Karnataka under its financial inclusion programme.

D. Telecentres

Telecentres are places where shared access to information and communication technology and Information Technology enabled services are available. Fillip & Foote, (2007) has considered telecentres as a potential instrument for addressing the asymmetric information problem and the digital divide, and therefore as development enablers [12]. The World Summit on Information Society held in 2003 recognized telecentres as a cost effective way of bringing the information revolution to developing countries, and thus endowed with the potential to empower the poor. Government may use the principle of convergence of policies to support such centers, for example, the funds earmarked for encouragement of renewable energy resources such as solar power can be utilized to provide reliable power supply in these telecentres as quoted by Naik,2011 [13].

Telecentres will serve as the multiway media of information. It can facilitate the creation of demand for services like education, insurance, health, agriculture etc, by bridging the gap between businesses and rural people. Telecentres can promote financial inclusion through the availability of information and filling up the demand and supply gap. Telecentres can provide various useful information regarding seeds, pesticides, special crops both to the farmers and business houses. For example, there are certain special crops which are not grown by the farmers because there demand is very less, retail houses can get these crops only through contract farming but generally farmers are suspicious regarding the prices and creditability of retail houses. Telecentres can play the vital role in providing the reliable information at both the ends and bridging the deficit.

Telecentres can promote financial inclusion through the availability of information and filling up the demand and supply gap. Telecentres can play a significant role in promoting insurance. The average insurance inclusion index for India is 0.29 which means that the insurance penetration is only 29% in the country as reported in the study conducted by Sankaramuthukumar.et.al 2011[14]. The reason for such low insurance inclusion index may be lack of reliable information, wrong selection of policies and high cost of obtaining the reliable information. If the telecentre function as an agent of insurance company the cost of obtaining reliable information will be reduced as telecentres are much closer to rural people. One of the examples of telecentres in India is Gyandoot in Madhya Pradesh.

VII. CONCLUSION

Large variations in the correlation between the Financial Inclusion Index and literacy rate in different states indicates that financial exclusion in India is not mainly due to the lower literacy rates. For instance, the state of Kerala has a very low value of the usage dimension of Financial Inclusion despite highest literacy rate, while Karnataka comparatively has a higher value of usage dimension in relation to the literacy level.

To achieve financial inclusion the government should emphasise on the behavioural factors rather than considering an improvement in literacy rate as a major determinant. Models that do not consider literacy level as a prerequisite to use financial services like, Biometric ATM, Mobile Based Payment System, Smart Card, and Telecentres can be useful to achieve the goal of financial inclusion in India.

Large variations in the correlation index, indicates that there is a need to formulate state-level policies for financial inclusion that consider the socio-cultural diversity of the country.

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An Aggregate Production Function Explaining Negative Technological Shocks

Xianming Meng

Abstract—By introducing the growth rate of new-product innovations into the Solow growth model, this study displays how negative technological shocks could occur frequently and thus the production function can explain the economic growth and the business cycles at the same time.

Index Terms—New products, economic growth, business cycle, technological shock, market saturation.

I. INTRODUCTION

The endogenous growth models based on Solow growth model [1]-[4] may give some insight into the economic growth in the long run but are incapable of explaining the business cycles. On the other hand, the real business cycle theory [5], [6] may mimic the business cycles pretty well, but its explanation heavily relies on the frequent questionable negative technological shocks. This study provides an explanation for cyclical negative technological shocks and thus explains the economic growth and the business cycle at the same time.

II. THE REVISED AGGREGATE PRODUCTION FUNCTION

The contribution of technology to economy can be classified into two types: one is the increase in the output for existing products and the other is the innovation of new products. The progress of technology should always positively affect the capacity of producing existing products, so the contribution of technology on output for existing products should not decrease over time (the bottom line is that zero technological progress will make zero contribution to the growth of production capacity). The innovation of new products creates the new demand for economy, so its contribution should be also positive. However, According to the product life cycle theory, a product in the market experiences four phases: introduction of a new product, growth, maturity and decline. If the speed of new-product innovations is not high enough, the market demand for old products will be saturated and thus the economic growth will be stagnant or even be negative due to the overproduction in the previous period. So, the speed of new-product innovation can affect economy positively or negatively. To embody the constraint of the speed of new-product innovations, we introduce into the neoclassical aggregate production function the growth rate of the number of new products as the exponent of technology level, shown as follows:

$$Y = A^{\frac{\Delta N}{N}} F(L, K)$$

where

- Y the total output
- A the technology level
- N the number of new products
- ΔN the change of the number of new products
- L the labour input
- K the capital input

This function shows that the total output level is determined by the level of technology, labour input and capital input, and the speed of innovation of new products. Due to the variation of the growth rate of new-product innovations, the effect of technology may be enlarged or reduced. Especially, since the change in the number of new products may be positive or negative, the effect of technology may magnify or lessen the effects of labour and capital. Moreover, the cyclical pattern of new product innovation may generate cyclical effect of technology change, which in turn results in the cyclical economic fluctuations – the business cycles.

III. THE GROWTH MODEL

Based on the revised aggregate production function, we can derive the economic growth model.

Using the log form of the production function and fully differentiating it, we have:

$$\ln Y_{t} = \frac{\Delta N}{N} \ln A + \ln \left(F(L, K) \right)$$

$$dY_{t} / Y = \frac{\Delta N}{N} dA / A + (\ln A) d \frac{\Delta N}{N} + \frac{1}{F(L, K)} \frac{\partial F(L, K)}{\partial L} dL + \frac{1}{F(L, K)} \frac{\partial F(L, K)}{\partial K} dK$$

$$= \frac{\Delta N}{N} dA / A + \frac{\Delta N(\ln A)}{N} d \left(\frac{\Delta N}{N} \right) / \frac{\Delta N}{N} + \frac{L}{F(L, K)} \frac{\partial F(L, K)}{\partial L} dL / L + \frac{K}{F(L, K)} \frac{\partial F(L, K)}{\partial K} dK / K$$

$$let$$

$$S = \frac{L}{N} \frac{\partial F(L, K)}{\partial K} S = \frac{K}{N} \frac{\partial F(L, K)}{\partial K} dK$$

$$S_l = \frac{1}{F(L,K)} \frac{1}{\partial L}, S_k = \frac{1}{F(L,K)} \frac{1}{\partial K}$$

We have the following growth model:

$$dY_t / Y = \frac{\Delta N}{N} dA / A + \frac{\Delta N(\ln A)}{N} d\left(\frac{\Delta N}{N}\right) / \frac{\Delta N}{N} + S_t dL / L + S_k dK / K$$

If we measure the differentiations of variables as the year-on-year changes, the above equation indicates the relationship among the percentage annual growth rates of output, new products, technology change, and labour and

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capital inputs. Given the data on the growth rates of output, new products, and labour and capital inputs, we can estimate the contribution of labour and capital to the economy and, more importantly, the growth rate of technology (dA/A) and the base technology level (lnA).

IV. THE EMPIRICAL FINDINGS

There is a difficulty in applying the growth model to empirical estimation: the number of new products is hard to measure. However, in a modern economy (production capacity is not an issue), the sales growth rate is a good indicator of market potential or, put it in another way, market saturation. Since the influence of growth rate of product innovation in the aggregate production function is fulfilled through the restriction of market saturation, the sales growth rate is an ideal candidate to replace the growth rate of product innovations. In doing so, we obtain an empirical model for estimation:

$$OUTPUT = C1 + C2 * SAL + C3 * DSAL + C4 * CAP$$
$$+C5 * LAB + \mu$$

where

OUTPUT - the percentage annual growth rate of GDP

SAL – the percentage annual growth rate of final sales (GDP minus inventory)

DSAL - the percentage annual growth rate of PSAL

CAP - the percentage annual growth rate of capital input

LAB – the percentage annual growth rate of labour input

The data used for estimation are annual data during 1966 to 2008 from the Australian Bureau of Statistics (ABS). The time series of growth rate of labour input and capital input are from the Productivity Table in Australian National Accounts (ABS 5204.0). The annual growth rates of GDP and final sales (GDP minus inventory) are calculated based on the data on GDP and inventory in Australian National Accounts.

The ADF and Perron unit root tests both suggest I(1) for OUTPUT, SAL and CAP and I(0) for other variables. Using the Johansen procedure [7], [8] to test the cointegration among OUTPUT, SAL and CAP, we find that both trace and max-eigenvalue tests suggest one cointegration. However, the small sample size (only 43) in this study may bias the tests – the asymptotic property of the Johansen test is not applicable. Using the adjusted critical value calculated according to the suggestion of Reimers [9] and Cheung and Lai [10], we find that the testing results remain the same. Since the cointegration among I(1) variables is confirmed, it is valid for us to estimate the model using the dynamic ordinary least square (DOLS) developed by Saikkonen [11] and generalised by Stock and Watson [12]:

$$\begin{aligned} OUTPUT_t &= C1 + C2 * SAL_t + C3 * DSAL_t + C4 * CAP_t \\ + C5 * LAB_t &+ \sum_{m=-M}^{M} (A_m \Delta SAL_{t-m} + B_m \Delta CAP_{t-m}) + \mu_t \end{aligned}$$

To minimize SIC, 2 leads and 2 lags are used in the estimation. The estimation results are as follows (we omit the coefficients on leads and lags because the purpose of the use

of leads and lags is to increase the estimation efficiency):

OUTPUT=-0.01+0.97*SAL+0.001*DSAL+0.32*CAP+0.18*LAB+µ

Wald Stat.	1.756	439.7	0.042	2.543	3.561	
s. t.	0.008	0.046	0.007	0.199	0.099	
p-value	0.185	0.000	0.837	0.111	0.059	

R-squared=0.985, adjusted R-squared=0.973, D.W.=2.069

It is not surprising that the Durbin Watson (D.W.) statistic implies the existence of autocorrelation as DOLS allows for a Moving Average (MA) process in the residuals. Since the residuals are auto correlated, the high (adjusted) R-squared value is not reliable. However, Stock and Watson [12] demonstrates that the DOLS estimators have large-sample chi-squared distributions and thus the Wald test is applicable. Therefore, the above standard errors and the p-values from Wald tests are valid. The model passes all other diagnostic tests (e.g. the white heteroskedesticity test, the J.B. normality test, the recursive test, the CUSUM test, the CUSUM of square, etc.)

The DOLS estimators reveal the following interesting findings:

First, the growth rates of sales, capital input and labour input all have significant positive effects on the growth of GDP. The large Wald statistic for the coefficient of sales growth rate demonstrates its importance. The capital and labour inputs are significant at around 10% and 6% level respectively. The point estimates show that the capital input contributes about twice as much as the labour input does.

Second, the estimate of the coefficient for SAL implies that the technology growth rate in the concerned period is very high. According to the growth model, the coefficient of SAL indicates the technology growth rate. An average annual growth rate of around 97% (92%-101%) for more than 40 years has brought dramatic change to Australia.

Finally, the insignificance of DSAL is consistent with the theoretic growth model. Referring to the growth model, the coefficient of DSAL indicates the log value of technology level multiplied by the growth rate of the number of new products (or the sales growth rate in the empirical model). The log value is small; the growth rate of new products can be positive or negative, and should be very small due to the long innovation cycles. As a result, the average value of the sum of the products should be close to zero as shown by the estimation results.

Appendix

TABLE I: RESULTS OF UNIT ROOT TESTS*

Variable	Level of test	t-statistics (ADF test)	Conclusion of ADF test	
OUTDUT	Level	-0.873	unit root	
OUTPUT	First difference	-5.363	No unit root	
CADITAI	Level	-0.105	unit root	
CAPITAL	First difference	-4.302	No unit root	
LABOUR	Level	-0.917	unit root	
	First difference	-4.177	No unit root	
SVIES	Level	-0.998	unit root	
SALES	First difference	-5.880	No unit root	
DEVIES	Level	-7.708	No unit root	
DSALES	First difference	-6.16	No unit root	

* The number of lags is chosen to minimize AIC.



Fig. 1. Graphs of time series

TABLE II:	RESULTS	OF COINT	EGRATION	TESTS
FABLE II:	RESULTS	OF COINT	EGRATION	TESTS

No. of CE(s)	Trace Statistic	0.05 Critical Value	Adjusted Critical Value	No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value	Adjusted Critical Value
None *a	113.5713	69.81889	93.62078	None *a	48.0698	33.87687	45.4258
At most 1 * ^a	65.50153	47.85613	64.17072	At most 1*	33.58319	27.58434	36.98809
At most 2 *	31.91834	29.79707	39.95516	At most 2	17.25813	21.13162	28.33558
At most 3	14.66021	15.49471	20.777	At most 3	11.30935	14.2646	19.12753
At most 4	3.350859	3.841466	5.151057	At most 4	3.350859	3.841466	5.151057

 * denotes rejection of the hypothesis at the 0.05 level according to the **standard** critical value a denotes rejection of the hypothesis at the 0.05 level according to the **adjusted** critical value

3 lags are chosen to minimize AIC.

TABLE III: RESULTS OF DOS ESTIMATION

Dependent Variable: OUTPUT Method: Least Squares Sample (adjusted): 1954 2005 Included observations: 52 after adjustments

	Coefficient	Std. Error	t-Statistic	Prob.
С	-1.189588	0.607592	-1.957872	0.0599
CAPITAL	0.100172	0.135143	0.741232	0.4645
LABOR	0.253555	0.116442	2.177511	0.0377
SALES	1.189288	0.107786	11.03379	0.0000
DSALES	0.003797	0.027604	0.137541	0.8916
D(CAPITAL(1))	0.473369	0.208577	2.269519	0.0309
D(LABOR(1))	-0.021761	0.107056	-0.203269	0.8403
D(SALES(1))	0.132699	0.110342	1.202620	0.2389
D(CAPITAL(-1))	-0.242764	0.183062	-1.326134	0.1951
D(LABOR(-1))	-0.267629	0.070839	-3.777974	0.0007
D(SALES(-1))	0.194115	0.075437	2.573194	0.0155

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D(CAPITAL(2))	-0.204730	0.236850	-0.864387	0.3945
D(LABOR(2))	-0.051379	0.105937	-0.484996	0.6313
D(SALES(2))	0.130196	0.113720	1.144880	0.2616
D(CAPITAL(-2))	-0.166386	0.201694	-0.824944	0.4161
D(LABOR(-2))	-0.112401	0.082992	-1.354351	0.1861
D(SALES(-2))	0.048235	0.092348	0.522320	0.6054
D(CAPITAL(3))	0.125779	0.230227	0.546328	0.5890
D(LABOR(3))	0.116243	0.080737	1.439771	0.1606
D(SALES(3))	-0.186403	0.085615	-2.177220	0.0377
D(CAPITAL(-3))	-0.259732	0.161947	-1.603807	0.1196
D(LABOR(-3))	-0.000465	0.056135	-0.008291	0.9934
D(SALES(-3))	-0.079353	0.072552	-1.093736	0.2831
R-squared	0.984577	Mean dependent var		3.582692
Adjusted R-squared	0.972877	S. D. dependent var		2.949358
S.E. of regression	0.485731	Akaike info criterion		1.694346
Sum squared resid	6.842117	Schwarz criterion		2.557396
Log likelihood	-21.05300	Hannan-Quinn criter.		2.025219
F-statistic	84.15110	Durbin-Watson stat		2.068755
Prob(F-statistic)	0.000000			

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Internet Financial Reporting Index Analysis: An Overview from the State Owned Enterprises in Indonesia

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Abstract-Many companies use internet to report financial information to investors. The purpose of this study was to analyze the disclosure of financial statements in the company's state-owned enterprises in particular nature-based sector and manufacturing industries using Internet Financial Reporting Index, and analyze whether there is a relationship between the index of contents, index timeliness, technology index, the index of user support, the number of pages in and the wealth of the company's website. The data used in this research is corporate data on nature-based sector and processing industry with a number of 60 companies. Analytical methods using correlation -Spearman test, the test of 2 independent samples namely Mann Whitney test and the Kolmogorov Smirnov test. The results of the data processing show that there is no relationship between the index of internet financial reporting (index of contents, index timeliness, technology index and the index of user support) with the wealth of the company's website. There is a significant relationship between web page numbers with a wealth of corporate websites. This research also found that there is no difference between nature-based enterprises in the sector of processing industry in terms of the index of internet financial reporting.

Index Terms—Internet financial reporting index, website size, technology index.

I. INTRODUCTION

The use of the internet in the business world has affected traditional forms of presentation of company information [1]. Website has been utilized to presenting financial information to shareholders, investors and other important parties [2]. The rapid development of the Internet creates a new way for companies to communicate with investors. Internet companies use to report financial information to investors called Internet Financial Reporting (IFR). The financial statement of the IFR is a disclosure of some of the financial statements reporting through the use of technology such as multimedia and Web tools analysis. For few years, IFR emerged and evolved as the fastest medium to inform related matters with the company. According to [3], the current presentation of information the company is in a period of paper-based reporting system to a paper-less reporting system.

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The company has some reasons or motives in adopting IFR, among which extend the reach of information delivery, current information, efficiency and effectiveness are among the reasons why companies adopt IFR [4]. Reference [5] stated that the IFR is seen as a means of effective communication to customers, investors and shareholders. IFR is a response from the company to establish communication with stakeholders, in particular investors, better and faster.

Disclosure of financial information on the company's website is a voluntary disclosure form that has been practiced by various companies. The most common financial data items at corporate Web sites are financial news releases, found in 80% of all sites. The surveyed sites of this research represent 17 industries and a broad spectrum of company sizes and development stages [6]. Reference [7] demonstrates that: (1) both user groups exploit the Internet considerably and adopt similar behavior in using the websites, and (2) financial news websites play an important role in expert users behavior, acting as a preliminary information switching point from which professional operators access specific listed

corporate websites. Survey of CAROL (Company Annual Reports On Line) in 1999 showed 1000 companies in Europe, that 67% of companies already have a website and 80% of the company's website reveals the financial statements on the Internet [8]. In the year 2006, more than 70% of large companies in the world implement IFR [9]. IFR rapidly growing phenomenon lately, but there are still many companies that do not conduct IFR practice. Reference [10] suggests that not all companies presenting financial statement in their website. In other words, there are various factors that influence the choice of the company to implement an IFR or not.

In Indonesia, one of the latest important innovations in the public or non-public especially the State-Owned Enterprises (SOE) is the use of the web and the Internet as a medium of information and communication. Many commentators are predicting that the annual report printing will gradually disappear as the company moved to a media report electronically across the Internet [11] due to less paper based on time thus affecting the reduced impact of not meeting existing investors everywhere in decision-making [5]. Therefore, the state-owned companies are required to provide financial statement information so that the information can be made available more quickly, to satisfy corporate investors and other users.

The purpose of this study were: (1) measuring an index of internet financial reporting (IFRI), the number of pages on the website and on the company website owned wealth particularly nature-based sector and processing industry (2) to analyze whether there is a relationship between Financial

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Reporting on the Internet (content, timeliness, technology and user support) and the wealth of the website, (3) to analyze the relationship between the number of pages in the web and the wealth of the website (4) analyze whether there are differences in Internet Financial Reporting (content, timeliness, technology and user support) across sectors.

II. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESIS

One source or provider of public information is the agency or the public sector. Openness and transparency of information on the sector or public body set up under the Law of the Republic of Indonesia Number 14 of 2008 on Public Information (KIP). UU KIP guidelines set forth in the Regulation of the Government of the Republic of Indonesia Number 61 Year 2010 on the implementation of Law No. 14 of 2008 on Public Information. Each public agency must publish public information regularly. Information to be provided and published periodically by public bodies provided for in Article 9, paragraph 2, namely: (1) Information relating to the Public Agency, (2) Information on the activities and performance of the relevant Public Agency, (3) Information on financial statements; and / or (4) any other information stipulated in legislation. State Owned Enterprise (SOE) is a public enterprise which must also comply with Freedom of Information Law, and regulated in Article 14. Public Information that must be provided by the State-Owned Enterprises, Regional-Owned Enterprises and/or other business entities owned by the state in which this Act is the annual report, financial statements, balance sheet income statement, and statement of corporate social responsibility has audited.

Internet Financial Reporting known as a voluntary disclosure, not because of the content of disclosure but rather a tool that is used. According to [12], the definition of IFR are "IFR refers to the use of the firms' web sites to disseminate information about the financial performance of the corporations. In this new approach, firms are using the Internet to market their companies to shareholders and investors". Reference [13] in the list of their instruments, stating that in order to evaluate the company's website has four dimensions of content, timeliness, technology and user support. The first dimension is the content, which measure the type of financial information available. The second dimension is the timing, measure the timeliness of financial information provided (such as the availability of a press release or stock quotes). Then, the third dimension is a technology, which measures the dimension of the use of some features. Last dimension is user support, gauge design and layout of the site. Basically financial reporting via the internet is not much different from regular financial reporting. It's just that the disclosure of these financial statements using the internet [12].

Reference [14] identifies the financial statements on its website, namely: (a) the financial statements duplicate the printed paper into electronic format (b) converting financial statements into HTML format (c) Promote the inclusion of financial statements through the website making it more accessible by interested parties rather than the financial statements in a printed format. Based on [15], there are four essential elements to evaluate the company's website, namely: content, timeliness, technology and user support. Reference [16] stated that financial statement users have higher expectations for various facets than what companies actually report in the areas such as; reports of analysts, phone number to investor relations, segmental reporting, financial data in format that can be processed, and summary of financial data.

The research hypothesis: (1) there is a relationship between Internet Financial Report index with company's website popularity; (2) there is a relationship between the numbers of web pages with websites popularity; and (3) there are differences in index of content, timeliness, technology, and user support index among enterprises in the nature-based sector with the manufacturing industry sector.

III. METHODOLOGY

The data used in this study there are 60 companies that nature-based enterprises in the sector (Agriculture, Fisheries and Forestry) by 29 companies and companies in the manufacturing industry (Pharmaceutical, Telecommunication Industry, Technology-Based Industries, Dock and Shipping, Steel and Construction, Defense, Cement, Industrial Clothing, Miscellaneous Sector Industrial and Printing) by 31 companies. The research variables are a website popularity that are bound variables, measured using the Alexa Traffic Rank. Independent variable are content index measured using the index Wallace, timeliness index, the technology index, user support index, an index of Internet Financial Reporting [17] and the number of web pages. Data on the popularity of a website is obtained from www.alexa.com, and the number of web pages is obtained from www.google.com. Both the data obtained on May 28, 2012, while the criteria of Internet Financial Reporting derived from the company's website on July 12 to 18, 2012. Internet Financial Reporting Index measured by summing the four components consisting of the content (40%), timeliness (20%), technology (20%), and web support (20%). The formula used is:

Internet Financial Reporting Index = Index of content + timeliness index + technology index + user support index [18]

The analysis of data used in this research the Spearman Rank correlation techniques. Two independent sample tests used to determine whether there is a difference between the two independent sets of data. The tests used in this research are the Mann Whitney two independent samples and test of the Kolmogorov-Smirnov.

IV. RESULT AND DISCUSSIONS

A. IFR and Website Popularity

The average index of internet financial reporting in 60 companies was 0.251. The minimum value is 0, which is owned by PT Perikani and PT Tirta Raya Mina. This is due at least in the type of financial information doc, ppt or pdf, lack of press releases and the lack of additional applications on the web. The maximum value is at 0.622. The average index of internet financial reporting is in the interval 50% - 63%.

Lowest percentage is 0% - 10%. The Financial Reporting Internet Index is divided into 4 criteria such as content, timeliness, technology and user support. Here is a detailed description of each of these criteria:

The financial statements are displayed on the site by the company consists of two types, namely pdf and html or both. The financial statements are divided into two parts, namely the Annual Reports and Quarterly Reports. The company also provides information regarding the company work address. Each company is expected to provide financial statement information in a pdf type but it also could be the type of html. Based on [19], financial statement information is divided into three classifications, namely: (a) Comprehensive Financial Report. The company is said to have the financial statements if the company website reported balance sheet, income statement, cash flow statement, statement of changes in equity and notes auditor (b) Partial Financial Statements. The company is said to fall into this category if it does not mention any of the statements contained in the financial statements of comprehensive. Some additional summary results given are the company's performance (c) Financial Highlights where the company presents important information such as total assets, paid-in capital, net income and sales.

The analysis shows that there are two companies that provide comprehensive financial report, partial report and overview of the financial statements. The report is the Annual Reports of 2010 some 404 pages in which are listed the three criteria of financial statement information. Overall there are 15 companies from nature-based sector and processing industry or the 25% who are at a value between 16% - 18% and that is the value of the lowest percentages are 0% - 3% of the 29 companies or 48.3%.

The analysis shows that not all companies provide information on press releases, quarterly financial reporting as well as the vision and mission of the company's site. There are 52 companies or 86.6% of the companies that provide the vision and mission statement of the company, 28 companies or 46.6% of the companies that provide auditing quarter and 26 companies or 43.3% of companies that have news features. Punctuality index values obtained in this study is 3.3% for the 15 companies or 25%.

In general, companies provide an annual financial report in pdf format because it is more profitable compared with files in html. The advantage of a pdf file is almost the same as the report view the original report and the pdf file is very easy to use. In the form of pdf files can be viewed in Adobe Acrobat Plug-in. This file allows users to take advantage of features download the plug-in on the site. There are 13 companies that provide plug-in downloads on the site or by 21.6%. The companies that provide online feedback applications on the website are as much as 6 companies or about 10%. This application serves to help users give criticism to the company online. Features on the web such as audio or video can increase user interest in obtaining information about the company. The number of companies that use multimedia there are 20 companies or 33%. The analysis tools and advanced XBRL features, has not been used as an application that functions to avoid errors on the company website. The highest percentage of technology index is 20% or 19 companies or 31.6% of the amount of data across the enterprise. The lowest percentage of technology index was 0% with the number 8 companies or the percentage 13.3%. FAQs are used to reduce the influx of emails from the company's website users. This feature is very useful to help the company, but many companies are not using the FAQ as a tool.

Correlation test showed that the significant value of the index of internet financial reporting and the website popularity index (world rank) is 0.266. The significant value of the index of financial reporting and the website wealth index is more than 0.05. It can be concluded that there is no relationship between the index of internet financial reporting and website popularity. The results are consistent with the research of [20] which states that the website popularity index not related to the index of internet financial reporting. These results contrast with the [21] which states that there is a relationship between the index of contents, index timeliness, indexes and index technologies in support of users with number of web pages.

B. Web Page Number and Website Popularity

The correlation test used in this study is Spearman rank correlation test. The second hypothesis of this study will be tested used this correlation test which measures the relationship between the index of the web page with the website popularity. Correlation test showed that the significant value of web pages and website popularity is 0. It can be concluded that the index of the number of web pages and website popularity has a significant relationship. This means that if the number of web pages up the value of the wealth index the website will go up. These results are consistent with [21] which states that the relationship between the variables used are an index of contents, index timeliness, technology index and the index of user support. This result support [22] that the number of web pages is very useful to measure web based information richness held by the company. Trust will arise from the public if the company gives useful information. The result also support with [23] that presentation format affects judgment accuracy and decision time. Hyperlink use leads to decreased decision time and decreased accuracy.

C. Internet Financial Reporting Index by Sector

The third hypothesis is used to determine the difference in index of internet financial reporting which includes an index of contents, index timeliness, technology index and the index of user support by sector i.e. nature-based sector and the manufacturing sector. This study used two independent samples test. Results from two independent samples that test results from Mann Whitney test showed that the significant value of the contents of the index is 0.569, the significant value of punctuality index is 0.001, the significant value of the technology index is 0.325, the index value of user support is 0.330 and the index of the internet financial reporting between nature-based sector and processing industry sectors is 0.083. It can be concluded that two independent samples come from the same population. The results of the Kolmogorov Smirnov test showed that the significant value of the contents of the index is 1, the significant value of the index is 0.039 timeliness, significance value of the index is 0993 technology, the significant value of the index is 0.758 user support, the significant value of nature-based sector and processing industry sectors index of internet financial reporting is 0.163. This condition is caused by a lack of transparency of information on the company in the nature-based sectors and in the manufacturing industry. This research is in line with the research of [18]. These results are not in line with the [21] that examines the different samples, namely banks and non-bank states that there are differences in financial reporting internet index.

V. SUMMARY

There is no relationship between financial reporting internet index (index of contents, timeliness index, technology index and the index of user support) with the website popularity. There is a significant relationship between the numbers of web pages with website popularity. There is no difference that the company of nature-based sector and manufacturing industry, seen from the index internet financial reporting, which means the two variables are from the same population.

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Direct and Indirect Effects of Customer Satisfaction through Product and Service Quality–A Study of Phu Nhuan Jewelry Stores in Ho Chi Minh City, Vietnam

Mai Ngoc Khuong and Hoang Thi Hoang Anh

Abstract-This study was conducted to identify the relationship between customer satisfaction, service quality and product quality of Phu Nhuan Jewelry (PNJ) stores in Ho Chi Minh City (HCMC). In addition, this study also examined the impacts of four independent variables which are tangibles, assurance, empathy and price and the intervening variables of perceived service quality and perceived product quality on customer satisfaction. Quantitative approach was the major method used, with statistical techniques applied, including factor, multiple regression, and path analyses. The unit of analysis was at individual level with the target population of all customers of PNJ Company. The empirical results of this study provided an insight of how customers assessed the product and service quality of PNJ stores in HCMC in order to make appropriate adjustments and effective improvements for the business. Based on the path analysis results about the direct and indirect effects of independent variables on the dependent variable, this study suggests that in order to achieve high customer satisfaction, PNJ stores should increase level of service and product quality, improve physical representation of the service (tangibles), promote staff's inspiration of trust and confidence (assurance), provide more empathy to customers, and offer better price.

Index Terms—Customer satisfaction, perceived product quality, perceived service quality, path analysis.

I. INTRODUCTION

Jewelry industry of Vietnam is one of the developing sectors of Vietnamese economy. And most of enterprises in the field do not have the organizational system. In the future, growth rate in Vietnam jewelry market is expected to be positive, which is driven by the increase in domestic demand and income. And as a result of this trend, customers with higher income will have higher requirements. For jewelry products industry, this is an opportunity as well as a challenge. Now that more and more enterprises start this kind of business with products of competitive quality and price, how can old enterprises attract more new customers and retain the old ones? The enterprises should not only concentrate on improving products quality and design, they should also attach special importance to enhance service quality in their stores. In order to achieve this, a method should be usually implemented is to do research about customer satisfaction about product quality and sale service quality of their distribution system

Many researchers have looked into the importance of customer satisfaction. According to [1], customer satisfaction

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has increasingly become an important indicator on how to develop or improve existing practices. The change to a more customer-oriented approach from a traditional product oriented road management approach requires new feedback input methods and involvement of the customer.

In addition, to be a strong brand with high reputation and credibility, Phu Nhuan Jewelry Joint Stock Company (PNJ) is considered to be one of the enterprises with significant contributions to the growth of the jewelry industry in Vietnam. It can be seen as the market leader among domestic jewelry company with 20% gold jewelry market share and up to 70% silver jewelry market share in Vietnam. Hence, to keep the leader position in jewelry industry in Vietnam, research on customer satisfaction on product quality as well as sales service quality is a necessary method to attract more new customers and retain the existing ones.

This research aimed to find out how customers satisfy with product and sales service quality of PNJ stores in HCMC. The objectives of this study should also make important contributions to both theoretical and practical research in the field of customer satisfaction by 1) analyzing and evaluating PNJ customer satisfaction with direct and indirect effects, 2) evaluating the product quality of PNJ, 3) evaluating the sales services quality of PNJ and 4) basing on the empirical results, improvement and development suggestions would be provided to the company in order to enhance the quality of product, sales service and customer satisfaction.

II. LITERATURE REVIEW

According to [2], satisfaction is the customers' evaluation of a product or service whether that product or service has met their needs and expectations. Customer satisfaction is very important in today's business world as according to [3] the ability of a service provider to create high degree of satisfaction is crucial for product differentiation and developing strong relationship with customers.

Reference [4] stated that customer satisfaction is commonly related to two most important elements including the customer's judgment of the product quality and his evaluation of the interaction experience he or she has made with the product provider. Reference [5] identified that strong relationships exist between service quality and customer satisfaction while emphasizing that these two are conceptually distinct constructs from the customers' point of view.

According to [6], service quality has been conceptualized as the difference between customer expectations regarding a service to be received and perceptions of the service being

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received. Service quality is an approach to manage business processes in order to ensure full satisfaction of the customers which will help to increase competitiveness and effectiveness of the industry [7].

Reference [8] mentioned ten factors for evaluating service quality (including tangible, reliability, responsiveness, courtesy, credibility, security, accessibility, communication and understanding the customer). These ten factors were then simplified and reduced into five factors which are tangibles, reliability, responsiveness, assurance and empathy.

However, many criticisms have been leveled against SERVQUAL model. One of the major shortcomings of the model is that the five service quality dimensions are not universal and cannot be applied in all service industry, [9] and [10]. They contended that it depends on the context in which the dimensions are applied since the definitions and the number differ. Many researches using SERVQUAL quality did not use all 5 dimensions of the model because of the features of different industry. For example, the research study of [11] show that only 2 dimensions were found. In the same vein, Cronin and Taylor cited in [12] conducted an investigation into the banking, pest control and dry cleaning and fast food industries and found that there was no evidence of the five dimensions.

Hence, we can conclude that SERVQUAL model is an open model and it is applied flexibly in different industries. And it is the same with jewelry industry where not all the dimensions play an important role in determining customer satisfaction in jewelry industry. As mentioned above, PNJ company is a product-oriented business which mainly focuses on gaining profit through selling jewelry products. Thus, reliability and responsiveness are not as important in this industry.

Reference [13] and [14] defined product quality to be the totality of features and characteristics of a product that bears on its ability to satisfy given needs. If customer's expectation is fulfilled by the product, the customer will be satisfied and think that the product is of good or even high quality. If it is reversed, the customer will consider that the product is of low quality.

According to [15], product quality performance has eight criteria which are: performance, features, reliability, conformance, durability, serviceable, aesthetic, and perceived quality.

According to [16], price is the amount of money charged for a product or service, or the sum of the values that customers exchange for the benefits of having or using the product or service while reference [17] defined price as the amount of money or goods needed to acquire some combination of another goods and its companying services.

Economists (as well as many shrewd merchants) have long been aware of the concept of judging quality by price. According to [18], today, more than ever, the word "expensive" has come to connote "quality" in the mind of the consumer. The two concepts have almost become synonymous. The perception of price as an indicator of product is basically rational. It indicates a trust in the forces of supply and demand and is based on the assumption that prevailing market prices exist because they were found to be fair and reasonable.

With the mentioned above independent and intervening

variables related to the customer satisfaction, this study hypothesizes that:

H₁: Customer satisfaction is positively associated with Perceived Product Quality and Perceived Service Quality.

 H_2 : Customer Satisfaction is hypothesized to be positively associated with factors of Assurance, Price, Empathy and Tangibles.

 H_3 : Customer Satisfaction is directly and indirectly affected by factors Assurance, Price, Empathy, Tangibles, Perceived Service Quality, and Perceived Product Quality.

III. METHODOLOGY

The target population of the research was all PNJ customers in HCMC. The sample size was (n=250) based number of variables for appropriate factor analysis. In this study, there were 19 items in the group of independent variables including assurance, price, empathy, tangibles and 14 items in the group of dependent variables including perceived service quality, and perceived product quality, and customer satisfaction. So the ratio used in this study was more than 10:1 in order to guarantee for the reliability and validity of research. The questionnaires were provided directly to customers of 29 PNJ stores in districts such as district. 1, 3, 5, 6, 10, 11, Tan Binh, Binh Thanh, and Phu Nhuan.

A. Survey Instrument

Questionnaire was designed based on the items of four independent variables and three dependent variables drawn from the literature as mentioned in the literature review section. Most questions were in the form of statements using five-point Likert scale, ranging from 1 is "strongly disagree" to 5 is "strongly agree". The draft version of questionnaire was sent to experts and colleagues in the field of sale and marketing and management for further comments of improvement. After that, questionnaire was revised by researcher and sent to 22 PNJ customers in HCMC for a pre-test procedure. The reliability of the measures was tested with Cronbach's alpha coefficients ranging mostly all above .80. These results of the reliability analysis of the pre-test showed that all items of the dependent and independent variables of this study had very good internal consistency. Finally, the final questionnaire was sent out to PNJ customers to collect data for this research.

B. Factor Analysis and Reliability

Two exploratory factory analyses, which used the principal component extraction method and varimax rotation of 14 items of the group of dependent variables related to perceived product quality, perceived service quality, and customer satisfaction and 19 items of the group of independent variables related to the factors affecting the customer satisfaction, were conducted on the sample of 250 PNJ customers. Prior to running the analysis with the SPSS, the data was screened by examining the descriptive statistics on each item, inter-item correlations, and possible univariate and multivariate assumption violations. From this initial assessment, all variables were found to be continuous, variable pairs appeared to be bivariate normally distributed, and all cases were independent of one another. For this study, the factor analysis procedure was applied twice; once for the group of dependent variables, including 3 variables, and again for the group of independent variables, including 4 variables. The Kaiser-Meyer-Olkin measure of sampling adequacy was .824 for the dependent variables and .822 for the independent variables (according to reference [19], to be significant, the value has to be .60 or above), indicating that the present data was suitable for principal components analysis. Similarly, Bartlett's test of sphericity [20] was significant (p<.001), indicating sufficient correlation between the variables to proceed with the analysis.

Using the Kaiser-Guttman's retention criterion of Eigenvalues greater than 1.0, a three-factor solution provided the clearest extraction for the group of dependent variables, including 14 items [21], [22]. The three factors accounted for 61.22% of the total variance and the Cronbach's coefficients ranged from .797 to .884 among the factors, indicating good subscale reliability.

	Given names	Number of	Alpha
		items	
Factor 1	PERPROQUA	6	.884
Factor 2	PERSERQUA	4	.797
Factor 3	CUSTSATIS	4	.797

In addition, a four factor solution was conducted for the group of independent variables consisting of 19 items. The four factors accounted for 69.21% of the total variance. All four factors were considered appropriate and retained for further analysis. The Cronbach's coefficients ranged from .717 to .871 among the four factors indicating good subscale reliability.

TABLE II: SUMMARY OF IVS WITH RELIABILITY COEFFICIENTS

Given names		Number of	Alpha
		items	
Factor 1	Assurance	6	.871
Factor 2	Price	5	.717
Factor 3	Empathy	4	.833
Factor 4	Tangibles	4	.763

The rationale used in naming these four factors was guided in part by the recommendations of ref. [23], where sorted factor weights in excess of .65 were used to "drive" the process of labeling and interpreting each factor. The present three-factor model and four-factor model of this study were deemed the best solution because of their conceptual clarity and ease of interpretability.

IV. RESULTS AND DISCUSSION

A. Sample Demographic

TABLE III: PNJ CUSTOMERS IN HCMC PROFILE				
		Frequency	Percentage (%)	
Gender				
Male		53	25.9	
Female		152	74.1	
	Total	205		
Marital status				
Single		96	46.8	
Married		109	53.2	
	Total	205		

Age			
Under 18		6	2.9
18-22		32	15.6
23-30		86	42.0
31-45		71	34.6
45-65		6	2.9
Over 65		4	2.0
	Total	205	
Education			
High school		8	3.9
Vocational school		6	2.9
College		7	3.4
University		158	77.1
Post university		26	12.7
	Total	205	
Income			
Under 5 Mil		49	23.9
5-10 Mil		95	46.3
10-15 Mil		39	19.0
15-20 Mil		12	5.9
Over 20 Mil		10	4.9
	Total	205	

B. Factors Affecting Customer Satisfaction

In order to find out which factors had relationship with the dependent variable of customer satisfaction as well as to test hypotheses (H_1 and H_2), Pearson Product-moment Correlation Coefficients (r) were employed. Table IV shows that there were significantly positive relationships between the customer satisfaction and the independent variables of assurance, price, empathy, and tangibles.

TABLE IV: CORRELATIONS OF THE CUSTSATIS MODEL		
	-	_

		CUSTSATIS	1	2	3
1	ASSUARNACE	.462**			
2	PRICE	.378**	.558**		
3	EMPATHY	.502**	.629**	.654**	
4	TANGIBLES	.494**	.609**	.537**	.494**
	Mean	14.67	22.09	17.28	14.30
	SD.	2.57	4.21	3.57	2.88

Note: ** Significant level at *p* < .001

In these significant relationships, there was substantially positive correlation between Customer satisfaction and empathy (r=.502, p<.001). This means that the better the empathy customer achieved the higher level of satisfaction that customers felt. Besides that, the variables of assurance, price and tangibles were moderately correlated with customer satisfaction (r=.462, p<.001), (r=.378, p<.001) and (r=.494, p<.001), respectively. This means that better assurance, price and tangibles could lead to higher customer satisfaction.

In addition, Table V also shows that there were significant relationships between customer satisfaction and perceived product quality and perceived service quality.

TABLE V: CORRELATIONS OF THE CUSTSATIS MODEL 2							
		CUSTSATIS	1	2			
1	PERPROQUA	.365**					
2	PERSERQUA	.355**	.570*				
Mean		14.67	22.41	15.04			
SD.		2.57	4.15	2.64			
Note: ** Significant level at <i>p</i> < .001							

There were moderate correlations between customer satisfaction and perceived product quality (r=.365, p<.001) and between customer satisfaction and perceived service quality (r=.355, p<.001). This means that the better the company's product quality and service, the higher satisfaction

that customer will perceive.

C. Indirect Effects of the Customer Satisfaction

1) Perceived service quality

The result of multiple regression analysis showed that the perceived service quality significantly related with four important predictors: assurance (β = .037, p>.05), price (β =.353, p<.001), empathy (β =.323, p<.001), and tangibles (β =.068, p>.05). Based on beta indicator and p value, two out of these four factors directly affected the perceived service quality and then perceived service quality directly caused an effect on the customer satisfaction with (β = .217, p < .001). Therefore, through the intervening variable of perceived service quality, the factors of price and empathy created indirect effects on the customer satisfaction at (.076) and (.070) respectively.

These findings indicated that the existence of price and empathy had significant positive effects on perceived service quality and customer satisfaction. Thus, this study argues that as price and empathy are present in a greater amount, the perceived service quality and customer satisfaction are likely to be greater. This result is consistent with reference [24] and [18].

D. Path Diagram of the Customer Satisfaction



Fig. 1. Path coefficients of the structural equation. Note: All coefficients in the model were significant at the .05 level.

E. Perceived Product Quality

The result of multiple regression analysis showed that the perceived product quality significantly related with four important predictors: assurance (β = .309, *p*<.001), price (β =.382, *p*<.001), empathy (β =-.024 *p*>.05), and tangibles (β =.230, *p*<.001). Based on beta indicator and p value, three out of these four factors directly affected the perceived product quality and then perceived product quality directly caused an effect on the customer satisfaction with (β = .241, *p*<.001). Therefore, through the intervening variable of perceived product quality, the factors of assurance, price and tangibles created indirect effects on the customer satisfaction at (.075), (.092) and (.055) respectively.

These findings indicated that the existence of assurance, price and tangibles had significant positive effects on perceived service quality and customer satisfaction. Thus this study argues the higher quality level of assurance, price and tangibles is, the greater the perceived service quality and customer satisfaction are likely to be. This result is consistent with ref. [25]-[28].

F. Direct Effects of Customer Satisfaction

In order to explore the direct effects of the independent and intervening variables on the customer satisfaction, the result of multiple regression analyses showed that the customer satisfaction was directly affected by three predictors: empathy (β =.320, p<.001), tangibles (β =.291, p<.005), assurance (β =.108, p<.001), perceived product quality (β =.241, p<.001) and perceived service quality (β =.217, p<.001).

G. Total Causal Effects of the Customer Satisfaction

Table VI summarizes the effects of the independent variables (assurance, price, empathy and tangibles) together with perceived product quality and perceived service quality on the dependent variable (customer satisfaction) of this study. Regarding the total effects, the empathy factor had the strongest effect on customer satisfaction with $\beta = .380$, according to [29], this can be considered as a moderate effect. Next is the tangibles with $\beta = .352$, this also can be considered as a moderate effect [30]. The factor of perceived product quality was ranked at third with $\beta = .241$, and next is perceived service quality at fourth with β =.217. This means that perceived product quality and perceived service quality had a low effect on the Customer satisfaction. And lastly, the factor of price with $\beta = .168$. This means that price provided a trivial effect on the main dependent variable. The total effect of these factors on customer satisfaction was 1.541.

Regard to the direct effects, the Empathy had the strongest impact of the Customer satisfaction with $\beta = .320$. Next is the factor of Tangibles with $\beta = .297$, the factor of the Perceived product quality was ranked at third with $\beta = .241$, followed with Perceived service quality at fourth with $\beta = .217$ and lastly, the Assurance with $\beta = .108$. The total of direct effects of all these independent and dependent variables on the main dependent variable of the study was 1.183.

Regard to the indirect effects, the Price factor had the strongest indirect effect on the Customer satisfaction with β = .168, followed by the Assurance with β = .075 and the Empathy factor with β = .070. The last factor is Tangibles with β = .055. The total indirect effect of the independent variables through the intervening variables (Perceived product quality and Perceived service quality) on the Customer satisfaction was .368.

TABLE VI: INDIRECT AND TOTAL CAUSAL EFFECTS							
Variables	Casual effects						
	Direct	Indirect	Total				
ASSURANCE	.108	.075	.183				
PRICE	-	.168	.168				
EMPATHY	.320	.070	.380				
TANGIBLES	.297	.055	.352				
PERPROQUA	.241	-	.241				
PERSERQUA	.217	-	.217				
Total	1.183	.368	1.541				

V. IMPLICATIONS OF THE STUDY

This study presented empirical evidence regarding the factors affecting the customer satisfaction directly and indirectly, as well as provided reliable scales to measure theoretical dimensions such as assurance, price, empathy and tangibles. The study also tried to measure the customer satisfaction through the intervening variables, perceived product quality and perceived service quality. Thus, a more comprehensive conceptual framework for measuring customer satisfaction, with all important factors suggested by scientific researchers of previous studies, was built and tested in this study.

The results of this study, based on the significant correlations between the independent and dependent variables, suggested that in order to have higher customer satisfaction, PNJ company should: a) concentrate to enhance the empathy of staffs to customers (individual care such as giving gifts in special occasions, have some unique customized service, etc.), b) invest more on the tangibles of stores (adding modern equipment's like TV, sofa, adding more lights, adding accessory to staffs' uniform in special occasion, etc.), c) pay high attention in improving assurance of stores to customers (opening courses of specializing knowledge and skill to employee, courses of soft skill such as communication skill, periodically meeting organizing and award for good-performing staff to encourage efforts and responsibilities, etc.), d) control reasonable price, e) concern about product quality (design, durability, warranty, etc.) and f) increase service quality (promotion programs, customer service, staffs, etc.).

The empirical results of this study provided an insight of direct and indirect effects of independent variables on the dependent variable of customer satisfaction, this study suggests that in order to achieve high customer satisfaction, manager of PNJ stores should increase level of sales service and product quality, improve physical representation of the service (tangibles), promote staff's inspiration of trust and confidence (assurance), and provide more empathy to customers because these five factors provide direct significant contributions in predicting customer satisfaction. In addition, factors of assurance, price, empathy, tangibles provide indirect significant contributions in predicting customer satisfaction.

VI. CONCLUSION

All objectives of this study have been successfully obtained, firstly to analyze and evaluate PNJ customer satisfaction in HCMC with direct and indirect effects; secondly, to evaluate the product quality of PNJ and then evaluate the sales services quality of PNJ; finally to provide improvement suggestions to enhance quality of product, sales service and customer satisfaction for PNJ company.

The application of the multivariate statistical techniques with factor analysis, standard multiple regression analyses, and path analysis allows for the exertion of a causal relationship between variables of the customer satisfaction model. Explanations and suggestions given were based on the review of the literature and the empirical findings of the study. In terms of significant relationships, bivariate correlations and Pearson product-moment correlation coefficients were employed to explore the relationship and its strength between each independent variable and the customer satisfaction, as well as between each intervening variable and the dependent variable of the study. The direct and indirect effects of the customer satisfaction were discussed and explained in order to obtain clear answers and evidence for all research hypotheses. Thus, the implications of this study provide both theoretical and practical contributions to the field of customer relationship management.

The results of this study showed that not all factors have direct and indirect effects on the customer satisfaction for several subjective and objective reasons. Future research should apply the model in other contexts with more meaningful statements for each factor or determinants of the customer satisfaction.

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Fertility Model and Female Labour Force Participation in Selected ASEAN Countries

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Abstract—This paper tends to investigate the ambiguous relationship between fertility and women's labour force participation in the case of Malaysia and other selected Asian countries such as Singapore, Thailand, Indonesia, the Philippines and Vietnam. Using a panel of observations for the period 1995 to 2009, this study examines the correlation and panel causality effect between fertility rate, female labour force participation, and other fertility factors. The panel analysis was done on the six selected ASEAN countries (ASEAN-6), as well as for each of the individual country. This study found that there is mixed correlation between the regression variables in ASEAN countries but none of them have a strong correlation. The results on causality tests show that primary education, health expenditure, life expectancy at birth, labour participation rate, and self-employed - female do not granger-cause fertility rate in all six ASEAN countries. However there is a unidirectional causality which runs from fertility rate to education primary, life expectancy at birth and labour participation rate.

Index Terms—Fertility rate, female labor force participation, correlation, panel causality test, ASEAN countries.

I. INTRODUCTION

Many studies have been carried out to analyze the relationship between fertility and female labor force participation. Several researchers have recently observed an aggregate reversal in the cross-country correlation between the total fertility rate (TFR) and the female labor force participation rate (FLFP) among countries.

Countries with the lowest fertility rates are those with relatively low rates of female labour force participation. And the other way around, countries with higher fertility rate tend to have relatively high female labour force participation rates.

It is observed that the correlation between TFR and FLFP across developed countries was negative and strongly significant during the 1970s and up to the early 1980s. Conversely, by the late 1980s the correlation had become positive and equally significant. As suggested by few researchers, the link between female employment and fertility is weak due to a greater availability of market child care and the rising income effect of wages at high levels of female wage [1]-[3].

However, several authors stated that changes in the sign of the cross-country correlation between TFR and FLFP have often been mistakenly associated with a change in the time series association between TFR and FLFP [4]-[5], and [6]. Another study shows that neither the causality nor the time series association between TFR and FLP has changed over time [7].

Based on recent trend in developed and OECD countries, this paper tends to examine the ambiguous relationship between fertility and women's labour force participation in the case of Malaysia and other selected Asian countries such as Singapore, Thailand, Indonesia, the Philippines and Vietnam.

II. REVIEW OF LITERATURE

Fertility is significantly important in macroeconomics performance [8], especially in debates on labour force participation of women. One of the early studies using the method-related reasons for the U.S. data for the year 1948-93 has been found that there was no one-way relationship between fertility and female labour force participation [9].

Most studies on labour force participation of women and fertility include the importance of education [10] and [11]. One recent study suggested that the effect of falling fertility on labour supply can be offset by changes in related behaviour [12]. In other word, a fertility decline induces higher education and health investments.

In examining causality and parameter instability in the long-run relation between fertility and female employment by applying error correction model, causality is found in both directions [7]. A negative correlation between women's employment and fertility was found in [13]-[16].

As the female schooling goes up to higher levels, it directly lowers fertility rate and raises female activity rates. Therefore, female labour force can be increased in the society either by reducing fertility and unemployment rates or by increasing their educational attainment [18]

When most literature generally points to a negative relationship between female education and fertility, policymakers have advocated educating girls and young women as a means to reduce population growth and foster sustained economic and social welfare in developing countries. In Nigeria, the impact of education on fertility is estimated and concluded that increasing female education by one year reduces early fertility by 0.26 births [19]. Women, working in either sector of the labour market significantly reduce fertility but, unlike many previous studies, fertility has a positive impact on the probability of labour force

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participation of women [20].

TABLE I: PEARSON CORRELATION FOR ASEAN-6

	Fr	he	Ep	le	Se	lp
Fr	1.000	-0.497	0.366	-0.676	0.203	-0.581
He	-0.497	1.000	0.140	0.888	-0.812	-0.120
Ep	0.366	0.140	1.000	-0.120	-0.231	-0.646
Le	-0.676	0.888	-0.120	1.000	-0.589	0.314
Se	0.203	-0.812	-0.231	-0.589	1.000	0.407
Lp	-0.581	-0.120	-0.646	0.314	0.407	1.000

TABLE II (A): GRANGER CAUSALITY BETWEEN FERTILITY RATE AND INDEPENDENT VARIABLES AMONG ASEAN-6, MALAYSIA, AND INDONESIA

	ASEAN-6	Malaysia	Indonesia
Hat	F-Stat	F-Stat	F-Stat
110.	(p value)	(p value)	(p value)
ep does not G-	1.637	0.636	4.478**
Cause fr	(0.204)	(0.554)	(0.049)
fr does not G-	7.182***	0.742	3.224*
Cause ep	(0.008)	(0.506)	(0.094)
he does not G-	0.700	0.606	0.485
Cause fr	(0.373)	(0.526)	(0.632)
fr does not G-	0.025	4.262**	4.232**
Cause he	(0.873)	(0.054)	(0.055)
le does not	1.589	11.169***	27.779***
G-Cause fr	(0.210)	(0.004)	(0.000)
fr does not G-	4.373**	46.732*	163.98***
Cause <i>le</i>	(0.015)	(0.000)	(0.000)
<i>In</i> does not G-			
Cause fr	2.014	10.608***	8.182**
fu doos not C	(0.139)	(0.005)	(0.011)
fr does not G-	4.348**	0.305	3.371*
Cause ip	(0.016)	(0.744)	(0.086)
se does not G-	0.303	2.990	4.356**
Cause fr	(0.583)	(0.107)	(0.052)
fr does not G-	1.096	0.333	6.245**
Cause se	(0.298)	(0.725)	(0.023)

Note: ***, **, * indicates rejection of the null hypothesis of no-cointegration at 1%, 5%, and 10% level of significance.

III. DATA AND METHODOLOGY

The data set consists of a panel of observations for six (6) ASEAN countries namely Indonesia, Malaysia, the Philippines, Singapore and Thailand for the period 1995 to 2009. Annual data on health expenditure, life expectancy at birth, labour participation rate, education primary, and self-employed rate and fertility rate are collected from the World Development Indicator (WDI) and Asian Development Bank (ADB).

The study estimates the population Pearson correlation r between X (*fertility*) and Y. (health expenditure, life expectancy at birth, labour participation rate, education primary, and self-employed rate). Before the causality can be carried out, this study test on panel unit root and chose the Levin, Lin and Chu version, and Im, Pesaran and Shin which are based on the well-known Dickey-Fuller procedure [20].

TABLE II (B): GRANGER CAUSALITY BETWEEN FERTILITY RATE AND INDEPENDENT VARIABLES FOR THE PHILIPPINES, SINGAPORE, THAILAND AND VIETNAM

	Philip-pine	Singapore	Thailand	Vietnam	
	s	01			
TT	F-Stat	F-Stat	. F-Stat	F-Stat	
но:	(p value)	(p value)	(p value)	(p value)	
ep does not					
Granger	9.223***	1.757	6.050**	1.286	
Cause fr	(0.008)	(0.233)	(0.025)	(0.327)	
fr does not	2.542	2.101	2.1686	1.160	
G- Cause ep	(0.139)	(0.184)	(0.176)	(0.360)	
he does not				44.123**	
G- Cause fr	4.774**	0.588	9.340***	*	
	(0.043)	(0.577)	(0.008)	(0.000)	
fr does not	5.114	0.350	3.066	0.720	
G- Cause he	(0.037)	(0.714)	(0.102)	(0.515)	
le does not				154.241*	
G-Cause fr	113.619***	1.695	14.386***	**	
	(0.000)	(0.243)	(0.002)	(0.000)	
fr does not				445.571*	
G- Cause le	95.022***	0.813	17.976***	**	
	(0.000)	(0.476)	(0.001)	(0.000)	
lp does not	5.893**	0.917	15.010***	0.159	
G- Cause fr	(0.026)	(0.437)	(0.002)	(0.855)	
fr does not	1.914	1.748	13.505***	2.5904	
G- Cause lp	(0.209)	(0.234)	(0.002)	(0.135)	
se does not	6.530**	0.333	4.979**	1.627	
G- Cause fr	(0.020)	(0.726)	(0.039)	(0.255)	
fr does not	2.179	0.049	3.122*	0.163	
G- Cause se	(0.175)	(0.952)	(0.099)	(0.851)	

Note: ***, **, * indicates rejection of the null hypothesis of no-cointegration at 1%, 5%, & 10% level of significance.

IV. ANALYSIS OF DATA

This section discusses the results of this estimation for ASEAN-6, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam.

A. Pearson Correlation

Table I presents the correlation results for all the six (6) countries. There is positive and negative correlation between regression variable in ASEAN countries but none of them have a strong correlation.

The highest correlation is between health expenditure (*he*) and life expectancy at birth (*le*) with $r^2 = 79.01\%$ or r = 0.8889. It is a positive correlation. Then followed by the negative correlation between health expenditure (*he*) and self-employed - female (*se*) with r = -0.8123 which is equal to $r^2 = 65.98\%$. The rest of variables have a weak relationship.

B. Panel Causality Test

The Granger-causality test is very sensitive to the number of lags included in the regression; both the Akaike Information Criteria (AIC) have been used in order to find an appropriate number of lags. Both Table II (a) and Table II (b) report the results corresponding to different regressions.

According to Table II (a) it is found that education primary (ep), health expenditure (he), life expectancy at birth (le), labour participation rate (lp), and self-employed - female (se), does not granger cause fertility rate in ASEAN-6. But there is a unidirectional causality which runs from fertility rate to

education primary (ep), life expectancy at birth (le) and labour participation rate (lp).

As for Malaysia, this study found that life expectancy at birth (le) has granger causality to fertility rate at 1 percent confidence level. Means that life expectancy (le) and fertility rate can influence each other's. While, labour participation rate (lp) has directional causality to fertility rate at 1 percent confidence level.

In Indonesia, education primary (ep), labour participation (lp) and self-employed - female (se) have granger causality to fertility rate at 5 percent confidence level but life expectancy at birth (le) has granger causality to fertility at 1 percent only.

Refer to Table II (b), the entire variable that was regressed has granger causality with fertility rate (fr) in Philippines but the differences is the confidence level. The health expenditure (he) and self-employed – female (se) have granger causality to fertility rate at 5 percent confidence level but education primary (ep), life expectancy at birth (le) and labour participation rate (lp) have granger causality to fertility only at 1 percent confidence level.

As for Thailand, health expenditure (he), life expectancy at birth (le) and labour participation rate (lp) have granger causality to fertility rate at 1 percent of confidence level. The education primary (ep) and self-employed – female (se) have a granger causality to fertile ity rate at 5 percent of confidence level. There is a directional causality between variable to fertility rate in Thailand.

Vietnam also has a variable that are granger causality and directional causality to the fertility rate at 1 percent of confidence level. Health expenditure (he) and life expectancy at birth (le) have granger causality to fertility rate but life expectancy at birth (le) is directional causality to fertility rate. However, Singapore is the one and only nation in ASEAN that didn't show any causality between variable in regression.

V. CONCLUSION

In examining the degree of linear dependence between the variables, the results obtained from Pearson correlation show that there is a positive and negative correlation between regression variable in ASEAN countries, but none of them have а strong correlation. By employing the Granger-causality test to analyze the causal relationship between variables observed, the findings show that primary education, health expenditure, life expectancy at birth, labour participation rate, and self-employed - female, does not granger-cause fertility rate in ASEAN-6. But there is a unidirectional causality which runs from fertility rate to education level, life expectancy at birth and labour participation rate. As for an individual country, results are rather mixed. Thus, in general to reduce fertility in most of the countries, policymakers can promote more job opportunities for women.

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Green Environmental Protection as a Result of Systems Thinking

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Abstract-Many scholars interested in environmental management discuss it from different aspects: the overwhelming majority of companies are trying to implement environmental management from theoretical point of view into everyday situations. It is important to underscore the fact that environmental management is a concept used every bit as theory as in practice in different aspects from different point of views. The similar case exists in concepts of management, organization and quality; the content of environmental management is dealt with insufficiently examined theory basis and also the interpretation and use in business practice is not systematical and consistent. In our research we propose a model of recycling isolating materials, made of hard polyurethane and lightweight concrete, with aggregates containing expanded glass as an innovative construction material- green lightweight composite. The scope of the aforementioned model is to plan production processes without waste and to improve energy efficiency in buildings. The model proposed solution enables a process alternative to be enhanced in sustainable development. Composites characteristics of density, compressive strength and thermal conductivity are changing in dependency of the type and part of waste as well as the type and part of fresh binding components. Method shows great possibilities for increasing use of construction waste isolating materials from hard polyurethane and lightweight concrete with aggregates containing expanded glass in order to benefit from better use of available capacity of existing construction waste.

Index Terms—Composite, environmental management, innovation, system thinking.

I. INTRODUCTION

Construction, one of the oldest activities of mankind, has an important effect on the socioeconomic development and at the same time sets an indelible seal on the surroundings and the environment. It influences the economical dynamics of society and also has an important effect on the environment surroundings. The activities connected and with constructions have long-term effects on the change in the appearance of a region, as well as on natural resources and waste management. The current environmental policy is based upon the concept of sustainable development. Innovation is of vital importance not only for those who want to increase or sustain economic growth in a given area (region, state and the like) but also for those who benefit(in)directly [1]. According to this, producing as much as possible is no more a central issue that should affect or change the economic course of development or improve quality of life [2]. Since the majority of natural resources are not unlimited and renewable, we can ensure equal opportunities to future generations only provided that we employ responsibility in the field of resources management. In its sustainable development strategy, the EU has set the severing of links between economic growth, use of natural resources and production of waste as one of its primary goals.0020The model of green lighweight composite as an innovative material for construction is developed to incorporate environmental performance in the design of building operations and minimize construction waste [3].

II. MODERN TRENDS REQUIRING SYSTEMS THINKING

There are several trends in world-wide life requiring systems thinking, such as:

- United Nations are the widest organisation of humankind and exist to work for holism in detecting and solving of the world-wide problems;
- Many other international organisations exist for the same basic reason;
- Sustainable Development is an important concept, which humankind has launched through United Nations and several other international organisations in order to solve the problem of survival of humankind: we all need interdependence of both our care for economic development and for nature, because both of them together, in synergy rather than in separation, support our survival;
- Since the times of enlightment several centuries ago, humankind has been working for its economic development, including its development od knowledge, including science and its application; this development resulted in enormous amounts of new findings, discoveries, and innovations, as well as in a more and more narrow specialisation;
- The unavoidable specialisation has become exaggerated: along with deep and crucial insights it has caused many oversights, resulting in small and huge problems, all way to world wars, many other wars, profit (as motive) killing profit (as outcome) by causing huge medical, reparation, nature renewal, etc. costs; all these trends required and require increasingly the international bodies and actions mentioned above under the motto: Think globally, act locally;

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- Science and its application resulted, among other effects, in humankind's capacity to master more and more complex, not only complicated, issues, all the way to the most modern computer-supported tools (1) able to bring data, messages, even information from other planets that are many million kilometres away from Earth, (2) able to enter human body, (3) cure diseases as never before, etc.
- Etc. Most of the amassing results of modern times result from combinations of
- · Deep, and hence one-sided, specialisation, and
- Bridges for co-operation between mutually different and interdependent specialists, based on application of (informal or formal) systems thinking.
- Systems thinking, rather than systems theory, are a millennia old practice of the successful practitioners and scientists and artists, which has made and makes them different from the less successful ones. (All losers are more or less one-sided thinkers and actors.)
- The exaggerated specialisation of the modern times caused the need for systems thinking to receive support from systems theory. It can teach humans to live consciously in the way that has always made a part of humans successful without possessing a theory as their background of their success [4].

(For details see: Dyck et al, 1998; Mulej *et al.*, 2000; Mulej, 2004; Rebernik *et al*, 2004; etc) [4].

In the 19th century, there were authors claiming the humankinds' need to consider relations, interdependences, not parts of the world as independent entities only. Their background may have been consciously or subconsciously the ancient Chinese notion of interdependence called yin and yang, and/or the ancient Greek notion of interdependence called dialectics. Both mean interdependence. In the 19th century one has seen Idealistic Dialectics, Materialistic Dialectics, and several more notions and teachings about holistic thinking.

One can reach several centuries back. Many know that there has been, centuries ago, a certain Leonardo da Vinci. He is known as artist of the supreme quality, but he was also a great researcher. One can find in him a pioneer in the fields of creative thinking, accelerated learning, and innovative leadership; [5]:

III. EXPERIMENTS

The model of recycling construction waste of concrete from lightweight aggregates containing expanded glass was developed in order to include environmental performance in the design of building operations and minimizing construction waste [6]. We focused on identifying opportunities to improve the environmental aspects of LWC and the next step was to recycle crushed construction waste of concrete from lightweight aggregates and fresh concrete from lightweight aggregates as a binding. Recycling was the next activity at normal room conditions:

TABLE I:HC	W TO THINK LIKE LEONARDO	DA VINCI [5]
7 DA VINCIAN PRINCIPLES	1) What is it?	Look at your own mind map from the perspective of the 7 Da Vinci principles
1 Curiosita	An insatiably curious approach to life and an unrelenting quest for continuous learning.	Am I asking right questions?
2 Dimonstrazione	A commitment to test knowledge through experience, persistence, and willingness to learn from mistakes.	How can I improve my ability to learn from my mistakes and experiences? How can I develop my independence of my thought?
3 Sensazione	The continual refinement of the senses, especially sight, as the means to enliven experience.	What is my plan for sharpening my senses as I age?
4 Sfumato (Literaly "Going up in Smoke")	A willingness to embrace ambiguity, paradox, and uncertainty.	How can I strengthen my ability to hold creative tension to embrace the major paradoxes of life?
5 Arte/Scienza	The development of the balance between science and art, logic and imagination. "Whole brain" thinking.	Am I balancing Arte and Scienza at home and at work?
6 Corporalita	The cultivation of grace, ambidexterity, fitness, and poise	How can I nurture the balance of body and mind?
7 Connessione	A recognition of and appreciation for the inter-connectedness of all things and phenomena. Systems thinking.	How do all the above elements fit together? How does everything connect to everything else?

- 1) Rest construction waste was assembled from LWC with aggregates containing expanded glass and hard PU,
- 2) Then crumbled into small pieces,
- 3) The crumbled construction waste of concrete from LWC with aggregates containing expanded glass and hard PU(mechanical reprocessing) was taken as a raw input material in the processing line to the standard mould,
- Volume of standard mould was charged and used for preparation of concrete specimens for compression test with "new" raw material,
- 5) Binding reaction occurred between new raw materials of fresh LWC with aggregates containing expanded glass and rest (waste) material of LWC with aggregates containing expanded glass and hard PU,
- 6) Binding process or the binding reaction refers to hydration of cement and
- 7) Quality control was implemented [7].



Fig. 1. "New" ligweight composite, LWC from aggregates containing expanded glass and hard PU

A control lightweight concrete mixture was prepared with

containing only normal Portland cement (NPC), and with waste LWC with aggregates containing expanded glass and hard PU. A mixture containing different parts of waste LWC and hard PU as a replacement of the aggregate in weight basis was prepared. The concrete samples were cured at 65% relative humidity at 20 °C temperature. The density, compressive strength and thermal conductivity of the hardened concrete and the properties of fresh concrete including density, and slump workability were measured. The consistency of the fresh concrete used to fill the mould was 380. Concrete was compacted traditionally by vibration. A test cube of recycled "new" material from LWC with aggregates containing expanded glass was prepared for studying the characteristics. The cubes were stored in a room at a temperature of 20+/- °C. Tests were conducted after 28 days. We used scanning electron microscope Leitz-AMR 100. The conductive sample was scanned with an electron beam under high vacuum. The emitted electrons were detected and effect the picture contrast. The acceleration current was 20 kV for the secondary electron image. Thermal conductivity instrument was tested using Kemtherm QTM-D3, Kyoto Electronics by stationary hot-wire method i.e. by heating at a defined time, the temperature increase is noted and the thermal conductivity of the sample calculated; the testing range was 0.02 - 10 W/mk, warm up was 30 min and measurement duration was 60 s. Characteristics such as density, compressive strength and thermal conductivity from the new recycled material have been compared with the normal existing concrete from lightweight aggregates [8].

IV. RESULTS

This chapter focuses on a practical example of successfully integrating waste management principles and reusing with the reuse and recycling of construction waste of concrete from lightweight concrete with aggregates containing expanded glass and hard PU. New economic issues dictate the redefining of economic interests in the wake of the recognition, that the natural environment is a limited production factor and not, as had previously been considered, the only supplier of raw materials [9]. The objective of this study was to investigate waste management and recycling of construction waste of concrete from lightweight aggregates (density from about 600 kg/m³) and hard PU (density from about 40-60 kg/m³). A commercially-available concrete from lightweight aggregates Poraver® and hard PU were selected for this investigation. The volume of the standard mould used for preparation of concrete specimens for compression test, dimensions 150 x 150 x 150 mm, was charged with rest, construction waste material of concrete from lightweight aggregates Poraver[®] and hard PU, the rest of the volume with new raw materials of concrete from lightweight aggregates Poraver[®] or hard PU was used as binding. It was added to the mould separately and not during the mixing of concrete, because we firstly investigated the capability of fresh LCW as a binding and the ratio between waste and fresh LCW with aggregates containing expanded glass [10]. The mould was first charged with waste material and then filled with fresh concrete. Another possibility for this is during the mixing of concrete. In this case waste LCW will assume the role of LWA. A prescription of raw materials of concrete from lightweight aggregates Poraver[®] was used, as supplied producer. Characteristics such as density, compressive strength and thermal conductivity of produced material samples in the scope of the research are given in Table II [11].

TABLE II: CHARACTERISTICS OF RECYCLED MATERIAL, AND CONCRETE FROM LIGHTWEIGHT AGGREGATES PORAVER®

—			c .	D ·		0			1
Test	-	Ma	ss of	Densit	y	Compre	essive	Thern	nal
cube		L	WС	kg/m³		stren	gth	conduct	ivity
		ŀ	ĸg			N/m	m ²	W/m	K
1	-	1.	.93	571.9 4.44		0.18	3		
2	-	1.	.95	577.8		4.6	7	0.18	3
3	-	1.	.99	589.6		4.3	6	0.18	3
	Mass	Ma	ss of	Density	y	Compre	essive	Thern	nal
	of	recy	cled	kg/m ³		stren	gth	conduct	ivity
	waste	L	WC			N/m	m ²	W/m	K
	LWC	ŀ	cg						
	kg								
4	0.2	2.	.15	637.0		4.3	1	0.19)
5	0.2	2.	.14	634.1		4.2	2	0.19)
6	0.2	2.	.18	645.9		4.0	4	0.19)
7	0.4	2.	.12	628.2		3.3	3	0.21	l
8	0.4	2.	.12	628.2		3.6	4	0.21	L
9	0.4	2.	.13	631.1		3.82		0.21	L
Test	Mass	Ma	ss of	Density	y	Compre	essive	Thern	nal
cube	of	recy	cled	kg/m ³		stren	gth	conduct	ivity
	waste	LV	WC			N/m	m ²	W/m	K
	hard	ŀ	ĸg						
	PU /		-						
	kg								
10	0.003	1.	.72	509.6		2.2	2	0.21	l
11	0.003	1.	.69	500.7		2.0	0	0.21	1
12	0.003	1.	.68	497.8		2.3	1	0.21	1
Test	Mass	Ma	ss of	Density	y	Compre	essive	Thern	nal
cube	of	recy	cled	kg/m ³		stren	gth	conduct	ivity
	waste	L	WC	-		N/m	m ²	W/m	K
	hard	ŀ	cg						
	PU								
	and								
	LWC								
	kg								
10	0.015	5 1.90		563.0		2.44		0.2	
11	0.015	1.96		580.7		2.67		0.2	
12	0.015	1.91		564.9		2.227		0.2	
Standard			Recycled					Recycled	
LWC			LWC((0.2 kg)			g)	LWC (0.4 kg)		

Recycled material has higher density, compressive strength and thermal conductivity similar to the standard one. Characteristics of density, compressive strength and thermal conductivity are changing depending on the types and parts of waste, as well as the types and parts of fresh binding components. Data concerning the 28-days cube compressive strength values of the materials are given in Table II. The 28 days cube compressive strength values of the concrete samples were changed according to the material mixing ratios. Due to low ratio of the LWC waste in the material composition finally caused maximum compressive strength values at the end of 28 days was maximum. The compressive strength values of lightweight concrete samples were under 4.36 N/mm^2 . By reason of the low compressive strength, the lightweight concrete with LWC waste additive can be recommended for use as a coating and dividing material in constructions, because of its insulating features.

The thermal conductivity of produced material samples was observed. Thermal conductivities of samples no 3, 4 and 5 were 0.19 W m⁻¹ K and of samples 7 and 8 and were determined as 0.21 W m⁻¹ K. Evaluating the thermal conductivities of produced material samples together with their compressive strengths and density, shows into suitable for use as a recycled LWC produced from waste LWC with aggregates containing expanded glass and hard PU in building as a coating and dividing material for features to be insulated [12]. Thus, a new recycled material LWC material with aggregates containing expanded glass and hard PU was created with new characteristics of density, compressive strength and thermal conductivity, which conforms with the compressive strength class and rules on heat protection and energy efficiency use of energy in buildings (OJ RS No.42/2002). Fig. 1 presents the new recycled product. It can be used for heat protection and efficient use of energy in buildings.

V. CONCLUSION

Our results show that concrete waste material of concrete from lightweight aggregates and LWC with aggregates containing expanded glass and hard PU can be incorporated in to the recycling process [13]. We showed that specific selection of technological procedure and the quantity of remaining waste concrete from lightweight aggregates and LWC with aggregates containing expanded glass and hard PU, can play a crucial role for the characteristics of the recycled material. Thus, a new recycled material has been created with new characteristics of density, compressive strength and thermal conductivity, which conforms with the Rules on heat protection and efficient use of energy in buildings (SI OJ RS No.42/2002) and can be used for heat protection and efficient use of energy in buildings. Laboratory density, compressive strength and thermal conductivity tests results showed that LWC can be produced by the use of waste LWC with aggregates containing expanded glass and hard PU. However, the use of waste LWC with aggregates containing expanded glass and hard PU seems to be necessary for the production of cheaper and environment-friendly composite with the density, compressive strength and thermal conductivity similar to control LWC containing with only with aggregates containing expanded glass [14].

The method shows great possibilities for increasing the use of construction waste materials from lightweight concrete with aggregates containing expanded glass and hard PU in order to benefit from better use of the available existing construction waste. The suggested recycling and experimental study is a very effective tool for the solution (with aggregates containing expanded glass) recycling problems [15]. The model is confirmed by patent notification Nr. P-200600191, the conclusion for patent publication being dated 15.11.2006, and was tested during construction practice. It was awarded by WIPO (World Intellectual Property Organization) in 2008. According to other building materials, it could be supplied cheaply. As to the observations, tests, experiments and evaluations on lightweight concrete material samples, it was concluded that the lightweight concrete with waste LWC, and with aggregates containing expanded glass can be used as a coating material in during construction. The challenge of addressing climate change in the context of moving society towards the environmental, economic and social goals of sustainability requires radical innovation of cleaner technologies and processes which meet individual and social needs at acceptable costs with significantly reduced environmental impacts.

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Role of Human Resources as Change Agent in Enabling Equal Opportunity Practices

K. Raghavi and N. Gopinathan

1993.

Abstract-Human Capital is the greatest asset of any organization and the organization makes an obvious effort in getting people with different background, skills and abilities to work toward the goal or purpose of the organization. Diversity of experiences, cultures, opinions, physical attributes and group identities are highly valued and appreciated as it provides a richness without which the organization could neither be faithful to its values nor successfully achieve its goals. It has long been argued that equality of opportunity for these diverse set of employees brings occupational benefits and that it is in the employers' interest to implement policy to promote equality of opportunity. Factually, the Human Resources (HR) has drawn all its existential powers by placing itself at the center of administrative activities within the business organization they supported by building a fine bridge between the organization and its employee community. Subsequently, elevating the HR's role is for it to become the change agent to build an Equal Opportunity culture in the organization. This article proposes a framework intended to depict that Equal Opportunity Practices vield strategic value to the organization and that the HR plays a dynamic role in implementing it.

Index Terms—Equal opportunity practices, non-discrimination, change agent, HR policies, strategic value, organizational culture.

I. INTRODUCTION

Equal Opportunity refers to the equality of access to jobs, promotions, and other opportunities in corporations, associations and non-profit organizations [1]. Historically, the true beginning of the idea of Equal Opportunity can be traced to the Fourteenth Amendment in 1868. In 1933, Congress passed the Unemployment Relief Act, which forbade discrimination in employment on the basis of race, color, or creed. In early 1961 President John F. Kennedy signed Executive Order 10925, establishing the President's Committee on Equal Opportunity.

The next stage was the passage of the Title VII Civil Rights Act of 1964, signed by President Lyndon Johnson, who sought to continue Kennedy's policies with his own set of programs called the Great Society that aimed at eliminating employment discrimination based on the usual litany of race, religion, sex, or national origin. Further, this has been amended on numerous occasions in the past 30 years, including the enactment of the Equal Employment Opportunity Act of 1972, the Pregnancy Discrimination Act of 1978, the Civil Rights Reformation Act of 1987, the Civil Rights Act of 1991, and the Family and Medical Leave Act of

The Human Resource profession has evolved during the past 20 years and continues to change, from the collective demographics of HR professionals and the ways that practitioners enter the profession to the functions and roles served by HR and the value it brings to organizations. Once referred to as 'personnel', the role and functions of HR has rapidly expanded and included such responsibilities that had not been considered essential in simpler times like the Equal Opportunity Programs. The Strategic role of HR, which is all about understanding change and how to deal with it, paves way for enhancing the notion of Equal Opportunity in employment and the outcome is that equality practices are now fully entrenched [2].

II. EQUAL EMPLOYMENT OPPORTUNITY - AN OVERVIEW

Equal Opportunity is the principle of non-discrimination which emphasizes that opportunities in education, employment, advancement, benefits and resource distribution, and other areas should be freely available to all irrespective of their citizens age, race, gender, gender-reassignment, religion, political association, color, ethnic origin, civil partnership status, disability, nationality, pregnancy and maternity, parental responsibilities or any other individual or group characteristic unrelated to ability, performance, and qualification. It is a stipulation that all people should be treated similarly, unhampered by artificial barriers or prejudices or preferences, except when particular 'distinctions can be explicitly justified' [3].

The organization's HR professionals are committed to the active implementation of the equality policy and promoting a culture that supports the policy by overseeing the integration of the equality policy into all aspects of the HR policies and organizational practices. To induce this true transformation, the structure and every system and process must reinforce the desired culture of Equal Opportunity. HR can initiate to define what the current cultural status is and how it adds or detracts from the organization's objectives [4]. And all leaders must embrace new attitudes and conduct their activities in new and different ways. Not just the HR, but changing the culture requires the efforts of everyone in the organization.

III. THE DRIVE FOR EQUAL OPPORTUNITY PRACTICES

The purpose of the Equal Opportunity practices is to enhance a workplace that provides equality of opportunities for all current, future and potential staff and where their

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dignity is protected and respected at all times. This will require the development of practices and procedures that cover the following aspects of employment [5]:

A. Recruitment

In both professional and non-professional areas, recruitment will include an attempt to locate a diverse applicant pool with the necessary qualifications and potential, and communicate to them the available employment opportunities. To ensure that non-discriminatory personnel recruitment occurs, the following policies are enforced:

- 1) All references to position vacancies will state that the organization is 'An Equal Opportunity Employer'
- 2) The HR Function serves as the official job information center to inform applicants of employment opportunities
- 3) All recruitment literature of the organization includes diverse group of people
- 4) All pre-employment testing to be reviewed by the HR

B. Selection

In order to accomplish the objectives of the Equal Opportunity plan, it is recognized that after the establishment of a qualified and diverse applicant pool, the process of selection from that pool must ensure all applicants equal opportunity for employment by adhering to the following aspects:

- Hiring shall be accomplished without regard to race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic unless otherwise needed and place the most suitable people into all levels of its workforce and make every reasonable attempt to ensure that people are provided an equal opportunity to compete for positions
- 2) Employment forms and applications shall not include references to race, religion, creed, color, sex, national origin, age, political affiliation, disability or any such characteristic
- 3) Applicants will be required to grant a release of criminal records for those positions which require a background investigation due to the nature of the position
- In order to limit the potential occurrence of discrimination in job interviews, the focus of employment interviews should be legally permitted job-related questions

C. Training and Development

The HR Function shall inform all employees of training opportunities that will increase job effectiveness through the training which will:

- 1) Offer equal opportunity training to all employees
- 2) Provide an orientation program for all new employees which will include equal opportunity information
- 3) Encourage all employees who exhibit potential management or supervisory abilities to take appropriate training to qualify them for promotional opportunities

D. Compensation and Benefits Administration

Compensation should be paid without regard to race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic. In accordance with this policy, the following are to be implemented:

- 1) Criteria for determining salary ranges for each classification shall be objective and based on job content
- In all cases, the pay grade and salary at the time of hire will be determined on the basis of the jobs requirements and assigned duties
- 3) Benefits shall be offered to all eligible employees without regard to race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic
- 4) Tuition assistance will be awarded objectively and fairly to all eligible employees

E. Performance Management System

All employee performance evaluations shall be based on consistent job-related criteria to include equal opportunity related factors. In the event that an employee disagrees with an evaluation, he/she shall have the right to utilize the administrative review process.

F. Career Development Policies

Organizations recognize the importance of equal opportunity and therefore, adopt the following as policy:

- When promoting employees, the HR shall place the most qualified people into all levels of its workforce and make every reasonable attempt to ensure that people are provided an equal opportunity to compete for promotions [6]
- 2) All notices concerning promotion opportunities will be posted in accordance with established guidelines for the posting of job openings
- 3) All employees who desire promotional opportunities should make their desires known to their supervisors
- 4) All employees will be equally afforded training opportunities to qualify them for promotions

G. Employment Conditions

All payments of wages, work assignments, work schedules, promotions, granting of leave of absences, enforcement of discipline, and other actions affecting the conditions of employment shall be made without regard to race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic.

H. Employee Benefits

Unless otherwise permitted or required by law, benefits shall apply equally to all employees regardless of race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic.

I. Disciplinary Action Procedures

Any employee found to be harassing or unfairly treating any person because of his/her race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic will be subject to severe disciplinary action up to and including termination. Any employee who feels that he/she has been discriminated against because of his/her race, religion, creed, color, gender, national origin, age, political affiliation, disability or any such characteristic shall have the right to seek a remedy through the organization's grievance procedure or the discrimination complaint procedure [7].

IV. HR AS CHANGE AGENT

Organizations of all kinds face unrelenting changes in their environment [8]; the need for individuals who are capable of turning strategy into reality has created a new legitimacy for the change agent role – which is often located within the HR function. There are several reasons for this trend:

- 1) HR professionals have made significant strides over the past decade in becoming business partners; demonstrating the value they can add to the business
- 2) Executives are looking for where the change process can best be managed
- Most business strategies require major changes in people-related issues; HR professionals develop and manage the key "people" systems needed to support organizational change [9]

Creating a renewed organization is the deliverable expected from the "change agent" role in Human Resources and four distinct roles are identified that Human Resources staff must assume - Strategic Player, Administrative Expert, Employee Champion, and Change Agent that provides hands-on tools in showing the HR professionals how they can operate in all four areas simultaneously and also offer specific recommendations for partnering with line managers to deliver value and make their organizations more competitive.



Fig. 1. Dave Ulrich model of HR champions.

Further, his research presented that successful change agents had the ability to:

- 1) **Diagnose problems**-Understanding both the business drivers and the organization well enough to identify performance issues and analyze their impact on short and long term business results
- 2) **Build relationships**-Forming partnerships with mutual responsibility for the outcomes of the change effort. Because the risk is higher than with most other HR roles the level of trust required is much higher. Often the client and the change agent over emphasize one or the other (competency or relationship) especially when the risk increases while the challenge is to balance both to achieve the necessary level of trust.
- 3) **Ensure that the vision is articulated-**Interpreting the hopes and motivations of the workforce through the vision statement.
- 4) Set a leadership agenda-Defining the ongoing role for

leaders, such as communications, role modeling, reinforcement of desired behaviors etc. This requires the HR executive to understand intimately the dynamics, history and competencies of the leadership team and to have the tenacity to insist on the agenda's accomplishment.

- 5) Solve problems-Recommending solutions; a common expectation of HR professionals is not the same as solving problems. When it comes to the change agent role, the problems encountered are often loaded with emotional and political dynamics [10]. The change agent must possess the insight to recognize the problem, the sensitivity to see its importance to those involved, the courage to take honest and often difficult measures to resolve it and the credibility to be heard.
- 6) **Implement plans to achieve change goals-**Successful organizational change on any significant scale can be attributed to the right strategy and appropriate change in organization culture. Culture change, in turn, relies heavily on aligned and supportive people policies, systems and processes. In short, the implementation plan is an HR plan for both the HR function and the management [11].

Complementing these competencies are few other essentials for effectiveness as HR change agents:

- 1) Communication ability
- 2) Knowledge of the business; products/services and core work processes
- Keeping a business perspective both macro (mission/vision) and micro (what line managers cope with)
- 4) Planning and Project management skills
- 5) Ability to tolerate ambiguity
- 6) Managing resistance
- 7) Risk taking
- 8) Managing conflict

V. EQUAL OPPORTUNITY PRACTICES - HR'S INSTIGATION

An organization's HR specialist is often focused on getting the basics in place and finding a way to compete for talent, create a good working environment, help the workforce develop new skills, formalize rewards systems, and comply with applicable regulations. These key activities allow HR to lead and drive cultural development. Somewhere along the evolutional path, the best companies recognize the importance of sustaining an Equal Opportunity culture as a competitive advantage. HR play an important role in creating an overall employee experience in alignment and every employee becomes a 'keeper of the culture' and the primary responsibility for implementing equality of opportunity in the workplace rests with each and every employee of the organization. Hence the role of the HR in implementing Equal Opportunity is to:

- 1) Interpret the legislative framework
- 2) Develop and promulgate appropriate policies to promote equality of opportunity
- 3) Monitor implementation
- 4) Develop effectiveness

VI. CRAFTING THE CHANGE - HR'S VALUE ADDITION

'Reference [12] shows HR Professionals add value when their work helps someone reach their goals. It is not the design of a program or declaration of policy that matters most, but what recipients gain from these actions. In a world of increasingly scarce resources, activities that fail to add value are not worth pursuing...The HR value proposition means that HR practices, departments, and professionals produce positive outcomes for key stakeholders - employees, line managers, customers, and investors'. The crux of the work is the outlining of a practical approach for HR Professionals to add business value.

In order to successfully execute the Equal Opportunity Practice, following steps are most significant for the HR:

- Promoting Equal Opportunity in all aspects of the 1) organization's activities and as an integral part of all policies and practices
- 2) Adopting policies, procedures, and practices for employees consistent with Equal Opportunity principles in the areas of recruitment, selection, promotion, training and development, performance management system and other conditions of employment
- 3) Providing a learning and working environment that is free of discrimination
- Taking action to prevent the occurrence of unlawful 4) discrimination by conducting educative programs and other activities and through the implementation of discrimination grievance procedures for the employees [13]
- 5) Taking positive steps to promote representative participation of diverse groups of workforce to achieve Equal Opportunity in employment
- 6) Continuing to develop specific policies that focus on equal opportunity issues (as the need arises) and monitor and evaluate such policies.

Ultimately, the effort of the HR in being a change agent for enabling Equal Opportunity Practices yields value additions by:

- Ensuring that the workforce really does represent the 1) serving community
- Being able to attract and keep the very best human 2) resource
- Giving the organization an edge over the other in an 3) increasingly diverse and competitive labor market
- Improving morale and productivity of the organization 4)
- 5) Avoiding losing good employees
- Avoiding under-using and under-valuing able workforce 6)
- 7) Managing the workforce better
- 8) Developing good practice

VII. CONCLUSION

Organizations are able to meet projected goals and objectives a lot faster as there are diverse people working toward them. To what degree an organization both embraces the ethos of equal opportunities and backs it up with an investment in sound policies and practices may be expected to have an impact on both the progress of employees and their experience in the workplace in the organization. Concurrently, HR takes on a high impact role in the organization and is viewed as the driver of the Equal Opportunity culture and has a visible impact on overall capability of the people in the organization.

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The Structure of Stock Exchange Recommendations in Poland in the Context of the Anchoring Effect and Excessive Optimism

Radosław Pastusiak and Jakub Keller

Abstract-This paper focuses on the structure of recommendations published in the Polish capital market in the years 2009-2012 in relation to the largest public companies. The conducted research compares the moment of publication of recommendations with macroeconomic determinants in Poland and analysis the characteristics of recommendations, such as price range. The problem analyzed in this paper comes from the thesis that analysts present an excessive optimism while issuing recommendations for companies and try to avoid strong and unambiguous recommendations. The research results showed that the lack of strict and unambiguous procedures and methods of valuation of the companies by analysts causes subjectivity which leads to the occurrence of the effects described by behavioral theories. The authors argue that the structure of recommendations and the specificity of dates of their publication shows that optimism is typical for most analysts.

Index Terms—Recommendations, capital market, behavioral finance,

I. INTRODUCTION

The recommendations published by brokerage houses are a regular part of the capital market. A recommendation is the subjective opinion of the analyst representing financial market institutions, which helps the clients of these institutions gain a competitive advantage over other market participants. It is available to all investors at the time of publication in the market. The impact of recommendations on the quotations of companies has been the point of interest of researchers for a long time. Depending on the market and type of financial instrument, the obtained results of the impact of recommendations seem to be different. The available research results show that there are different types of approach to the problem of the impact of the recommendations. Especially their noticeable impact on prices or lack thereof is observed.

The aim of this paper is to analyze the recommendations of brokerage houses and their convergence with current economic situation in the country. How analysts issue recommendations, if the evident trends can be seen here, what is the price range of the issued recommendations? Analysis was carried out on the basis of the Polish capital market, and the empirical data comes from the Warsaw Stock

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Exchange. The problem tackled in this paper is an argument that analysts show excessive optimism issuing recommendations for companies and try to avoid strong and unambiguous recommendations. Behavioral context of the conducted analysis results from the fact that the target prices and recommendations themselves are not determined only by mathematical calculations. Despite some established procedures and schemes used in the valuation process, calculations are still based on subjective assumptions. Furthermore, the results of the obtained forecasts and analysis are ultimately evaluated by the analyst preparing the report. In this process, he can verify the obtained results on the basis of non-objective and sometimes erroneous factors resulting from heuristics.

II. PREVIOUS STUDIES

The research on the impact of recommendations on price changes has been conducted since 1934, when the first paper by Cowles [1] was published, which characterized the effectiveness of this type of analysis in the capital market. Cowles came to the conclusion that most of recommendations do not provide valuable information. In subsequent years recommendations have been analyzed multidimensionality, which resulted in a series of studies in which the authors often came to different conclusions. There are several streams in existing studies, the primary one being the confirmation or negation of the impact of recommendations on price changes of financial instruments. Then, the impact of recommendations on small and large companies. Another area is the increased effectiveness of positive recommendations. Liu, Smith and Syed [2] in their studies showed the impact of recommendations on prices at the date of the publication of the recommendation. In the last two decades, valuable research related to recommendations has been conducted by Stickel [3] who argued that the position of the company which is issuing recommendations is important. In his research he received a variety of results for different institutions - that means that investors do not treat all recommendations in the same way. However, the analysis made by Walker and Hatfield [4] showed that investors do not have additional benefits coming from the use of recommendations. In a study made by Clark et al. the recommendations issued in 1995 - 2001 were tested. The researchers tried to prove an excessive optimism presented by their authors. The results do not confirm the existence of the curvature, representing optimism. Barber et al. [5] showed that positive recommendations result in higher and negative in lower rates of return. The results were compared

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with market benchmarks, which indicated a significantly higher rate of return in the case of the strategy, in which recommendations were used. Jaffe and Mahoney [6] drew attention to the costs of obtaining a recommendation. According to them, if these costs are taken into account, investors do not achieve additional gains from recommendations. Juergens [7] showed the results indicating that the publication of recommendations makes additional changes in prices and makes it possible to achieve above-average returns. The researcher analyzed 3679 recommendations for the IT and related sectors, analyzing recommendations and information from the companies. Ho and Harris [8] in their study showed that investors who use recommendations, confirm them additionally using their own basic economic measures. Their optimism about the effectiveness of recommendations is limited. Aitken [9] analyzed the Australian Stock Exchange in the period 1992 -1998. He showed that recommendations published by real estate agents cause changes of prices of companies associated with the industry on the day of publication. Barber et al. [10] who analyzed the NYSE showed that short term strategies based on recommendations generate profits for investors, but their profitability may be seriously reduced by the cost of frequent transactions. Ayako et al. [11] analyzed the distortions of prices of financial instruments caused by recommendations of European analysts. The information is often provided in the wrong context and character of recommendations is adjusted to the market trend. This means that investors interpret recommendations freely. If it is positive in the downward market, it has lower impact on the stock price. If there is a positive trend in the market, it does not reflect the full scale of growth either. Fang [11] in their research demonstrated the usefulness of recommendations and substantially higher profitability of investments, which are carried out on the basis of recommendations. Chang and Chan [12] showed that the impact of recommendations depends on a brokerage house which they were issued by, on the company which they are related to, its size and age. In the research conducted by Loh and Stulz [14] supernatural change of prices after the announcement of recommendations can be seen, particularly in the case of companies being in the media spotlight. Their research proves that about 25% of the recommendations have no impact on the quotations, and the impact of about 10% of them is very large. The reputation of assessing institution is important.

The presented studies show the interest of researchers for recommendations. These reports are analyzed on many levels and their impact is examined in a different contexts. This paper is an additional voice in the debate, which should provide the data and arguments in favor of subjectivity of analysts who publish recommendations.

III. RESEARCH METHODOLOGY

The analysis performed in this paper was based on a sample of 786 analytical reports published between 2009 and 2012. They are related to the largest companies listed on the Warsaw Stock Exchange, which belong to the WIG 20, as of

May 2012. They were issued by 31 both Polish and foreign brokerage houses. It is worth mentioning that all of the recommendations are available free of charge, and thus can be used by any investor interested in their content.

As part of the study, a multi-faceted grouping of reports was performed. The aim of this is to analyze and to evaluate the structure of the issued recommendation with respect to the content of publications, publishing institutions and companies which they are related to. The analysis was divided into several steps:

The first step was applying a number of statistical measures that describe the analyzed population. In the first place arithmetic means, medians and standard deviations of growth potential of stock prices in each group of recommendations were analyzed. It should be noted that the grouping was based on the direct content of reports. However, due to the differing terminology used by various brokerage houses, the contents of reports was unified, so that in the final form five main groups of reports for were taken into consideration:

Sell, Reduce, Neutral, Accumulate, Buy.

Additionally, the growth potential arising from the report is the value calculated according to the formula:

$$Pw = \frac{Cd - Cz}{Cz} \times 100\%$$
(1)

where:

Pw - growth potential

Cd - target price

Cz - closing price on the day of publication

In case of publication of the report on the day on which there was no trading session, the closing price from the closest possible day prior to the publication of the report was taken into account.

- The second step was analyzing the spread between particular groups of reports in terms of price growth potential. This value is important for assessing the uniqueness and precision of analytical reports.
- The third step was the tendencies and trends, together with the regularity and the frequency of appearance of particular types of publications.
- The last step was assessing the type, signal strength and density of publications in the context of economic conditions in Poland in the period 2007 2012. Reference was made to a number of basic economic indicators, in this case: GDP (y / y), unemployment rate, inflation (y / y), industrial production (y / y).

IV. RESEARCH RESULTS

In the first step it is necessary to look at the basic grouping of reports, related to the types of issued recommendations only. Simplified grouping in this regard is presented in Table 1. Refinement of this division, which includes presentation taking into account the organization that publishes a report and the company to which it is related is presented in Table II and Table III shown in the Annex.

	Accumulate	buy	neutral	reduce	sell	Sum
No. of publications	97	268	268	62	91	786

It is easy to notice that many of the analyzed recommendations are the reports having positive expression. There are 365 positive reports representing more than 46% of the sample, meaning: "accumulate" and "buy", while the number of negative ones, that is, "reduce" and "sell", is 153, or just over 19% of the sample. This means that there are twice as many positive recommendations as the negative ones, which confirms the results obtained by the researchers dealing with this issue in other stock exchanges worldwide. It is worth noting that the neutral analyses present more than 34% of the total. So it is necessary to investigate what is the reason for such a big group of ambiguous analyses. It could be assumed that in 268 cases the evaluated companies promise such a slight change in the value that brokers refrain from expressing a clear opinion on whether to buy or to sell. It is, however, it is worth looking at the range of prices for different types of reports. That is the minimum and maximum price that appeared in a specific type of report. For the analyzed sample they are presented in Table II.

TABLE II: LIMITS OF GROWTH POTENTIALS FOR THE ANALYZED GROUPS OF RECOMMENDATIONS

TYPE OF REPORT	MIN	MAX
Buy	1,22%	133,39%
Accumulate	2,12%	44,57%
Neutral	-18,65%	35,24%
Reduce	-20,73%	9,43%
Sell	-58,33%	1,37%

It can be seen that the growth potential limit values at which the recommendations of the specific type were issued are very unambiguous. First of all, a big difference in the approach of individual analysts and brokerage houses in assigning the type of recommendation to the estimated target price can be seen. What is more, there are reports suggesting a reduction, or even selling at a target price that is significantly higher than the price on the date of publication. Bizarre situation is the fact that despite the issuance of reports in five categories their ranges overlap to such an extent that we can find the reports "sell" with a higher growth potential than the minimum for the recommendation "buy". For these reasons, suggesting oneself by the final content of the report virtually eliminates its usefulness in the objective assessment of the analyzed security. Of particular interest in issuing such recommendations seems to be the range of neutral recommendations, which span contradicts the assumption that the predicted asset price volatility is low. The span in this case is nearly 54%, and the minimum and maximum values very clearly exceed the thresholds for recommendations "reduce" and "accumulate". In this context, it is worth paying attention to the medians and standard deviations in each group of reports (Table III).

POTENTIALS IN THE ANALYZED GROUPS OF RECOMMENDATIONS

TABLE III: MEDIANS AND STANDARD DEVIATIONS OF GROWTH

TYPE OF REPORT	MEDIAN	STANDARD DEVIATION OF GROWTH POTENTIAL
buy	20,46%	13,17%
accumulate	11,76%	7,61%
neutral	3,24%	6,83%
reduce	-9,74%	5,13%
Sell	-14,29%	9,60%

Distribution of rates of return relative to the number of reports in a specific group is also illustrated in Fig. 1



Fig. 1. The span of growth potentials in various groups of recommendations.

Despite the occurrence of the group of observations, in which the content of the report is to a great extent not commensurate to the potential price increase, it may be concluded that most of the neutral reports are mathematically justified, since the standard deviation for this group is 6.83%, which is in convergence with the standard deviation of WIG20 in the analyzed period, which is 6.38%.

It is worth noting that the number of neutral reports is very large compared to the whole analyzed population. For some of them, in which the target price is not significantly different from the price at the date of issuance, this type is valid, but there is a group of reports with a very large dispersion of this potential, which was after all not assigned to other types, as the valuations would suggest. The reason for this situation is the existence of other reports related to the companies, which were published shortly before the publication of new, non-typical reports, and which showed very ambiguously the direction of price changes. Apparently the analysts finally were reluctant to issue recommendations much different from the others and despite the conducted valuation; they decided to adapt the content of their reports to other reports. The contradictions in other groups of reports, in which the growth potential is not commensurate with the issued recommendation, can be explained in a similar way.

Another issue is the evaluation of the structure of reports in the context of the economic situation of Poland in the analyzed period. The economic conditions expressed by a number of previously suggested indicators are shown in Fig. 2 – Fig. 4. The years 2007 and 2008 were very difficult for the Polish economy. Decline in GDP, collapse of industrial production and very weak indicators of the economic climate and of the mood of consumers. Difficult situation throughout the continent very negatively affected the investment climate. According to the proposed measures, the end of 2008 was characterized by a kind of double bottom, followed by a slight recovery, which however, in the end, quickly turned into a long-term horizontal trend of the whole economy. Still prevailing economic uncertainty is not conducive to development and the influx of capital. According to the authors, the economic climate is not conducive to the bull market. Despite this, however, a very large percentage of recommendations indicated growth. The rooted optimism in the assessment of the economic situation and the reluctance to issue negative recommendations caused that in spite of this type of data, 561 out of the analyzed 786 recommendation indicated an increase in the value of the analyzed stocks. This represents over 71% of the sample. It should be noted that, assuming monthly investment horizon, only 255 reports in this group turned out to be right.



Fig. 2a. Unemployment rate and recommendations "buy".



Fig. 2b. Unemployment rate and recommendations "sell".



Fig. 3a. Industrial production and recommendations "buy".



Fig. 3b. Industrial production and recommendations "sell".



Fig. 4a. Inflation CPI and recommendations "buy".



Fig. 4b. Inflation CPI and recommendations "sell".

Optimism is also revealed in the analysis of limits of growth potentials for the whole analyzed sample. It is worth noting that the minimum of expected declines is -58.33%, and the maximum of growths is 133.39%, which is more than twice as much. This is confirmed by the median and standard deviation in groups "buy" and "sell". It can be seen that the median of negative recommendations is closer to 0 in relation to "buy". This in combination with the same number of positive and negative reports and placing the analyzed sample in the actual economic conditions makes the thesis of demonstration of excessive optimism by traders completely justified.

Another interesting issue is the strength of the signals coming from the recommendations. It is understood as a sufficiently large difference between the target price and the price at the date of issuance of the report. In this context, the posed thesis refers to the reluctance to issuing strong recommendations. Brokers tend to be cautious in their evaluation of companies. They avoid issuing reports giving clear, strong signals suggesting several tens percent changes in prices. Especially under conditions of high uncertainty, even if the report shows huge potential price changes, they tend to weaken its strength by placing it in the "accumulate" or "reduce" instead of "buy" or "sell". An interesting confirmation of anchoring of their evaluations to other recommendation is that the time of publication of reports is very specific. Despite the relatively large number of analyzes, thev appear in batches. After publication of recommendations by a large brokerage house within in a few days appear other reports, often similar to each other. Most analyzes and reports for companies from the analyzed sample are prepared by three institutions: BRE, ING Securities and KBC Securities. It is their publications which causes the publication of reports by other brokerage houses. The number of reports in the analyzed sample, coming from individual institutions is shown in Fig. 5.



Fig. 5. Number of recommendations issued by individual brokerage houses.

What's more, the trend of changes in signal strength seems to be weakening throughout the analyzed period. Brokerage houses issue weaker and weaker "sale" and "reduce" recommendations along with a downward trend in the group of "buy" reports. It can be also seen that "buy" reports undergo conversion into "accumulate", which is an expression of extreme caution of analysts as the growth rates estimated by them in this group of recommendations are growing with time. That would mean no more than those direct indications for individual companies show their growing potential, but the economic climate is not conducive to issuing a "buy" recommendation. A high issuing frequency and stability of trends is observed in neutral recommendations which, however, do not bring anything significant to the market. Distribution of growth is worth noting that there are distinct periods of increased prevalence of specific groups of recommendations. So the reports which are neutral appear in an increased number virtually over the entire year 2010 and later since the beginning of 2012. Surprising is a very small number of "sale" and "reduction" recommendations in 2011, where many macroeconomic indicators point to slowdown in economic recovery and the transition to a phase of stagnation. It is easy to see that "buy" recommendations appear relatively regularly throughout the study, which also indicates strongly rooted optimism of stock exchange analysts.

V. CONCLUSIONS

The research conducted on a representative sample showed that the lack of strict and unambiguous procedures and methods of valuation of companies listed on the stock exchange by analysts' causes' subjectivism, which leads to the occurrence of the effects described by behavioral theories. In authors' opinion the structure of stock exchange recommendations and the specificity of dates of their publication show that optimism is strongly rooted among all analysts, and that they try to keep relative conformity, avoiding assessments being in opposition to other, which appeared within a short period of time and are related to the same stocks. What is more, the anchoring to the assessments published in other reports cause's specific recommendation anomalies, such as for example neutral recommendations with the growth potential of 35%. Because of such effects an objective interpretation of final results of the analyzes carried out in the course of making the recommendation is much more difficult. It is then necessary to track closely the entire

analytical process, including the initial assumptions, which may virtually require independent elaboration of valuations of individual companies.

The aim of this study was also to present interesting research directions and to draw attention to the problem of subjectivity of capital markets and its causes, arising on the basis of cognitive psychology, which the authors of this paper are planning to develop in future publications.

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