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FOREWORD

The digital transformation in the recent years impacts many areas, from economics to society. Despite the new opportunities arising today, when half of the world's population is connected to the Internet, less and less people believe that technology will make their lives better¹.

“Over half of the global population is connected to the internet and has growing access to the sum total of human knowledge at their fingertips. The internet will increasingly bring about ever more transformational changes for human civilization. However, some of these changes will also bring unpredictable costs. We are just now beginning to better understand this ‘Faustian bargain’ ” says Al Gore, co-founder and chairman of Generation Investment Management.

Using digital technologies wisely and responsibly can make the difference and limit the tangent negative aspects. The collective use of knowledge generated via digitalization should bring benefits to all and build a more inclusive society. This is a global goal but achieving such an ideal situation is far more difficult than it seems. It is about trust of sharing knowledge, about ethical behavior that is using new digital technologies and, moreover, about the need of a socially responsible behavior of all those involved.

Today, digital technologies advance rapidly also thanks to the shared and collectively reused wisdom. Every time we sign in, log on or connect a person or a device to the digital world, we directly contribute to the growth of the next great technological revolution.

Similarly, it is about the capacity to adjust yourself or your organization to the new flow of digital opportunities, when some are reluctant due to lack of trust. Most of the present successful digital businesses were affected by consumers' lack of trust when they were launched. Huge efforts have been made to increase security, data protection and intimacy protection, but there is still ethical slippage.

Responsible people, governments, organizations must join their efforts to maximize the benefits of digitalization to create an inclusive economy, close the inequality gap and improve

¹ World Economic Forum – Our Shared Digital Future: Building an Inclusive, Trustworthy and Sustainable Digital Society, p.3



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income distribution at the global level. CEOs must take responsibility for the massive transformation of their businesses and for the extraordinary impact that this change will have on the society at a larger scale.

Education plays an interesting role in shaping the future behavior of business people. Solid knowledge acquired during the years of study must be backed up by a strong sense of ethics and social responsible behavior in the future graduates. Successful businesses will emerge in the digital economy and the most prosperous entrepreneurs will be those investing in educational services. The future of jobs constantly changes, the today's best paid jobs will no longer exist in the next 10 years, so people will need to learn new skills and competencies to keep up with the digital revolution.

We invite our lecturers to discover new debate topics, interesting opinions on ethical issues and to get inspired and, maybe, to challenge the audience with their own thoughts coming from original and cutting-edge research.

Editor-in-chief,

Prof. Manuela Epure, PhD



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DIAN (Dimentional Analysis); To Analyzing Patterns Polarization of Perception, Motivation and Preferences to Develop The Ecotourism Betawi Traditional Culinary

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Abstract. DIAN is a modification of MDS (Multidimensional Analysis), CA (Correspondence Analysis) and IPA (Important Performance Analysis). The DIAN model is formed to provide information (mapping) of GAP that occurs between stakeholders in the concept of regional development. In this paper, the implementation of DIAN will be explained in describing the GAP that occurs between Culturist, Government, Entrepreneurs and Communities to develop the Ecotourism of Betawi Traditional Culinary. The DIAN model has been patented in the Ministry of Law and Human Rights of the Republic of Indonesia and the purpose of this paper is to publish the DIAN Model more broadly. This study can be a new model in enriching knowledge and regional development

Keywords: DIAN (Dimentional Analysis); Betawi Culinary; Jakarta; Polarization

JEL Codes: I29

1. Introduction

Preserving and developing the Culture of Betawi; especially related to Betawi Traditional Culinary, which has high historical values and social values for the development of Jakarta as a Capital City of Indonesian. This is the responsibility of all stakeholders. Culture is a legacy from ancestors who still exist today. A nation will not have its own characteristics without the cultures possessed. Cultures and even then develop in accordance with the progress of an increasingly modern era. Culture that develops in a nation itself is called the local culture, because the local culture itself is a product of creativity, intention and sense that grows and develops in the ethnic groups in the area (Bauto, 2014).

At present, aspects of technology and industry are more attention than social and cultural aspects; even if it is related to cultural aspects, it is only as a complement and even then to support technology and industrialization. Cultural development is also directed towards the development of technology and cultural industrialization. Therefore, development is felt to be empty because of the lack of humanitarian value. The root of the problem is the lack of participation in cultural science that is positioned in a less strategic place to determine the direction in the nation's development process, including the development and development of national culture. In fact, cultural science should have a central role and a greater place in determining the national development strategy so that development can side with the crowded community (Herwandi, 2007; Soedjatmoko, 1986), and this becomes a challenge for the Jakarta government.



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The existence of local cultural values will be sustainable if these values are practiced and socialized for the formation of national identity and character. Cultural empowerment efforts require a variety of strategies and policies so that local values and culture that have long been developed in people's lives can compete with various modern cultures. The Internet becomes a medium of information sources that were difficult to access. Library is one of the most expensive source of information, considering that access to the internet is still very difficult for people in some areas. Internet media, enabling a person in Indonesia to access libraries at universities at home and abroad (digital library) and obtain information indefinitely.

Related to the great need of knowledge of the development of Islamic history in the young generation in Jakarta, and the role of internet in the life of Urban people such as DKI Jakarta especially students as a reflection of young scholars, it is important to examine further how high the level of ability of students in using internet as media literasi knowledge of Islamic history. The results of the study are expected to give an overview of the level of students' preferences in finding the source of literacy through the internet media.

2. Discussion And Implementation Model

Betawi Culinary Development Stakeholders

There are at least five stakeholders in the development of Betawi Traditional Culinary in DKI Jakarta, namely Entrepreneurs, Betawi Communities, Non Betawi Societies, Culturalists and the Provincial Government of DKI Jakarta. Entrepreneurs have an important role in marketing Betawi Traditional Culinary so that the market can get to know the culinary variations that are currently beginning to be distorted. The Betawi community as the Key Person has an important responsibility in disseminating the value of culinary culture from generation to generation, and the people of Jakarta in general both as consumers have the responsibility to preserve the Betawi Traditional Culinary Culture, not just the responsibility of tribalism, but more broadly the responsibility to preserve Indonesian culture. Then, the culture has the task to study and communicate the values of Betawi culture, especially culinary to the wider community, cultural observers with their function should be able to position themselves as one of the milestones in sustaining the sustainability of national culture. Then the Government as a regulator and with its authority, is expected by the Government to be able to formulate policies that favor local cultural values. So that Betawi Culinary Culture can be re-known by the community, especially the people in DKI Jakarta.

Mapping the perceptions, motivations and preferences of the five stakeholders is an inseparable part of the development of the Betawi Traditional Culinary Ecotourism development strategy in DKI Jakarta. By mapping the perceptions, motivations and preferences of each stakeholder, it is hoped that the researcher can stretch every existing problem and then build a comprehensive strategy. By using the Madian K Sample Compatibility Test and comparing the Asymp Sig value. data processing output with alpha value (5%), the results show that there are differences in perceptions between the five stakeholders (Asymp Sig. 0.00), while the five stakeholders' motivations and preferences have no differences in each Asymp Sig. 0.703 and 0.903).

Perception, Motivation and Stakeholder Preferences

Perception is a process where someone will determine, organize and interpret the stimuli received into a meaningful and complete picture of the world (Schiffman and Kanuk, 2000). While Kotler and Armstrong (1996) suggested that in the same circumstances, a person's perception of something can vary, this is due to



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the selection process of various existing stimuli. In essence perception will relate to someone's behavior in making decisions about what is desired (Wahyuni, 2009). Perception comes from the interaction between two types of factors namely; stimulus factors and individual factors. Stimulus factors are physical characteristics of objects such as size, color, shape, and weight. The appearance of a product, both packaging and characteristics, is able to create stimuli in one's senses, so as to create a perception of the product they see. While individual factors, namely the characteristics included in it are not only processes in the five senses but also similar experiences and the main impulse of an expectation of the individual itself.

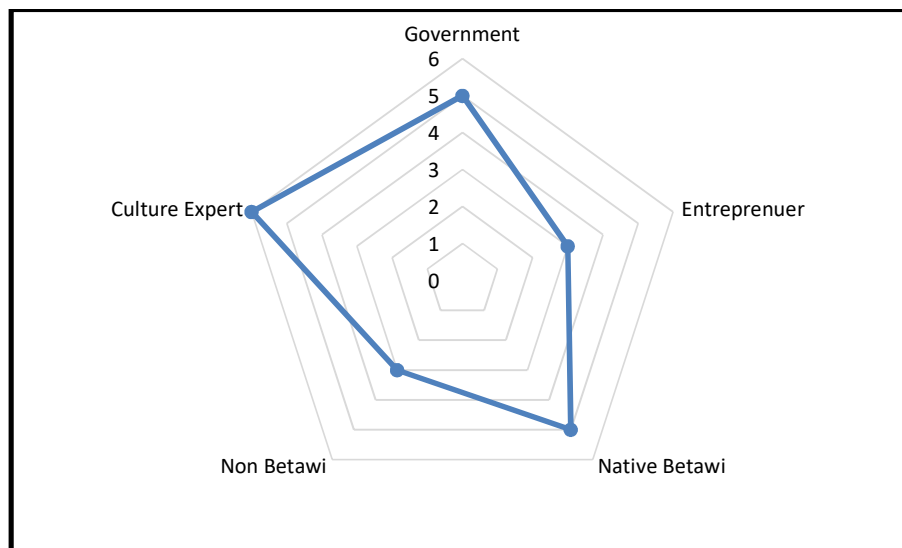


Figure 1. Polaritation pattern of stakeholders perception

The results (Figure 1) show that there are very significant differences in perceptions between several stakeholders. The Government and Culture in general have a high perception of the development of Betawi Traditional Culinary, even higher than the Original Betawi Community. However, the tendency of the perception of Entrepreneurs and Non-Betawi Society is relatively the same. This is because there is indeed a correlation between entrepreneurs as supply and the general public (Non Betawi) as demand. There is a link in it where demand will bring up its own offer and each bid will respond to every demand that appears on the market globally.

Stakeholder motivation in the context of regional development has an important role. Motivation is the result of a process that is internal and external to the individual that causes an attitude of enthusiasm and consistency in terms of carrying out certain activities (Hasibuan, 2010; Susanto and Patty, 2014). Motivation basically comes from two sources, namely: first is intrinsic motivation, is motivation that comes from within an individual that influences people to behave or to move in a certain direction, and the second is extrinsic motivation, which is a functioning motivation because of the stimulation of outside (Komaruddin, 1994)

Development of a region that involves many people in it with its thoughts, it is necessary to have a synergy that can unite all motivations towards the same choice. According to Maslow, community motivation



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includes; 1) Physiological needs which are the motivational forces that are primitive and fundamental. For example the need for eating, drinking, sleeping and others. 2) The need for sociology, which is a motive that arises mainly from the kinship between humans. For example the need to have, love, affection and acceptance needs. 3) The need for self-actualization, is the need for self-fulfillment, self-development as much as possible, creativity, and doing what is most suitable and completing one's own work (Mayasari et al, 2015). By knowing this, it can be used as a recommendation in order to encourage the enthusiasm of all stakeholders in DKI Jakarta to continue to exist in developing Betawi Traditional Ciliary.

Every human being as a stakeholder in the development of Betawi Traditional Culinary Ecotourism has a different motivation, only in the classification there are similar characteristics in it. Ghiselli and Qonita (2012) stated that motivational characteristics are: 1). Motivation is complex. In an action not only has one goal, but several goals that take place together that are influenced by the individual itself. 2). Some motivation is not based on the individual itself. Many human behaviors are not based on the perpetrators. 3). The motivation changes. Motives for someone often experience change, this is caused by human desires that often change according to needs. 4). Each individual's motivation varies. Two people who take part in certain activities sometimes have different motivations. 5). Motivation can vary. This depends on the individual's goals, if the objectives vary, the motivation also varies.

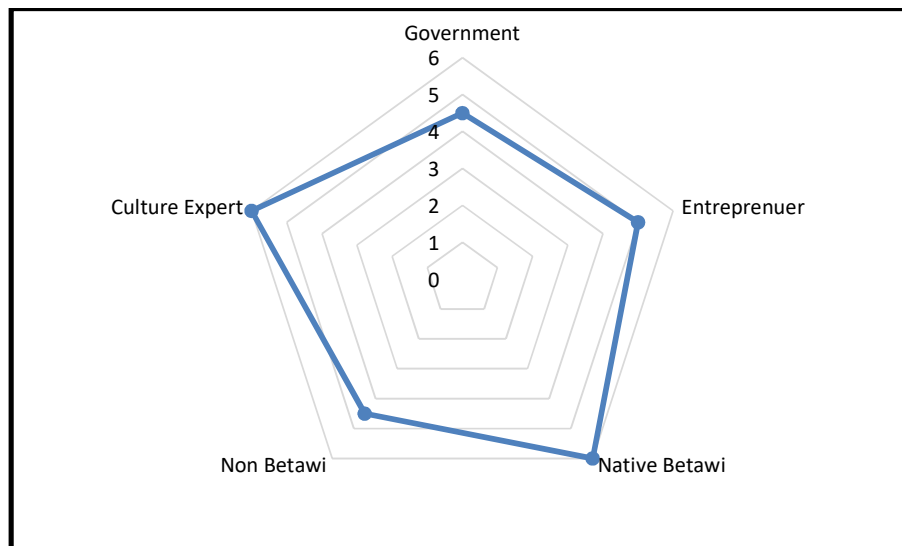


Figure 2. Polaritation pattern of stakeholders motivation

Regarding the development of Betawi Traditional Culinary in DKI Jakarta, the results of the study illustrated on the radar diagram (Figure 2) show that there are differences in motivation between the five stakeholders although not too significant (range 4.5-6). The only thing that is quite a concern is the significant change between Government perceptions and Government motivation, this shows that the Government of DKI Jakarta Government knows that Betawi Traditional Cuisine has a high value for the people of Jakarta, but on its journey there is a degradation of motivation values (encouragement) There are at least two factors that cause the degradation, namely; 1). Lack of political will so that the development of cultural development



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is not a center point and priority of the development of DKI region, 2). Primordial and ethnocentric attitudes of decision makers. We know that the cultural interaction in DKI Jakarta is very high with a fairly complex cultural mix. So that decision makers will prioritize their original cultural dispora programs rather than having to explore the Betawi culture which is not the original culture.

Community preference appears in the alternative evaluation stage in the decision-making process, wherein at this stage consumers are faced with a variety of different choices. Preference has an important role for each individual in looking at and deciding on a matter and preference is a process of whining all things that can be consumed with the aim of obtaining preference for a product or service. According to Kotler and Keller (2007), there are three patterns of preference that can be formed, namely; 1) Homogeneous preference indicates a market where all customers roughly have the same preference, 2). Scattered Preferences mean that customers are very different in their preferences and 3). Group preferences, where markets show different groups of preferences.

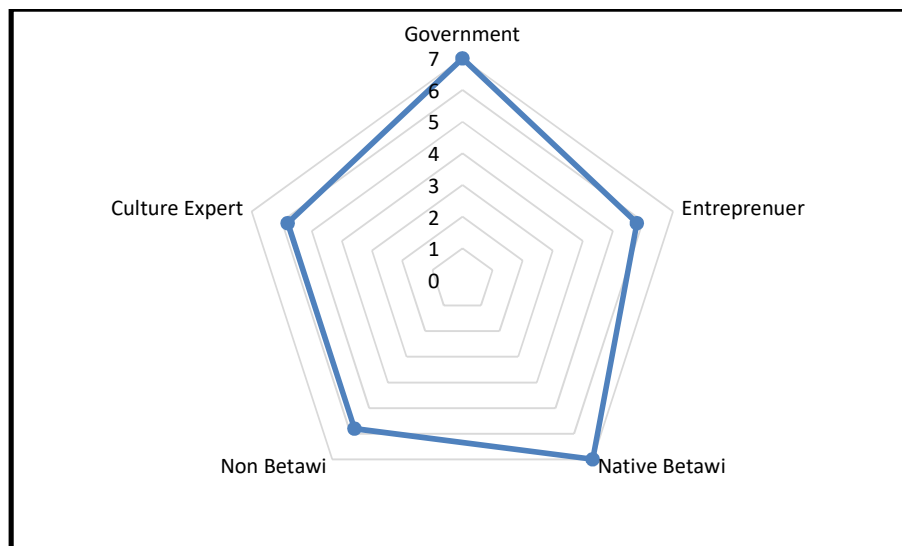


Figure 3. Polaritation pattern of stakeholders preference

The Stakeholder Preference Radar Diagram (Figure 3) shows that Non Betawi Society and Entrepreneurs have the same preference value (score 6). This consistency indicates that there is a very close and consistent relationship between the general public as a culinary market consumer and culinary entrepreneurs as providers of culinary services. While the Original Betawi Community and the Government have a high preference in the development of Betawi Traditional Culinary.

The results of the study on the perception, motivation and stakeholder preferences of the Betawi Traditional Culinary illustrate that there is a polarization of the stakeholder's psychological orientation (Figure 35). In each community group there are always seeds of conflict between individuals and individuals, groups and groups, individuals or groups with the government that come from different views and orientations. Sociologically, conflict is defined as a social process between two or more people (can also be a group) where one party tries to get rid of another by destroying or making it powerless. Researchers (Gigone & Hestie,



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1993; Larson, Foster-Fishman & Keys, 1994) find that group discussion raises the same ideas. In the discussion there is a mutual supply of information that supports a dominant view so as to cause polarization. Furthermore, the arguments that occurred in the discussion led to the recognition of the position of each person on a particular issue. That position will approach each other if there is no prejudice between group members so polarization occurs. However, if there is no prejudice, group norms will be divided so as to allow the group to dissolve (Thomas & Mc Fadyen, 1995). Group polarization can also occur because of social comparisons, that is, assessing one's opinions and abilities by comparing them with the opinions and abilities of others (Festinger and Black, 1950).

The diversity of patterns of each individual in a group in each stakeholder category has a major impact on the direction of the development of Betawi Traditional Cuisine. This can be seen from the stakeholder orientation patterns recorded in the study. Stakeholder perception patterns on the development of Traditional Culinary are very diverse, even if seen mathematically the given range is very large (3-6). While the motivation pattern and preference range given is not too large (motivation; 4-6 and preference 6-7).\

In general it is seen that all stakeholders with their perceptions and motivations each have a preference to jointly develop Culinary Ecotourism. The entrepreneurs view that the culinary business in general is quite a prospect even more broadly the culinary business contributes greatly to national economic growth (Ongkoroharjo, 2015; Untari and Satria, 2014), where the contribution of food and beverage products to foreign exchange earnings up to the third quarter of 2014 reached USD 1.64 billion (Ministry of Industry, 2015). While the Betawi people and culture consider it necessary to preserve the culinary culture of their ancestors. On the other hand, Non Betawi people feel that they are benefited by the many culinary variations, as stated in previous studies that people as consumers will feel benefited by the variety of products offered (Faradisa, Leonardo and Maria, 2016; Pattarakitham, 2015; Njaya, 2014). The Role of Local Government is an absolute thing that becomes a benchmark for the ongoing development in a region, so the Government should optimize its role in the development of Tourism (Untari, 2016; Ekanayake and Aubrey, 2012) especially Tourism which prioritizes local values. If all elements support and are ready to be developed, it is very easy for the government to formulate policies related to the development of Betawi Traditional Culinary Ecotourism.

DIAN (Dimentional Analipsis); Analyze the Polarization of Stakeholder Orientation.

DIAN is a modification of several analysis models that were previously widely known; such as MDS (Multi Dimensional Analysis), CA (Correspondent Analysis) and IPA (Important Performance Analysis). The difference in the DIAN model with other medel analyzes is the following:

1. DIAN versus MDS.

MDS is a multivariate analysis that shows the relationship between a number of objects in a multidimensional room based on the respondents' assessment of the similarity / similarity of these objects. The purpose of multidimensional scaling (MDS) is to provide a visual representation of the proximity pattern in the form of similarity or distance between a set of objects. The application of MDS can be found in scientific visualization and data mining in cognitive science, information, marketing and ecology. MDS relates to making graphs that describe the position of an object with other objects based on similarity, the data used is nonmetric data (nominal and ordinal) and data netrik (interval and ratio) (Santoso and Tjijptono, 2002) while the data nature, data collected and can be processed with MDS must be compiled by comparison data. This



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is what distinguishes MDS from DIAN, because the data collected and can be processed with the DIAN model is non comparing or single question as used in the questionnaire in general.

2. DIAN versus CA. Similar to MDS, CA is also a multivariate analysis that shows the relationship between several objects in and visualized in the form of multidimensional space, only the data that can be analyzed using this method is only nonmetric data (nominal and ordinal) (Santoso and Tjiptono, 2002) . As with MDS, data that can be processed with CA must be in the form of comparative data while data collected and can be processed with the DIAN model are non comparing or single question as used in questionnaires in general.

3. DIAN versus IPA. (IPA) Importance Performance Analysis is an analytical technique used to identify what important performance factors an organization must demonstrate in meeting the satisfaction of their service users (consumers). This test is conducted to test whether there is a gap between Hope and Perception in the analyzed variables. The test is done by distinguishing the Mean value between Hope and Perception and the difference takes place in the same sample group (the same customer, completing the same questionnaire). What distinguishes IPA from the DIAN model is, IPA can only describe 2 variables, while DIAN uses 3 variables (Perception, Motivation and Preference. As for the processing, DIAN adopts data processing patterns in IPA.

DIAN Implementation in Analyzing Perception Polarization Patterns, Motivation and Stakeholder Preferences in Developing Betawi Traditional Cuisine.

Exploring and developing Betawi Culture, especially related to Betawi Culinary, is the responsibility of all stakeholders. There are at least five stakeholders in the development of Betawi Culinary ecotourism in DKI Jakarta, namely Entrepreneurs, Betawi Communities, Non Betawi Communities, Culturalists and the Provincial Government of DKI Jakarta (Untari et al, 2017). Entrepreneurs have an important role in marketing Betawi Cuisine so that the market can re-recognize culinary variations that are beginning to be distorted. The Betawi community as the Key Person has responsibilities that are quite important in disseminating the value of culinary culture from generation to generation, and the people of Jakarta in general both as consumers, have the responsibility to preserve Betawi Culinary Culture, not just sukuism responsibilities, but more broadly the responsibility for preserving Indonesian culture. Then, the culture has the task to study and communicate the values of Betawi culture, especially culinary to the wider community, cultural observers with their function should be able to put themselves as one of the milestones in sustaining the sustainability of national culture. Then the Government, with its authority, is expected by the Government to be able to form policies that favor local cultural values.

The mapping of perceptions, motivations and preferences of the five stakeholders is an inseparable part of the development strategy for Betawi Culinary Ecotourism in DKI Jakarta. By mapping the perceptions, motivations and preferences of each stakeholder, it is expected that researchers can extend each of the existing problems and then develop a cooperative strategy. By using the Median K Sample Compatibility Test and comparing the Asymp Sig value. output of data transmission with alpha value (5%) then the results obtained are that there are differences in perceptions between the five stakeholders (Asymp Sig. 0.00), while the five stakeholders' motivation and preferences have no differences in each Asymp Sig. 0.703 and 0.903). In mapping the perceptions, motivations and preferences of the five stakeholders, researchers modified the Important Performance Analysis (IPA) model, wherein the initial model only used two dimensions and in



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processing data the researchers used 3 dimensions. Table 1 shows the results of data recapitulation from each dimension for each stakeholder.

Table 1. Recapitulation of Perceptions of Motivation and Preference

	Preference	Motivation	GAP (Pf-Mo)	Preference	Perception	GAP (Pe-Pf)	Motivation	Perception	GAP (Mo-Pf)
Entrepreneur (P)	6	5	1	6	3	3	5	3	2
Native Betawi (BA)	7	6	1	7	5	2	6	5	1
Non Betawi (NB)	6	5	1	6	3	3	5	3	2
Culturist (B)	6	6	0	6	6	0	6	6	0
Government (P)	7	5	2	7	6	1	5	6	-1
Sum	25	20	5	32	23	9	27	23	4
C-Line	5	4	1	3,6	2,6	1	6,75	5,75	1

Sources : processed data, 2017

From the results of the recapitulation and processing of data in table 1, the researchers put in a 3-dimensional figure which is a modification of the IPA model. With this visualization, it will be easier to classify problems in collaboration between stakeholders . DIAN Analysis shows that the cultural observer has high expectations for the development of Betawi cuisine (see the dimensions of motivation and perception), but it is less in line with the other five stakeholders. Where the community both Betawi and Non Betawi and Entrepreneurs do not have the same perception and motivation and still consider the development of Betawi Kulienr as a priority in the development of DKI Jakarta Ecotourism, while the Government tends to wait to issue policies related to the development of Betawi Culinary Ecotourism in DKI Jakarta. In another dimension, the five stakeholders tend to have similarities (both Perception - Preference and Motivation-Preference dimensions), this means that all stakeholders with their perceptions and motivations have a preference to jointly develop Culinary Ecotourism. The entrepreneurs see that the culinary business in general is quite a prospect, the Betawi people and the culture consider it necessary to preserve the culinary culture of their ancestors, the non-Betawi people feel benefited by the many culinary variations, and if all elements below (bottom up) support and are ready to be developed, it is very easy for the government to formulate policies related to the development of Betawi Culinary Ecotourism.

3. Conclusion

The DIAN model is a modification of several mapping models that have been used so far. In implementing the model; stakeholder polarization patterns in the development of Betawi Traditional Culinary Ecotourism using three dimensions (perception, motivation and preference), the researchers succeeded in mapping that



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all stakeholders have the same perception and motivation in the development of Betawi Culinary but they tend to have different preferences; entrepreneurs with business preferences, cultural observers with academic preferences, non-Betawi people with market preferences, Betawi people with socio-cultural preferences and government with regulatory preferences and regional development. As a reference for further research, it is necessary to have a policy tool to unite the different preferences of each stakeholder, so that in the journey it still has the same direction (advancing Betawi culture).

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Crunch of Sharia Banking Credit during Global Crisis

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Abstract. This research was conducted examining factors which influences financial crunch as seen from the perspective of financing supply and demand sharia bank in Indonesia from January 2003 - June 2015. The secondary data were obtained from Statistics Indonesia (BPS), Bank Indonesia (BI) and Financial Services Authority (OJK). This research conducted with Two Stage Least Square (TSLs) approached.

The results showed that financial crunch did not occurred in sharia banking in Indonesia from January 2003-June 2015, Third Party Fund (DPK) negatively and significantly influences sharia banking financing supply, Non-Performing Financing (NPF) positively and non-significantly influences sharia banking financing supply, Profit Sharing Rate (TBH) positively and significantly influences sharia banking financing supply, Bank Indonesia Wadi'ah Certificate (SWBI) positively and non-significantly influences sharia banking financing supply, Bank Indonesia Certificate (SBI) positively and significantly influences sharia banking financing demand and Gross Domestic Product (PDB) positively and significantly influences sharia banking financing demand.

Keywords: financing, sharia bank, financial crunch, two stage least square (TSLs)

JEL Codes: O160

1. Introduction

Financial crunch is an economic phenomenon in which bank financing cannot be maximally distributed to real sectors. A situation where bank financing supply decreases is caused by bank's decreased interest in financing distribution. The reason of this phenomenon may be viewed from financing supply and demand perspectives. From supply perspective, financial crunch takes place as a result of excessive caution taken by banks in selecting customers as result of a trauma such as economic crisis. While from demand perspective, financial crunch is caused by customers' low interest in borrowing money, as the result of too high risk to be assumed (Hakim and Rahayu, 2007). Some researchers, such as Agung (2001), propose that financial crunch in Indonesia during economic crisis between 1997-2001 is caused by supply instead of demand.

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The development of sharia banking in Indonesia has become a benchmark of success of sharia economy existence. The monetary crisis that happened in 1998 has drowned conventional banks and many of it were liquidated because of their interest system failure. Meanwhile, banks which apply sharia system continue to exist and survive, as evidenced Bank Muamalat Indonesia's success to pass the 1998 crisis, which showed increase performance without Government's assistance, and it even gain profit of more than Rp. 300 Billion (Swandayani and Kurniasih, 2012).

Several studies shows that the reasons of bank financing decreasing distribution to private sectors in Asia, after the 1997 crisis, are still debated by economists (Agenor, 2004). Some economists argue that the decrease of bank financing distribution is caused by financial crunch which gives rise to credit rationing phenomena, thus bank financing supply decreases (supply side constraint). Other economists argue that the decrease of bank financing distribution is caused by the decrease of financing demand (demand side constraint), as a logical consequence of aggregate demand contraction and output decrease after crisis.

According to Agenor (2004), distribution justify why shrinking bank financing is a demand factor or financing supply factor, having important implication in fiscal and monetary policies. For example, if banks are reluctant to distribute financing since they consider that, in case of failure, there is a higher risk which cannot be internalized with borrowing cost increase, fiscal policy which tries to increase liquidity in order to stimulate aggregate demand will not effectively increase financing demand. On the contrary, in case of low financing distribution, this is because business sectors reduce their demand for financing, since they consider weak future demand (demand side), expansion fiscal policy may be able to promote aggregate demand and financing expansion. From monetary policy perspective, financial crunch which happens because banks are reluctant to distribute financing causes relatively freed up monetary policy which cannot be transmitted to real sector through lending. In addition, financial crunch may also reduce the movement space for monetary policy, since in such condition, interest rate raising monetary policy will worsen business world condition.

2. Method

The data are obtained from formal and non-formal documents and publications of BPS, Bank Indonesia and OJK. The data which will be used are in the form of consecutively monthly data from January 2003 to June 2015, pursuant to what the research needs, in the form of aggregate data of financing condition and characteristics of all Sharia Banks in Indonesia obtained from Bank Indonesia. The free variables in this research are Financial Crunch, Third Party Fund (DPK), Non Performing Financing (NPF), Profit Sharing Rate (TBH), Bank Indonesia Certificate (SBI), Bank Indonesia Wadi'ah Certificate (SWBI) and Gross Domestic Product (PDB).

2.1 Data Stationarity Test

A unit roots test was created to examine whether the time series data in use are stationary or not. This test is required to make the data stationary, since non-stationary data will result in spurious regression phenomenon, which is regression which describes the relationship of two or more variables which appear statistically significant while in fact is not as high as the resulted regression. According to Granger, and Newbold, in Gujarati (2003) a characteristic of false regression is $R^2 > \text{Durbin Watson Statistic value}$, thus it will cause autocorrelation.

A method to test data stationarity is The Augmented Dickey-Fuller (ADF) test, which is an expansion of DF test and has the following three alternative models Gujarati (2003).



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Whether stationary data may or may not be examined, is viewed by comparing between DF or ADF statistic value with the critical value. If the DF or ADF absolute statistic value is higher than the critical value, the data are stationary and if otherwise, the data are not stationary.

2.2 Model Estimation.

Financial crunch test is conducted by identifying whether financing distributed by sharia banks is caused more by supply or demand. This identification is conducted using simultaneous equation to obtain information whether actual existing financing can be connected to financing supply or financing demand function. Sharia commercial bank balanced financing demand and supply are achieved when

$$\text{Ln SPem} = \text{Ln DPemb} \quad (1)$$

If the financing market is perfectly working, profit sharing rate will always be adjusted to ensure that supply is equal to demand. However, when financing is not perfectly working, in which profit sharing rate is not adjusted or financial crunch takes place, then financing supply (SPem) is not always equal to financing demand (DPemb), thus the financing level may be formulated as follows:

$$\text{Pem}_t = \min (\text{Ln SPem} = \text{Ln DPemb}) \quad (2)$$

In this empirical model, real financial supply (LS) is determined by DPK, NPF, TBH and SWBI. The relationship may mathematically be written as follows.

$$\text{Ln SPemb}_t = \alpha_0 + \alpha_1 \text{Ln DPK}_t + \alpha_2 \text{NPF}_t + \alpha_3 \text{TBH}_t + \alpha_4 \text{Ln SWB}_t + \varepsilon_t \quad (3)$$

α_0 : Constant of financing supply equation

α_1 : Regression coefficient of financing supply equation (i=1, 2, 3, 4)

SPemb_t : Financing supply (billion Rupiahs)

DPK : Third Party Fund (billion Rupiahs)

NPF : Non-Performing Financing (NPF) existing in sharia commercial bank (percent)

TBH : Profit sharing rate given by sharia commercial bank (percent)

SWB : Wadiah Certificate of Bank Indonesia in possession of sharia commercial bank (billion Rupiahs)

ε : Interfering error of financing supply equation

t : tth period

In the financing demand, it is determined by profit sharing rate, PDB and interest rate of Bank Indonesia Certificate. The formal specifications of sharia bank financing demand as follows:

$$\text{Ln DPemb}_t = \beta_0 + \beta_1 \text{TBH}_t + \beta_2 \text{Ln PDB}_t + \beta_3 \text{SBI}_t + V_t \dots (4)$$

β_0 : Constant of financing demand equation

β_1 : Regression coefficient of financing demand equation (i=1, 2, 3, 4)

DPemb_t : Financing demand (billion Rupiahs)

TBH : Profit sharing rate given by sharia commercial bank (%)

PDB : Real Domestic Product on the basis of 2002 price (million Rupiahs)

SBI : Interest Rate of Bank Indonesia Certificate (percent)

V : Interfering error of financing demand equation

t : tth period

2.3 Significance Test

The significance test employ the Two Stage Least Square (TSLS) method, with assistance of E-views software. These model estimation and significance test aim at observing whether the supply



model estimation is relatively good for use and whether the independent variables significantly influence the dependent variables.

3. Result and Discussion

3.1 Descriptive Statistics

The descriptive statistics of all research variables covering average value, mean value, maximum, minimum and standard deviation are given in the Table.

Table 3.1 Table of Descriptive Statistics of Research Variables

	BAGI HASIL	DPK	NPF	PDB	PEMB	SBI	SWBI
Mean	11.76340	4806939	3.935533	5647721	69948.51	7.892867	1921.645
Median	12.46000	88916.00	3.890000	5417237	39807.50	7.500000	1549.200
Maximum	17.76000	20668826	7.340000	9993816	217321.0	12.75000	4421.410
Minimum	5.000000	19688.33	2.320000	1910800	3357.000	5.750000	220.6800
Deviation Standard	2.133742	6242275	1.149823	2666397	67577.50	1.892748	1247.430

3.2 Data Stationarity Test Results

Before model estimation with TSLS, a standard procedure is performed first to test whether the data contain unit root, which means that the data are not stationary or, on the contrary, the data do not contain unit root, which means that the data are stationary. The ADF (Augmented Dickey-Fuller) test is employed to test the stationary of data.

Table 3.2 Table of Data Stationarity Test Results

Variable	Symbol	ADF Test Statistic *)		Explanation
		Level (P Value)	First Difference	
Sharia Commercial Bank Financing	Ln SPemb _t	-4.072702	-	Stationary
Third Party Fund	Ln DPK _t	-12.26367	-	Stationary
Non-Performing Financing	NPF	-2.710516	-	Stationary
Profit sharing rate given by sharia commercial bank (percent)	TBH	-3.814988	-	Stationary
Bank Indonesia Wadiah Certificate in possession of sharia commercial bank	Ln SWBI	-2.130718	-10.62636	Stationary in <i>first difference</i>



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Real Domestic Product on the basis of 2002 price (million Rupiahs)	Ln PDB	-3.443189	-	Stationary
Bank Indonesia Certificate Interest Rate	SBI	-2.609522	-	Stationary

The Table above shows that the data in use are mostly stationary at data level, while only one variable, which is Bank Indonesia Wadiah Certificate owned by sharia commercial bank, will be stationary in *first difference*.

3.3 Regression Analysis on Financing Supply

The results of TSLs estimation on sharia financing supply equation in the sample period of January 2003 – July 2015 (150 observations) are briefly presented in Table 3.3

Table 3.3 Estimation of Sharia Banking Financing Supply Function

Variable	Coefficient	Statistics	Probability	Coefficient Mark
Financing Supply				
Constant	10.42274	24.43504	0.0000	
PROFIT_SHARING/TBH	0.030549	1.134269	0.2576	+
DPK	-0.141480	-6.757953*	0.0000	-
NPF	0.120885	2.566946	0.0108*	+
SWBI	-0.000615	11.85828	0.0000*	+
R-squared	0.796993	Durbin-Watson stat 0.246916		
F-statistic	142.3152			

Note: * Significant at $\alpha = 0.05$;

Based on the estimation results in Table 3.3, the R-Square value is 79.6993 percent, which is used to test the goodness-of-fit of regression model and means that 79.7 percent of sharia banking financing supply can be explained with independent variables, while the remaining 20.3 percent is explained with other reasons.

Simultaneous tests with F-statistical test. This test aims at examining whether all independent variables simultaneously, significantly influence dependent variables as viewed from the probability value of F-count using significance level of $\alpha = 0.05$. The F-count results show that the equation has F count probability higher than the α value, thus we may conclude that all independent variables do insignificantly, simultaneously influence dependent variables with trust degree close to 95 percent.

Furthermore, t-test is used to observe whether or not the relationship between independent variables and dependent variables is individually significant according to its probability at significance level of $\alpha = 0.05$.



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According to the t-test results, we may conclude that each independent variable (NPF, TBH, SWBI) does insignificantly, individually influences sharia banking financing supply in Indonesia, however, DPK independent variable significantly, individually influences sharia banking financing supply in Indonesia.

The analysis results show that sharia bank profit sharing rate positively and significantly influences such banking financing supply. The regression coefficient is 0.030549, which means that if the profit sharing rate increases by 10%, the sharia banking financing supply increases by 0.3%. The influence of profit sharing rate on sharia banking financing supply is very elastic.

The analysis results also show that DPK (Third Party Fund) negatively and significantly influences sharia banking financing supply. The regression coefficient is -0.141480, which means that if DPK increases by 1%, the sharia banking financing supply decreases by 0.14%.

NPF (Non-Performing Financing) positively and insignificantly influences sharia banking financing supply. The regression coefficient is 0.120885, which means that if NPF increases by 10%, the sharia banking financing supply increases by 12.08%. The influence of NPF on sharia banking financing supply is fairly elastic.

SWBI (Bank Indonesia Wadi'ah Certificate) positively and insignificantly influences sharia banking financing supply. The regression coefficient is 0.000615, which means that if SWBI increases by 10%, the sharia banking financing supply increases by 0.0615%. The influence of SWBI on sharia banking financing supply is very elastic.

3.4 Regression Analysis on Financing Demand

The results of TSLs estimation on sharia financing demand equation in the sample period of January 2003-Juli 2015 (150 observations) are briefly presented in Table 3.4

The estimation results show that the factors equation model which influences sharia banking financing demand has determination coefficient (R^2) of 0.980608. This determination coefficient value may be interpreted that sharia banking financing demand may be explained by TBH, PDB, and SBI variables by 98.06%, while the remaining 1.94% is explained by other variables.

Table 3.4 Estimation of Sharia Banking Financing Demand Function

Variable	Coefficient	Statistics	Probability	Coefficient Mark
Financing Supply				
Constant	-24.68159	-42.19231	0.0000*	
BAGI_HASIL	-0.023995	-3.200449	0.0015*	-
PDB	2.294280	61.44538	0.0000*	+
SBI	0.021276	2.294523	0.00225*	+
R-squared	0.980608	Durbin-Watson stat 0.069616		
F-statistic	2460.952			

Note: * Significant at $\alpha = 0.05$

Simultaneous F-statistical tests show that the F-statistical value is higher than the significance level of 0.05, thus we may say that all independent variables insignificantly, simultaneously influence dependent variables with trust degree of 95 percent.



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Individual test is performed with t-statistic test. We may view in Table 3.4 that the probability of each t-statistic test is significant for all independent variables, which are TBH, PDB and SBI, each of which is significant with significance level of 5 percent.

The analysis results show that sharia banking profit sharing rate negatively and significantly influences the banking financing demand. The regression coefficient is -0.023995, which means that if profit sharing rate increases by 10%, the sharia banking financing demand decreases by 2.39%. The influence of profit sharing rate on sharia banking financing demand is less elastic.

The analysis results also show that PDB (Gross Domestic Product) positively and significantly influences sharia banking financing demand. The regression coefficient is 2.294280; which means that if PDB increases by 10%, the sharia banking financing demand increases by 22.94%. The influence of PDB on sharia banking financing demand is very elastic.

SBI (Bank Indonesia Certificate) positively and significantly influences sharia banking financing demand. The regression coefficient is 0.021276, which means that if SBI increases by 10%, sharia banking financing supply demand increases by 2.12%. The influence of SBI on sharia banking financing supply is very elastic.

3.5 Research Results Interpretation

a. Sharia Crunch from Supply Perspective

The decrease of financing fund may be viewed from decreasing demand or supply for banking financing. The real empirical results of sharia banking financing supply (SPembt) is determined by Profit Sharing Rate (TBH), Third Party Fund (DPK), Non-Performing Financing (NPF) and Bank Indonesia Wadiah Certificate (SWBI) in possession of sharia commercial bank. The real empirical results of sharia banking financing demand (DPembt) is determined by Profit Sharing Rate (TBH), Gross Domestic Product (PDB) and Bank Indonesia Certificate (SBI).

The elasticity value of profit sharing on sharia banking financing supply is very high, implying that sharia banks' depositors are highly influenced by profit sharing offered by sharia banks. Profit sharing margin provides relatively higher profit than interest offered by conventional bank, since the profit sharing system given is based on a profit ratio agreed on when a customer open an account. In addition, during monetary crisis period, sharia banks still show better performance compared to conventional banking institutions (Banowo and Budi, 2005). Ani and Wasilah (2010) in their research conclude that profit sharing significantly influences mudharabah deposit. Profit Sharing Rate significantly influences mudharabah deposit. Haron and Azmi (2000) in their research conclude that there is positive relationship in profit sharing system.

The analysis results also show that DPK (Third Party Fund) negatively influences sharia banking financing supply. However, the research results show that when DPK increases, financing fund distributed by sharia banks continuously decreases.

The research results imply that sharia banks more carefully provide financing when more funds are collected. They prefer investing money in a safer way like in other banks, thus DPK growth is not proportional to financing growth. Besides, that sharia banks' source of fund distributed for financing other than Third Party Fund is also in the form of committed or uncommitted investment, thus the amount of distributed financing does not entirely depend on Third Party Fund.

NPF (Non-Performing Financing) positively and significantly influences sharia banking financing supply. The estimation results show that when NPF increases by 10%, financing will increase by 12.08%.



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SWBI (Bank Indonesia Wadi'ah Certificate) positively and significantly influences sharia banking financing supply. The regression elasticity coefficient is 0.00615, implying that the influence of SWBI on sharia banking financing supply is inelastic.

b. Sharia Crunch from Demand Perspective

The real empirical result of sharia banking financing demand (DPembt) is determined by Profit Sharing Rate (TBH), Third Party Fund (DPK), Gross Domestic Product (PDB) and Bank Indonesia Certificate (SBI) in possession by sharia commercial bank.

The elasticity value of profit sharing on sharia banking financing demand is –2.39%, showing that the profit sharing rate increases by 100% and decreases financing demand by 2.39%. PDB (Gross Domestic Product) positively and significantly influences sharia banking financing demand. The regression coefficient is 2.294280, implying that the influence of PDB is very elastic. This implies that increasing economy growth will increase financing demand, and, on the contrary, in a weakening economy condition (recession), financing demand tends to decrease.

SBI (Bank Indonesia Certificate) positively and significantly influences sharia banking financing demand. The regression coefficient is 0.021276, implying that the influence of SBI on sharia banking financing demand is inelastic.

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Employee Performance Analysis to Increase the Profitability; Case Study at PT XYZ, BEKASI-WEST JAVA

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Abstract. The purpose of this study was to analyze the performance of PT XYZ employees engaged in ceramics. Seeing strong business competition, the development of human resources is very important in increasing the productivity of the company. The research was conducted in three divisions namely Plant, Accounting and Finance and Marketing. The results showed that the achievement of the objectives of each Division was quite good / high, especially the Plant division. This is because the SOP that is applied is almost completely implemented, besides that the supervision system is run properly so that it can create a comfortable working atmosphere for employees.

Keywords: Employee Performance, Operational Management, Indonesia, West Java

JEL Codes: I29

1. Introduction

Human resources are one source of competitive advantage and key elements that are important for achieving success in competing to achieve goals. Therefore, the management of human resources for the organization is important for service the community (Susilowati et al, 2013). The study of the relationship between HR management and organizational performance was found in research conducted by MacDuffie (1995) and Zacharatos et al. (2005) where both enter aspects of HR management as part of the overall aspects of production management, before being linked to organizational performance.

Human resources are an important matter in any business activity, because the quality of these things is very determining in the performance of a company. Widarsono (2009) states that Human Resources (HR) have a very important role that influences the success of the company in facing global markets and competition management and development of human resources, is an investment for the company because it requires costs to support it, but in line with this in mind, the benefits gained by the company are also great because the workers and employees who are owned, become professional and reliable in doing all the work in the company (Limawandoyo et al, 2013). Three main concepts in the human resource strategy are also presented by Cahayani (2005), which includes competitive advantage, special capabilities and suitability of strategies.



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Humans are always active and dominant in every organizational activity, because humans become planners, actors and determinants of the realization of organizational goals. Goals cannot be realized without the active role of employees even though the tools owned by the company are so sophisticated. Sophisticated tools owned by the company have no benefit for the company if the active role of employees is not included. Managing employees is difficult and complex, because they have heterogeneous thoughts, feelings, status, desires, and backgrounds brought into the organization. Employees cannot be fully regulated and controlled such as managing machines, capital, or buildings. A human resources department must have the ability to develop, use, and maintain human resources so that organizational functions can run in a balanced manner (Sedarmayanti, 2009).

Today, many managers in various industries think of better ways to measure company performance. These measurements can be used to assess the success of a company. The old (traditional) measurement model, namely the measurement by looking at the results of the performance of an organization described in the financial statements, is felt to be unusable because the financial statements as a performance benchmark are no longer able to describe the company's strategic points. So it is necessary to have research on how to measure performance in a comprehensive, integrated and balanced manner in accordance with the company's objectives. According to Mardatillah et al. (2001), in the development of new organizations and economics, the creation of the value of an organization is dominated by HR and other intangible assets, therefore it is necessary to measure HR strategies.

As an object of research, researchers chose PT XYZ, a ceramic factory established in Bekasi, West Java. The object of research is interesting, considering the competition in Indonesia's ceramic market is very high, so it demands productive human resources to be able to achieve the company's targets.

2. Methodology

The population in the study were all plant division employees, accounting and finance, marketing at PT XYZ. Totally 21 people. Because the population is relatively small, the research method uses a census method where all employees of the plant division; accounting and finance; and marketing at PT XYZ was used as a respondent in the study. The distribution of the number of employees in each division are:

Table 1. Distribution of samples

No	Division	Amount
1	Plant	6
2	Accounting and Finance	3
3	Marketing	12
Total		21



The research instrument consists of four aspects including the following:

- 1 Certain employee characteristics such as attitude, appearance and initiative are the basis for evaluation.
- 2 Competencies. Competence consists of knowledge, skills, traits and behaviours, and is related to interpersonal or business-oriented skills.
- 3 Achieving goals. If the organization considers the end result of achieving the goal as meaningful, the outcome of achieving the goal will be the right factor to be evaluated to be compared with the standard.
- 4 Increased potential. When organizations evaluate employee performance, the criteria are focused on the past, the present, compared to the standards.

3. Result And Discussion

Based on each supervisor's assessment of his staff, the results are shown in Table 2, below,

Table 2. Recapitulation of Employee Assessment

Aspect	Plant	Akunting dan Finance	Marketing
Social Attitude	4	3,7	4,4
Performance	4,3	4,3	4
Initiative	4,5	4,7	3,9
Knowledge	4,3	3,3	4,4
Skill	4,5	4,3	4,7
Attitude on Work	4,8	4	3,9
Behaviour	4,3	4	4,2
Interpersonal skills	3,8	3,3	4,5
Business Orientation	4	4,7	4,2
Productivity Y-1	4,8	4,7	3,4
Productivity Y	4,5	4,7	4,4

Source : Data processed, 2018

Based on table 2, it can be observed that the average performance of each employee, in each division, is categorized as *Good* (Score 4). Thus it can be concluded that the performance of the four divisions is quite good and can support the company activities in achieving its objectives. Figure 2 below shows the strengths of each aspect of the supervisor's assessment.

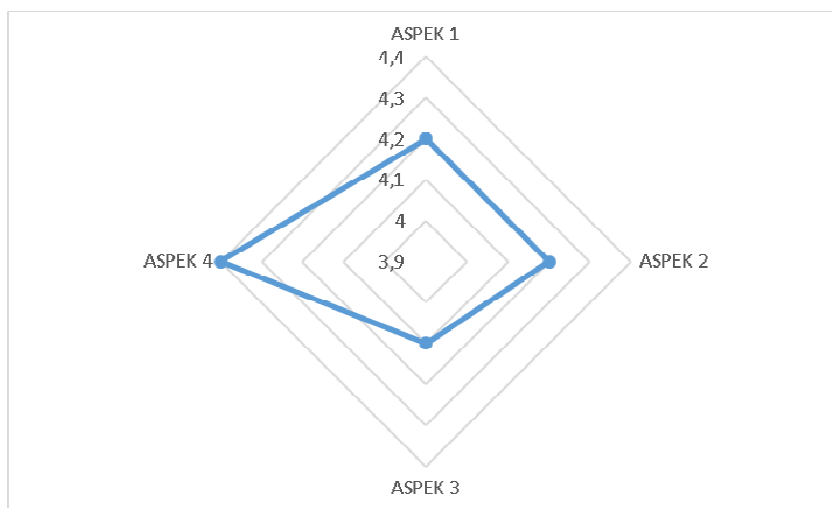


Fig 1. Assesment Per Aspect
Source: Data processed 2018

Figure 2 shows that the greatest strength of employees is in the fourth aspect, namely the productivity of this year and the previous year (Y-1). While the lowest aspect is the third aspect, namely business orientation and interpersonal skills.

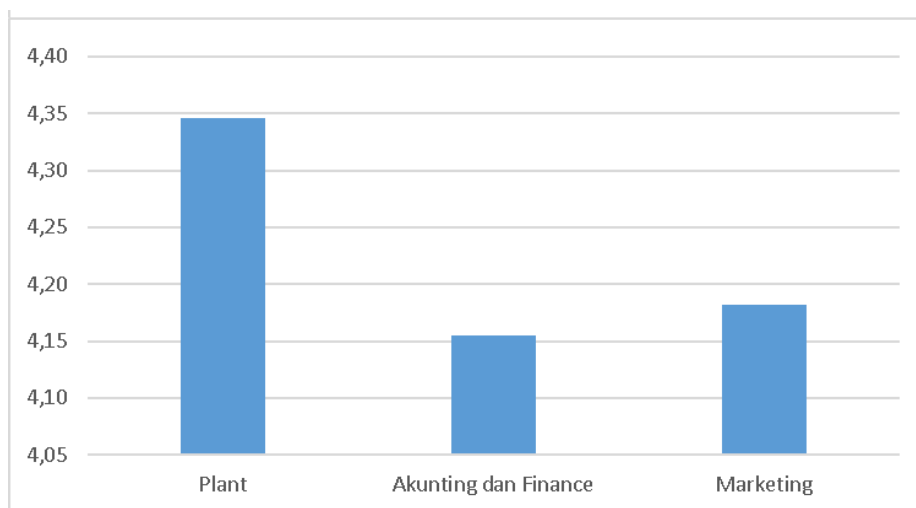


Fig 2. Assesment Per Division
Source: Data processed 2018



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Based on the above results it can be seen that there is a difference in score in the Division, where the Plant Division gets the highest rating (4.35), then the second is the Marketing Division (4.18) and finally the Division of Accounting and Finance (4.15). But these calculations shows that there is no significant difference between performance in each Division. The assesment of each Division is in the High/Good category (Score 4), so it can be concluded that the employee's performance is quite good and ready to support the strategy and goals of the company.

4. Conclusion

Based on observations and questionnaires of the research, it can be concluded that: Evenness of skills is needed so that each division can run optimally and can work well, so the company needs to add training activities for employees. In each Division, the achievement of goals is quite good /high, especially the Plant division. This is because the SOP that is applied is almost completely implemented, besides that the supervision system is run properly so that it can create a comfortable working atmosphere for employees. It still has the same direction (advancing Betawi culture).

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FOREIGN DIRECT (FDI) INVESTMENTS AS A COMPARISON OF MACROECONOMICS IN ASEAN 5, CHINA AND JAPAN DURING PERIOD 1996-2015

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Abstract. The purpose of this research is to analyze the Determination of Foreign Direct Investment (FDI) As a Comparison of Macroeconomic Factors in Asean 5, China and Japan. Besides, this research also analyses the influence of macroeconomic factors due to the strength of the influence of macroeconomic factors to the shock.

This research uses the secondary data during the period of 1996-2015 by using the Panel Data model. The variable, which is used here, is the macroeconomic factor (Broad Money, Economic Development, labor force, exchange rate, industry, transport service) that has an effect on Foreign Direct Investment in Asean 5, China and Japan.

The gap of this research is to connect the macroeconomic factor (Broad Money, Economic Development, labor force, exchange rate, industry, transport service) that has an effect on Foreign Direct Investment. The result of the research shows that the macroeconomic factors have positive effect in ASEAN 5 countries, China and Japan as Home Country, as well as Host Country. Meanwhile, the FDI has a negative impact from one of the macroeconomic factors that is 'exchange rate'. The policy implication of this research is to suggest the monetary authority, government or private, to supervise the direct investment flow that enters the host countries.

Keywords: Determination of Foreign Direct Investment (FDI) As a Comparison of Macroeconomic Factors in Asean 5, China and Japan, Panel Data

JEL Codes: E2, E3

1. Introduction

Efforts to implement policies for economic development, each country needs capital flows as a support for the running of policies. The capital flow needed by each country in the world varies depending on the characteristics of the country, whether it is classified as a developed or developing country. Developed countries in carrying out the wheels of economic policy, the capital flow required are relatively low when compared to developing countries. Large financing in economic development for each country cannot be fully sourced from capital flows, but financing derived from foreign capital is needed to meet deficiencies in financing a country's economic development.





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2. Literature review

2.1. Study Foreign Direct Investment (FDI)

Research studies on Foreign Direct Investment (FDI) that occur in a country have been widely carried out. Research on the influence of Foreign Direct Investment (FDI) in a country has been examined by Rodolphe Desbordes, Shang-Jin Wec (2017), George S. Chen, Yao Yao, Julien Malizard (2017), Arijit Mukherjee, Uday Bhanu Sinha (2016), Qiaomin Li, Robert Scollay, Sholeh Maani (2016), Carmen Boghean and Mihaela State (2015), Agyenim Boateng, Shaista Nisar, Junjie Wu, Xiuping Hua (2015), Juthathip Jongwanich, Archanun Kohpaiboon (2013), M. Fabricio Perez, Josef C. Brada Zdenek Drabek (2012), Shinji Takagi, Zongying Shi (2011) examines how economic growth, labor force, exchange rate, industry affect foreign direct investment in a country. But for the authors that Broad Money and transport service are things that are also a macro instrument that also affects Foreign Direct Investment in a country and are always interesting to discuss. As observed by Sizhong Sun, Sajid Anwar (2017), "Foreign direct investment and the performance of China's textile industry's indigenous firms" and Shaosheng Jin, Haiyue Guo, Michael S. Delgado, H. Holly Wang (2017) "Benefit or damage? The productivity effects of FDI in the Chinese food industry."

2.2. The Previous Studies

In neoclassical theory, capital is expressed as "downhill" from rich countries (capital abundant) to poor countries (capital scarce). Where all countries can access the same technology and produce similar goods, while differences in per capita income illustrate the different rates of return on capital, new investments will be made in poor countries. On the other hand, the Heckscher-Ohlin model explicitly predicts that capital flows from countries with low interest rates to countries with high interest rates (Pogoda, 2012). However, Robert E. Lucas, Jr (1990) in an article entitled "Why does not capital flow from rich to poor countries?" Question the validity of the assumptions used in the neoclassical model.

Alfaro (2008) in his research concluded that the increase in international capital flows as a result of financial openness was in line with the improvement of institutional quality. Second, capital market imperfections due to asymmetric information and sovereign risk The empirical studies of Herrmann and Kleinert (2014) on countries that are members of the European Monetary Union (EMU) show that market imperfections will hamper the efficiency of capital allocation. As a result, capital flows to poor countries and in perspective.

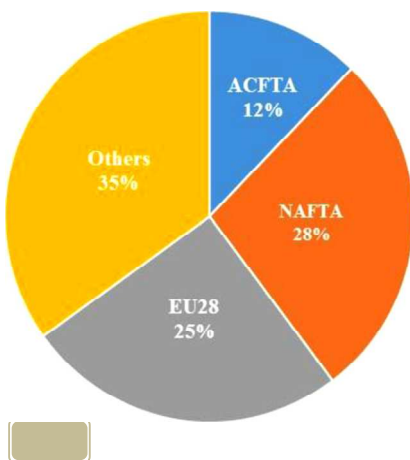


Fig. 1. GDP of the three largest trade blocks in the world economy in 2010

Data Source: UNCTAD.



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FTA (Free Trade Agreement) ASEAN-China forms the third largest economic group in the world, after the European Union and NAFTA (North America Free Trade Agreement). It has 1.85 billion people and covers an area of 14 million square kilometers. In 2010, the total Chinese GDP and ASEAN-68 were US \$ 7.79 trillion, contributing 99% of the combined Chinese GDP and 10 ASEAN members, and 12% of the world economy. Between 2000 and 2010, annual GDP growth rates were 10.8% for China and 5.5% for ASEAN-6. This rapid growth coincides with the increasing importance of members of the ACFTA (Asean-China Free Trade Area) in the world economy. (Qiaomin Li, Robert Scollay, Sholeh Maani, 2016).

Foreign investment entering the country consists of foreign direct investment (FDI) and portfolio investment. Both types of investment both have a positive impact on the process of a country's economic development, but in its development FDI provides more significant benefits when compared to portfolio investment. Foreign Direct Investment (FDI) consists of inward and outward. Inward FDI is an investment originating from other countries to countries in the ASEAN region, which are mostly classified as developing countries. Economic development that is running in developing countries must experience a lag when compared to developed countries.

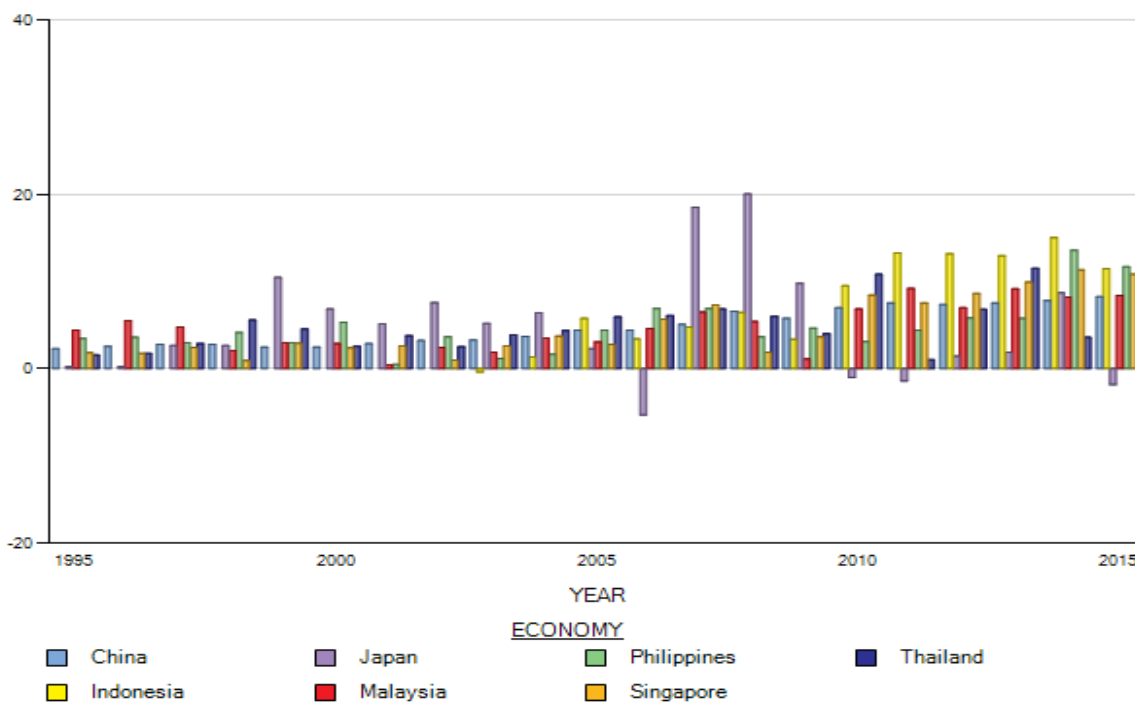


Fig. 2. Flow of foreign direct investment (FDI): inward and outward in ASEAN, China and Japan 1995-2015.

Data Source: UNCTAD.





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Along with the rapid economic growth in ASEAN, China and Japan, there was a growth in FDI inflows. Foreign direct investment in ASEAN, China and Japan from 1995 to 2015 began to decline in 2000 to 2005, FDI grew slowly, with FDI shares in ASEAN, China and Japan between 2005 and 2007, and after 2007, China's growth rates began to increase, so that FDI ASEAN, China and Japan grow side by side.

The related growth pattern narrows that Real Sector (Gross Domestic Product, Industry, Labor), Monetary and financial sectors (Broad money) and External Sector (Exchange rate, transport service) have an influence on Foreign Direct Investment. Panel data analysis (pooling data) that is obtained by connecting data that is time series cross section.

3. Methodology

Panel data is a combination of time series data and cross-section data, where the same cross section is measured at different times. Data panel analysis is used to observe the relationship between one dependent variable and one or more independent variables. The use of panel data is able to provide many advantages both statistically and in economic theory, among others (Gujarati; 2003):

Data panels are able to take into account the heterogeneity of individuals explicitly by allowing individual-specific variables so that data panels can be used to test and build more complex behavioral models.

If the specific effect is significantly correlated with other explanatory variables, then the use of panel data will substantially reduce the problem of omitted variables.

Panel data based on repeated cross section observations so that the panel data method is suitable for the study of dynamic adjustment.

The high number of observations has implications for more informative data, more varied, collinearity between diminishing variables, and an increase in degrees of freedom so that a more efficient estimation can be obtained. These advantages have implications for not testing classical assumptions in the panel data model, according to what is in some literature used in this study (Maddala, 1998; Pindyck and Rubinfeld, 1991; and Gujarati, 2003). The linear regression model uses cross section and time series data.

Model with cross section data

$$Y_i = \alpha + \beta X_i + \epsilon_i ; i = 1, 2, \dots, N \quad (1)$$

N: amount of data cross section

Model with time series data

$$Y_t = \alpha + \beta X_t + \epsilon_t ; t = 1, 2, \dots, T \quad (2)$$

N: amount of data time series

Considering the panel data is a combination of cross section data and time series data, the model is written with:

$$Y_{it} = \alpha + \beta X_{it} + \epsilon_{it} ; i = 1, 2, \dots, N; t = 1, 2, \dots, T \quad (3)$$

Where:

N = number of observations

T = amount of time





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$N \times T$ = number of panel data

With Y_{it} being the value of the response variable in the i -observation unit and t -time, x_{it} is the value of the predictor variable in the i -observation unit and t -time, α is the intercept parameter or the intersection between the upright Y axis and the linear function line the x_{it} β value is the slope coefficient or slope coefficient or slope coefficient, and ε_{it} is a mistake or error or error component in the i -observation unit and t -time.

The existence of variables that are not all included in the model equation allows an intercept that is not constant. Or in other words, this intercept might change for each individual and time. This thought is the basis for the formation of the model.

The assumptions on this FEM are clearly almost in accordance with the actual reality. It must be noted that in equation (3) an index i is added at the intersection point. The index is used to state that this case is a time invariant case. Unlike the case if the added index is it, the case will be called the time variant. The following is the FEM with time invariant cases, namely:

$$Y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{it} \quad (4)$$

It should be noted that the amount of D in the equation can be explained by the following statement, "if a qualitative variable has n categories, only $n - 1$ doll variables need to be introduced in the regression model, while one variable that is not introduced, the average will be intercept or the cut-off point in the model". The addition of a doll variable into FEM aims to facilitate the use of the model.

This is because dummy variables can represent our ignorance about the actual model. But it must be remembered that the use of FEM will have consequences for the reduction of degrees of freedom (degree of freedom) which will ultimately reduce the efficiency of the parameters. This problem is what drives the development of the next approach, namely the random effect approach. Panel data regression model that uses this approach is known as Random Effect Model (REM).

The basic idea of REM is to describe the intercept in equation (3), namely:

$$Y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{it}$$

Dalam hal ini tidak lagi tetap (fixed). Sebagai gantinya α_i diasumsikan sebagai variabel random dengan nilai rata-rata (mean value). Berikut ini adalah penjabaran intersep untuk masing-masing unit:

In this case α_i is no longer fixed. Instead α_i is assumed to be a random variable with a mean value. The following is a description of intercepts for each unit:

$$\alpha_i = \alpha + \mu_i, i = 1, 2, 3, \dots, N$$

Where u_i is a component of random error with zero mean and variance σ_{ε}^2 Substituting equation (4) into equation (3), the following equation will be obtained:

$$\begin{aligned} Y_{it} &= \alpha + \beta x_{it} + \mu_i + \varepsilon_{it} \\ &= \alpha + \beta x_{it} + w_{it} \end{aligned} \quad (5)$$

Where

$$w_{it} = \mu_i + \varepsilon_{it} \quad (6)$$

The error w_{it} component consists of two components, namely u_i which is the error component of each unit cross section and ε_{it} which is a combination of error time series components and cross section.





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Because it consists of two (more) error components, REM is also known as the Error Components Model (ECM).

The following are some assumptions related to ECM, namely:

$$\mu_i \sim N(0, \sigma_u^2)$$

$$\varepsilon_{it} \sim N(0, \sigma_\varepsilon^2)$$

$$E(\mu_i \varepsilon_{it}) = 0 \quad E(\mu_i \mu_j) = 0 \quad (i \neq j)$$

$$E(\mu_{it} \mu_{is}) = E(\mu_{it} \mu_{jt}) = E(\mu_{it} \mu_{js}) = 0 \quad (i \neq j; t \neq s)$$

This means that the error component is not correlated with each other and there is no autocorrelation between the cross section unit and the time series unit. Noteworthy, there are important differences between FEM and REM. In FEM, each cross section unit has a fixed intercept value of all N observations, while in REM the intercept value μ_i states the average value of all intercepts cross section and error component μ_i states the interception of the intercept unit cross section of the average value. This error component cannot be observed directly, so it is known as the unobservable or latent variable.

The parameter estimation for this model no longer uses the OLS method because this method cannot produce an efficient estimator under the REM assumption. The right method for estimating REM is Generalized Least Square (GLS).

3.1. Test the Data Panel Model Selection

Chow Test or also called F Statistic test is a test that is done to choose what model to use Common Effect or Individual Effect, based on the previous explanation stating that sometimes the assumption that each unit cross section has the same behavior tends to be unrealistic and unwarranted. Given that there is a possibility that each cross section unit has a different behavior. Therefore, this test is carried out with the following hypothesis

H₀: Model Common Effect (Restricted)

H₁: Model Individual Effect (Unrestricted)

In testing the hypothesis, the F Statistics equation is used as Chow has formulated below:

$$F(\alpha, k - 1, n - k) = \frac{(R_{UR}^2 - R_R^2) / k - 1}{(1 - R_R^2) / n - k}$$

Where : R_{UR}^2 = unrestricted

R_R^2 = restricted

k = total number of regression coefficients (including constants)

n = number of samples

Hausman Test

After obtaining two significant models through two approaches, then which model should be chosen is the most suitable for the data they have. The most basic thing is to look at the correlation between the components of specific error cross section u_i with regressor or x predictor variable. If it is assumed and x is uncorrelated, then REM is appropriate. It is different if u_i and x correlate, then FEM is the most appropriate.





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Judge (Gujarati, 2003: 650) suggested several key considerations in choosing FEM and REM, namely:

If the amount of time series (T) data is large and the number of cross section (N) units is small, the estimated parameter value between FEM and REM is not significantly different. As a result, the choice is based on ease of calculation, namely FEM.

When large N and T are small, the estimated parameter values differ significantly. It should be noted that the cross section unit in the sample. If it is believed that the sample unit is not random, then FEM is the right choice, but if the sample unit is random then REM is more appropriate.

If the u_i error component correlates with one or more regressions, the REM estimator is a bias estimator and the FEM estimator is an unbiased estimator.

If the assumption of large N and small T and REM is fulfilled, the REM estimator is more efficient than the FEM estimator.

Formal testing to determine whether or not there are differences in estimated values between the two models was developed by Hausman. This test is then known as Hausman's Specification Test, which is based on the idea that the regression model uses the OLS estimator on the second assumption of the fixed effect approach and the regression model using an efficient GLS estimator, while the regression model using the OLS estimator without the doll variable on the assumption " all coefficients are constant between time and panel members "inefficient. However, because in this final project the first assumption of the fixed effect approach is not discussed, the OLS method with this assumption is ignored. Based on this, the null hypothesis (H0) is that the estimated values are not different so that the test can be done based on the difference in estimates. An important element for the Hausman test is the covariance matrix of different vectors, $[(\beta) - \bar{\beta}_{GLS}]$, that is:

$$Var[\bar{\beta} - \bar{\beta}_{GLS}] = Var[\bar{\beta}] + Var[\bar{\beta}_{GLS}] - 2 Cov[\bar{\beta}, \bar{\beta}_{GLS}] \quad (7)$$

The main result of the Hausman test is that the covariance difference from an efficient estimator with an inefficient estimator is zero. This can be written as follows:

$$Cov[\bar{\beta} - \bar{\beta}_{GLS}, \bar{\beta}_{GLS}] = Cov[\bar{\beta}, \bar{\beta}_{GLS}] - Var[\bar{\beta}_{GLS}] = 0 \quad (8)$$

In other words

$$Cov[\bar{\beta}, \bar{\beta}_{GLS}] = Var[\bar{\beta}_{GLS}] \quad (9)$$

Substituting equations (8) and (9) into equation (7), the following covariance matrix will be obtained:

$$\begin{aligned} Var[\bar{\beta} - \bar{\beta}_{GLS}] &= Var[\bar{\beta}] + Var[\bar{\beta}_{GLS}] - 2 Cov[\bar{\beta}, \bar{\beta}_{GLS}] \\ &= Var[\bar{\beta}] + Var[\bar{\beta}_{GLS}] - 2 Var[\bar{\beta}_{GLS}] \\ &= Var[\bar{\beta}] - Var[\bar{\beta}_{GLS}] \\ &= Var[\hat{q}] \end{aligned} \quad (10)$$

From equation (10), it can be defined that $[\hat{q}] = [(\beta) - \bar{\beta}_{GLS}]$. Furthermore the Hausman test will follow the distribution of Chi squares with the criteria of Wald, as follows:

$$m = \hat{q} Var(\hat{q})^{-1} \hat{q} \quad (11)$$





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Hausman test statistic follows Chi square distribution with k degree of freedom (number of predictor variables). If the test statistic value is greater than the critical value, the right model is a fixed effect model (FEM), whereas if the test statistic value is smaller than the critical value, the right model is a random effect (REM) model.

Testing the hypothesis for the Hausman test can be written mathematically, as follows:

- Hypothesis Formulation

H₀: The estimated parameter value between FEM and REM is not significantly different

H₁: The estimated parameter values between FEM and REM differ significantly

- Magnitude Required

$$\begin{aligned} [\hat{q}] &= [\bar{\beta} - \bar{\beta}_{GLS}] \\ Var[\hat{q}] &= Var[\bar{\beta} - \bar{\beta}_{GLS}] \\ &= Var[\bar{\beta}] + Var[\bar{\beta}_{GLS}] - 2 Cov[\bar{\beta}, \bar{\beta}_{GLS}] \\ &= Var[\bar{\beta}] + Var[\bar{\beta}_{GLS}] - 2 Var[\bar{\beta}_{GLS}] \\ &= Var[\bar{\beta}] - Var[\bar{\beta}_{GLS}] \end{aligned}$$

Statistics Test

$$m = \hat{q} Var(\hat{q})^{-1} \hat{q}$$

- Testing Criteria

With a significance level α , rejected H₀ if $m < \chi^2_{1-\alpha; k}$

Interpretation that is rejected or received H₀, If it turns out H₀ is rejected, it means that the estimated values of the two models differ significantly. Furthermore, the determination of the best model to be chosen is based on Judge criteria (Gujarati, 2003: 650)

3.2. Model

Research Model in estimating the determination of Foreign Direct Investment (FDI) as the Influence of Macro Economic Factors in ASEAN 5 (Indonesia, Malaysia, Singapore, Thailand, Philippines), China and Japan models adopted by Catherine and Rashid (2011)

$$FDI = f(\text{Macroeconomic Factor}, \text{Country Specific Factor}) \quad (12)$$

In accordance with the requirements in this study, the selected independent variables are (a) Broad Money, (b) Economic Growth, (c) Labor force, (d) exchange rate, (e) Industry, (f) transport service; the above model can be simplified to:

$$FDI = f([\text{Broad Money}]_{it}, [\text{GDP}]_{it}, [\text{Labor force}]_{it}, [\text{exchange rate}]_{it}, [\text{Industry}]_{it}, [\text{transport service}]_{it}) \quad (13)$$

In this study to facilitate data analysis used several indicators representing the research variables used, namely FDI inflow as an indicator of FDI, broad money was given the symbol of BRM, economic growth was given the symbol of Economic Growth, labor force was given the symbol LBF, the exchange rate is given the EXR symbol, the industry is given the INST symbol, Transport services are given the TRANS symbol. So that this research model can be formulated as follows:





$$FDI = f [BRM, GDP, LBF, EXR, INST, TRANS] \quad (14)$$

4. Results and Discussions

The regression model results are presented in table 1. We compared three (3) models consisting of OLS models, fixed effect models and random effects models. Based on the Hausman test, the effect model remains efficient, so the model can be used for the main analysis of this study (see attachment).

Table 1 Research Results

Panel data estimation results with PLS ASEAN 5 FDI Determinants China and Japan Period 1996 - 2015:

Variable Dependent : FDI

VARIABLES	(1)	(2)	(3)
	OLS Model	Fixed Effect Model	Random Effect Model
<i>Broad Money</i>	-0.02 (-1.3472)	0.04 -1.85	0.02 -1.00
<i>Labor</i>	0.10 -1.07	0.22 -1.29	0.15 -1.12
<i>Exchange Rate</i>	-6.25 (-2.685635)	1.37 -0.55	0.15 -0.06
<i>Infrastructure</i>	0.14 -1.94	0.10 -1.99	0.10 -1.95
<i>Transport Service</i>	0.44 -10.41	0.07 -1.60	0.11 -2.47
<i>C</i>	-7.11 (-1.081234)	-17.27 (-1.329595)	-10.36 (-1.01447)
Filipina		0.69	-0.52
Singapura		11.63	10.51
Thailand		-0.94	-0.86
China		-3.69	-2.29
Jepang		-8.21	-5.61
R-squared	0.47	0.80	0.08
F-statistic	23.58	45.64	0.05

Contributions Strong standard error in parentheses

*** p < 0,01, ** p < 0,05, * p < 0,1





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5. Conclusions

From the research above, some conclusions can be drawn as follows:

1. Increasing capital inflows into a country can result in excessive appreciation of the (real) currency, especially if capital flows are in the form of investment portfolios.

2. The impact of FDI on economic growth has focused on the existence and level of technology and productivity spillovers related to the transfer of technology by multinational companies, which reflects the understanding of modern growth theory that increasing productivity is supported by technological advances to maintain economic growth in the long run, against the possibility convergence of per capita income.

3. The impact analysis of FDI is concentrated on wages and the quality of work, and so on income inequality. The quality of work can be seen from the point of view of the worker, focusing on the company's relative overseas wage rates on wage levels in domestic companies, and from a national perspective, focusing on how jobs created by FDI affect overall productivity in the economy.

4. Short-term effects of nominal exchange rates on changes in domestic currency depreciation reduce the productivity of domestic cut and export firms. The effect of depreciation on industry productivity is uncertain in pure theoretical analysis. But empirical tests using company data from the Japanese manufacturing industry (general machinery, electrical machinery, and transportation equipment) show that currency hosts tend to increase industrial productivity. This result has several important policy implications. First, a policy that allows host currencies to fall in the value of the Foreign Exchange market can increase the average productivity in some manufacturing industries depending on the situation. Second, such policies can be protective for export companies, but not always beneficial for domestic and FDI.

5. FDI can improve the performance of the export market of domestic companies. If the increase in export market income is large enough, the overall impact on society will be positive. FDI can improve the performance of the export market of domestic companies at the expense of their market performance. If the increase in export market income is large enough, the overall impact on society will be positive. Overall, it seems that FDI in the industry has a positive effect on the total income of domestic companies. While other companies in the textile industry seem to benefit from FDI, to identify industries where FDI has a positive impact on revenues from companies. Increasing total company income can be attributed to increased employment.

6. Vertical FDI growth is associated with the development of production networks, which in turn are related to the liberalization of trade in intermediate goods. The hypothesis that the effect of ACFTA's vertical fragmentation (ASEAN-China Free Trade Agreement) will occur substantially, results in a positive impact on vertical FDI. The finding of horizontal FDI implies that market expansion effects may also contribute to explaining bilateral FDI in China and ASEAN. Horizontal FDI will increase due to the effects of market expansion, namely, the effect of reducing trade barriers in expanding the market size available to producers in FTA (Free Trade Agreement), and the effect of this market enlargement in attracting MNCs (Multinational Corporation) seeking markets

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7. Appendix

Results of the Chow Panel Fixed Effects Method (FEM) Test Data Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	53.797505	(6,127)	0.0000
Cross-section Chi-square	177.041574	6	0.0000

Results of the Hausman Test Data panel Random Effects Method (REM) panel

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	21.132061	5	0.0008

T-statistical test results ($\alpha = 5\%$) Model Fixed Effect (FEM) GLS

Variable	t-Statistic	t-tabel		Prob.	Kesimpulan
		df ($\alpha/2, n-k$)	df (0,025%, 133)		
BRM	1.30148	± 1.97796		0.1953	Signifikan
GDP	5.17642	± 1.97796		0.0000	Signifikan
LBF	1.24605	± 1.97796		0.2149	Signifikan
EXR	-4.98953	± 1.97796		0.0000	Signifikan
INST	4.21032	± 1.97796		0.0000	Signifikan
TRANS	3.24749	± 1.97796		0.0015	Signifikan





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Household budget: Impacts of incomes on consumption

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Abstract. This research purpose is to explain the relation between several types of income and total personal consumption. Based on research method used, which is descriptive and regression analyses, the high influence of incomes on consumption is proven. Through various statistical results, it is shown in which extent the correlation is relevant and how it is concluded that the chosen variables are sufficient to explain the variation of the level of consumption through time. The main goal of this research is to discover what lies behind consumption and to understand the households as main consumption units on the market. Gained results are based on data analysis, in which the independent variables are "Income from pension insurance," "Income from property", "Income from small business" and "Wages and salaries," while the dependent variable is "Personal consumption". After testing all assumptions of linear regression and conducting the entire analysis, it is concluded that every independent variable is good in explaining the value of the dependent variable "Personal consumption". The statistical unit on which the analysis is based is a household, so statistics shown in this research are useful for understanding the essence of a budget in household economies.

Keywords: income, household, consumption, data analysis

JEL Codes: D12, D16

1. Introduction

What can a person spend? All consumptions are limited by incomes. Although, even if your incomes are on the level of zero, that does not mean that you will stop spending. Because it is related to future earnings such as dividends and profits, or future payments such as loans, people can find ways to continue their behavior on the market. Although, their behavior is quite susceptible to changes. Depending on their level of income and also, type of income, consumers behave differently. Taking into consideration that the market is unpredictable in a high level, companies and research institutes are investing time and money to create models or analysis, which can lower your risks of acting on the market. Why do they perform such activities? What is the purpose of research? Every research includes looking for clues, for answers, to create an image of the world. People and institutions have different motives, but their goals are often the same. The goal of every company is creating profit, although they can differ in their missions. New information, models, results of research are actually the instrument in making decisions. They help us to understand essentials of matters, so we can lower our risks and create a per say guideline in the business processes.





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Models are one way of simplifying the reality. Just as you know your friend so well that you can predict how he or she is going to react in a certain situation or under certain conditions. In that way, marketing research can create a model to present the actions of consumers in a day life, as well as on the long terms. Our behavior can be affected by many factors, but we can use our logic and also scientific proofs to discover the core drivers of behaviors. This is a civilization based on money, where every aspect of our lives can be analyzed through science. In addition, what is the origin of science projects, in general? Companies and governments spend money to find new solutions to keep the economy going (or in the time of capitalism to keep the economy growing), when resources are becoming more scarce. They do it through investing in science projects, research projects. In this research, the aim is to get down to smaller subjects and track the behavior of units on micro level. Statistical units in this research will be households. It will show some causes of their behavior. Moreover, their behavior will be analyzed through money, more precisely, through their spending. This research will show spending to project trends and see how incomes affect economy on a micro level, how incomes affect personal consumptions. Although, expenses can still exist even the current level of income is zero. This research will be focused on incomes on a higher level.

The main idea of the relationship between income and expenditure is found in the consumption schedule or consumption outlooks in household economies. The assumption is that when disposable income rises, consumption increases. So if consumers have some extra money, they spend part of that income as well. There are some ways of measuring the increase of expenditures when income rises. That rate is called the marginal propensity to consume. For example, if someone has one income of 10.000€ per year, and spends 8.000€, the marginal propensity to consume is $8.000/10.000 = 0.8$. The remaining value is saved so the marginal propensity to save is 0.2. In this research will be followed the logic that everything you have is everything you spend, having in mind that saving are a part of the expenditures. Nevertheless, people with lower incomes tend to have higher propensity to spend, if you look the savings and expenses as separated. This is important when the government creates variability of taxes and levels of welfare benefits. Taxes can affect many types of incomes, but in this research it will be used the one kind on which the effect is obvious. Thus is the level of profits made from business. A decrease in the marginal propensity to spend causes lower levels of consumption, for a given level of income.

To present possible view of these interactions, this marketing research will offer proofs through statistical analysis to show that the consumption is truly limited by incomes. Having in mind that there are many types of incomes and many ways to spend money, this research will be focused on several types of incomes and their effects on the total personal consumption. It can benefit not only the researchers, but also the investors, governments, companies, entrepreneurs and anyone who is studying the market as the reality in which we make decisions. Although this is only a simulation of a marketing research, there will be used real data from national statistic institute.





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2. The context

2.1. Research Objectives

As every company has profit for its goal, every research estimates results in order to achieve its aspirations. Household budget provides much information, which can be used in different causes. Who can use them and why is important to have them will be discussed in this part of a research.

First, ministries and public administrations use statistical data gathered for the construction of household budget analysis. They use it in the purpose of economic and social policy planning. Then, the results of this research can be useful in gathering the data and their meaning about living conditions of private households. In this purposes, universities and research organizations use these data and results of analyses. As individuals, we can share the objectives of this research with private firms and consultants. Our common use of this research is directed towards analyses of consumption patterns of households in relation to the marketing of private consumer products. This information is often provided by mass media or through reports that show activities of national and international offices. Finally, the main objective is to use the research information in focusing on certain subjects such as the influence of the level of income on consumption patterns. More precisely, the goal is to measure the relation between several variables, the correlation between several types of incomes and total personal consumption.

This research share objectives with ones especially pointed out through the period when the conducting the household budget has began. Through decades, the prime objective of conducting the household budget research was to collect information on household consumption expenditures for use in updating the weights for the variety of incomes used in measuring the total personal consumption. The weight measures expenditures on specific incomes as a proportion of total expenditures. Through time, a number of uses and purposes have grown, so the surveys had to meet the requirement to give a new model, simplified picture of reality which represents living conditions of private households in certain areas and periods. In this research, the focus will be on a national level, based on units such as households in Montenegro. It will not focus on specific geographic areas, but will provide detailed descriptions of a private household's total consumption and expenditures, by household characteristics such as incomes.

To understand any topic, you will need to look underneath the surface. Therefore, in order to understand personal consumption and its objectives it is necessary to know why it has been chosen for the research. A large majority of economic output (nearly 70%) is driven by personal consumption. It is the essence of economy on macro and micro level, as it is the main driver for this research. As an important economic indicator, personal consumption is, in every country, measured by gross domestic product. It is more likely to be recognized as a measure of national consumer spending. For example, it tells us how much residents of specific country spend on goods and services. Not only that, but it refers to incomes received by households in a country.





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Some of the incomes, such as personal incomes include compensation from various sources. They include salaries and wages, and present the important source of income, which highly affects the personal consumption. That is why it has been chosen for this research and it will be proved by sophisticated economic analyses. The correlation between incomes and consumption is the core of this research, because personal income has a large effect on total consumption. Through the statistical analysis on which this marketing research is based, will be shown what the nature of this correlation is. Is it positive or negative? Will the rise of one-income increase the consumption in total? Or they act in a way that increase of an income decreases the consumption? Not only that, but it will show how strong is their correlation. The changes of variables through time can be anticipated, so this allows us to make assertions about how income and consumption trends are changing. For example, the National statistical office of Montenegro (MONSTAT) creates personal income statistics each month and they can be compared to numbers from the previous months. It can be used on the level of annual data also, but for this purpose it will be adequate to use quarterly data for several reasons. First, it is long enough to create an appropriate representation of changes through time. On the other hand, it is not too long period, which is good for this research, due to its nature and purpose. It is also appropriate regarding the limitations set through academic rules.

Personal consumption estimated through National statistical office includes in data the changes of costs, incomes etc. With these changes included in data we can analyze how changes in personal income truly affect spending. For example, if there is a significant increase of some type of income, households may have more money in cash, but they will probably spend more on goods and services from basic consumer's basket. That is why income is the main instrument used in this research: income is the money that you receive as an individual or organization, perhaps business, in exchange for providing a good or service. It is the universal good that allows us to buy all other goods; it enables us to consume something we cannot create on our own, or is inefficient to do it personally.

As earlier has been mentioned, one of the incomes, which is used in this research to measure the relation with the consumption, is income from wages and salaries. The most expenditure is based on daily consumptions and they are provided through income from wages and salaries earned from a job, for most of the people aged under 65. In other words, their main source of income is exactly the job earnings. That is why it is included as an important indicator for evaluating trends of consumption.

For people aged above 65 in most of the countries their main source of income is from pension insurance. That is why it has been listed as the second variable important to understand the effects on personal consumption. As the economy moves up and down, analysts develop trends that help governments create their policies. Having in mind that the population is ageing, the big influence on political and economic trends has actions regarding part of the population that is retired. The reason is that they are (in European Union, also in Montenegro) the majority and can create the biggest influence through democratic system on the stability of economy on a macro level, and the most important fact, it





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will reflect on the households and their possible levels of consumption. So changes in population, policies and pension system are interdependent and influence the personal consumption.

There are many more factors, but for the purpose of the research there will be used two more variables which create important impact regarding objectives of this study. Those are the incomes from property and income from small business. The reason why they have been chosen is the clear movement of their values on a quarterly and yearly level, so they represent a good base for estimating the correlation between variables. For example, level of incomes from property has been changed a lot during the last decade, due to economy crises that decreased the level of their value around the end of the first decade of 21st century. National statistical office shows that these incomes are likely to be spent on basic goods and services, which are parts of total personal consumption. The incomes from property are still not stabilized if we compare them to the previous conditions of “healthier” economic environment, but it had many changes during the second decade of this century. This created impact big enough to be recognized in statistical reports over the years.

Every economy is based on a big number of small and medium sized businesses. Their effect on the economy is often only measured on the national level, but their reasons for start ups were not for the purpose of public interests. As for individual needs, businesses are created to satisfy the needs of their creators. Again, we are asking ourselves what is beneath the surface. The value, which entrepreneurs create directly, affects their possible levels of personal consumptions. Thus, it is an important factor to realize while measuring the consumption on the individual level, as well as on the level of households. In this research it will be used the data of average household consumptions on quarterly level, as well as the data of average income from small and medium sized business.

2.2. Background information

In 2010, respectable economists Tullio Jappelli (Director of the Center for Studies in Economics and Finance) and Luigi Pistafferi (Professor at Stanford University) wrote a research based policy analysis on the subject “The consumption response to income changes”. This research shows proofs from various sources and suggests if financial market arrangements and liquidity constraints are bidding, changes in income make a significant effect on consumption.

Their work has one different approach than mine, in a way that they support the idea that tax changes have a considerable impact on expenditure. It is reasonable to assume that, if we know that taxes are reducing our profits, wages and salaries, and that taxes increases bills of electricity, real estates, water etc. Simply put, taxes are fixed costs for services that countries serve. Depending on the level of fixed costs, we will have more or less money to spend on other services offered by nongovernmental subjects. Those expenses are the personal consumption. This research will not be focused on the factors that impact the income, but will examine in which level income affects personal consumption. The similarity of the research





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written by Jappelli and Pistaferri with this research are the economic conditions in which analysis are conducted. By economic conditions is meant on the period from 2008 until the year of 2015. This period is interesting because of the crises caused by shock on the financial market. It is clear that it had effects on income, especially on the incomes from property, business and wages. Thereafter the effect of income from pension came to place, due to changed governmental economic policies. That is why those incomes have been chosen for the research, because the economic period created fluctuations of incomes. Statistical analysis in the next chapters of this research will make that clear.

Last couple of years witnessed some level of economic recovery, so economists put focus again on the link between consumption and income. That is when Jappelli and Pistaferri started their research to measure past and after effects of different economic conditions. The connection between these two variables (income and consumption) is not new, but there is still a lack of precise answers on these questions: How does household consumption responds to changes in economic resources; how much the response depends on the level of changes? Those are the questions on which the research of mentioned, but the two authors did not offered answers; this research will quantify those effects.

Nevertheless, these two economists have examined household budget in a slightly different way. They have considered the effect of expected income on consumption. Most famous example of expected income is in the conditions of retirement. Their results were that expected income decreases consumption. There are psychological aspects of decision making which can be logical, for example, that younger people are more willing to take high risks and consume more because they have more time to recover from potential loses. This research will not go further to examine those effects, but will be based on concrete statistical facts and not on economic theories based on psychological effect, because they are more difficult to measure, due to unreliable data. Other outcomes of the past research on household budget, written by mentioned economists, are related to tax changes and what they depend on. Precise effects of tax changes depend on whether the policy is anticipated, whether taxes increase or decline, and are the change perceived as temporary or permanent.

Therefore, the differences in our approaches are in the idea that all changes of incomes are relative. They do depend on taxes, but it is not relevant for this research. On the other hand, tax changes are more permanent than temporary. They are applied in the system for at least months and can last for many years. So their research had challenge for empirical work at evaluating fiscal packages with the impacts of different tax policies which are implemented. To reflect their impact on the personal consumption, this research chose changes that are more dynamic.

In 2016, institution named “The PEW Charitable Trust” led a research and analysis on the subject “Household expenditures and income”. As explained above, it is not new to analyze relation between these two economic indicators, but every research is different in the approach and its objectives. The PEW’s research had a general focus on the household financial security. In that sense, it is common to pay





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attention to income, but their research also made effort to determine whether incomes are sufficient to cover expenses. Their methodology is based on the use of the Bureau of Labor Statistics' Consumer Expenditure Survey, in order to evaluate household consumption.

As in this research, they examined changes in consumption. Their research is based on a longer period, from 1996 to 2014. This research analyzes changes in the period from 2008 to 2015. But, this research uses quarterly data which gives more structural information. On the other hand, PEW's research details the differences in expenditures by every income separately, while this research creates an image of total personal consumption whose variability is analyzed through changes in every income. In other words, it examines the impact of all incomes on total personal consumption. Indirectly, through coefficients of correlations can be calculated the effect of every income on the consumption separately, but it won't be primal objective to this research. Other differences are obvious in the target population used for each research. The PEW's Charitable Trust institution focused on the working-age population, which includes survey respondents aged between 20 and 60. They also divided the sample into thirds. This research is primarily based on a statistical analysis of secondary data provided by the National statistical office. It also does not divide the sample in parts. While PEW's research was limited on a working population, this research will overcome that limitation. It is based on analysis of households, which includes households whose members are sometimes retired. That is why this research uses income from pension insurance as a variable to evaluate effects of wider types of households on personal consumption.

Now, there are some similarities between these researches. They both show changes of income and consumption after the period of crisis, reflecting economic turnovers of the country. The PEW's research examined household spending to show impact on family financial security over time. Their key findings include that overall median household expenditures grew by about 25% between 1996 and 2014. Results show that expenditures have returned to pre-crises levels, especially in the period of last three years. Assumption of this research is also that consumption has increased during the last years; in the next chapters of the research, through analysis, this will be explained and examined. It is logical that expenses have increased due to the economic recovering on a national and international level during the years, but this research will show what had the biggest influence on personal consumption. The PEW's research had another key finding, reflected in a result that although expenditures recovered from the downturn, income did not. It is very possible that incomes have not recovered from the period of crises, but only in some types of incomes!

Some markets, like real estate market in Montenegro, are still not on a high level of development, as they were around 12 years ago. However, this research will show that incomes show changes during the years or that they are stable enough to cover the expenses. In other words, as opponent to PEW's research it is based on assumption that incomes used in this research are big enough to cover the expenses. It is based on a methodology used by National statistical office in order to collect data, which are proven to cover at least minimal consumption, as a standard required by the European Union institutions and the





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World Health Organization. So, this research is not focused on the idea that incomes are not enough to support household consumption, but it is focused on determining which factors or types of incomes influence the consumption and at what level. Finally, the PEW's research focused on financial independence of households. Therefore, they examined categories of consumption such as food, housing and other living expenses. This research is based on the total personal consumption showing changes through variations in incomes and not through structural changes of consumption.

2.3. Hypothesis

This research has its objectives based on giving answers to four questions. These questions are formed as hypothesis, which marketing research based on statistical analysis will test:

1. Ho: Wages and salaries affect the total personal consumption
H1: Wages and salaries do not affect the total personal consumption
2. Ho: Income from property affects the total personal consumption
H1: Income from property does not affect the total personal consumption
3. Ho: Income from pension insurance affects the total personal consumption
H1: Income from pension insurance does not affect the total personal consumption
4. Ho: Income from small business affects the total personal consumption
H1: Income from small business does not affect the total personal consumption

Ho is the “null” hypothesis, which this research will try to prove. If the results are negative, for example in the first objective, it means that it is not correct that wages and salaries affect the total personal consumption. If this is the case, alternative hypothesis H1 is the statement following results will prove and that is the conclusion evaluated to be correct.

First it will be explained why these correlations have been assumed through observation method, based on logic, common sense and personal experience. Then the assumptions will be followed by statistical data through cross tabulations. Wages and salaries are the main financial resource for large majority of people. Around 5% of all people are considered as entrepreneurs. In other words, 5 of 100 people will be the ones who create companies and one part of rest of the people will work for them. Some people will work in private companies or the ones led by governments. But, in both cases their work as a price and they will gain wages and salaries. On the other hand, entrepreneurs will create profit. There is a difference in these two incomes and that is why the taxes are specially formed for wages and especially for profits. In addition, that is the reason why national statistical offices measure their values separately. Profits are usually much bigger than individual wage of a worker in the company that created the profit. So, they affect the economy more. However, if we combine all values of wages and salaries, they also make a significant impact on the economic system. Thus, it is not odd to hear that countries are based on small and medium sized enterprises. Because, everywhere around us we see markets, bars, shops, fashion houses, fast foods. We see products, services and somebody made them and put on the market for people to buy. For services, they provide they gain profits, wages and salaries. So consumption is possible because of the





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people and organizations who satisfy our needs in order to earn money. That is the core of the economy, so it clears why incomes from business, wages and salaries have been chosen to represent the background value of consumption.

Statistical units used for analysis in this research are households. That means that they have in average around three members. Two are usually the parents and other members are children. As the children grow up, parents earn money so they can have resources on which the consumption of the household is based. That money is mostly income like profit or salary. When years pass and children are mature citizens ready for the job market, parents are preparing for retirement. So, their income will change. At that time, they will receive money from pension insurance to cover their expenses. In the same time, their children made new, individual households whose main resources are wages and profits. But, there is another fact that should be considered. As many research institutions mention, the population of Europe is ageing. The average age in countries is getting higher and that is the case in Montenegro. According to the National statistical office of Montenegro, birth rate is decreasing. That partly proves the fact which politicians are aware of, that democratic process in this region is based on choices made by elders. Elders are the main market and there is a good probability that it is not much different on the economic markets. While parents and people in retirement create the money, products and services, it is obvious that children are only the consumers. As this is research that analyses the consumption through incomes which are created by more and more older population, it is clear that income from pension insurance can be a significant factor that affects the total personal consumption of households.

Apart of these three mentioned incomes, there are more ways to create resources necessary for covering the consumptions. Wages are often not enough to cover all of the expenses in the present time. On the other side, it is pointed out that only about 5% of population creates companies. So the question is: how else do people get the money? One answer is with the help of bank loans. Other way is through investments on the capital market. However, dividends are not often paid out and they assume some level of risk for the investors. On the other hand, bank loans also create costs. That money comes with the price and the interest is often not small, depending on the type of the loan and conditions of exchange. In Montenegro is not a rare way of earning money using the private property. Many people buy additional flat or land, so they can rent it or sell it. During the first several years of the new millennium, there were good opportunities in Montenegro to earn money through property. When the crises affected the economy, that market had big decreases of values and it became hard to use your property for financial purposes. But in recent years, especially in the year of 2015, many economists around the world noticed that the market is becoming dynamic again. Market in Montenegro also had some changes in the last decade, so using the income from property as a factor to explain variations in the level of consumption can be a useful tool. This is the reason that we can be surer of the correlation between variables and we can examine the effects due to the changes of one variable on the other one.





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Table no.1 *General tendencies of variables through time*

Year	Income from property	Income from insurance	Wages and salaries	Income from small business	Consumption
2015	Increase	Increase	Decrease	Increase	Decrease
2014	Decrease	Increase	Decrease	Increase	Increase
2013	Decrease	Increase	Increase	Decrease	Decrease
2012	Decrease	Decrease	Increase	Increase	Increase
2011	Increase	Increase	Decrease	Decrease	Decrease
2010	Decrease	Increase	Decrease	Decrease	Decrease
2009	Decrease	Decrease	Increase	Increase	Increase
2008	-	-	-	-	-

This cross table shows the variations of the variables by generalizing their changes. The data used from the National statistical office bases are presented on monthly level and in the statistical analysis in this research they have been edited in quarterly data. However, for the purpose of creating trends this table shows changes in bigger periods. Annual results show that income from property had decreases from year to year, which proves the economic condition of properties during the years of crises. As the birth rate in Montenegro has negative trend, this table shows clear results of government policies based on the population which they have to take care of. Wages and salaries had increases and decreases, which can be useful for examination of those effects on the personal consumption. Because, if the variables are likely to be more constant values, it would be small possibility to explain the variations of the dependant variable, which in this case is consumption. Income from business also has many changes, but their impact is greater than it can be seen through cross tabulation. Profits had enormous increases and their correlation with the consumption will be clearer in the next part of this research, using regression and other advanced statistical analyses. Nevertheless, we can already see that almost every change in the income from small business follows the change in the personal consumption.

Table no. 2 *Variables grouped according to general tendencies*

Number of variables	2015	2014	2013	2012	2011	2010	2009
Increased	3	3 ©	2	3 ©	2	1	3 ©
Decreased	2 ©	2	3 ©	2	3 ©	4 ©	2
Total	5	5	5	5	5	5	5

This table shows the logical movements of the dependant variable. The letter "C" represents the personal consumption. As it can be seen, in most of the cases, dependant variable followed the variations of the independent variables. When there are more variables whose annual results are seen as increases, the consumption was among those variables. While when the most variables resulted in decreased values, the consumption was almost in every case among those variables. So it can be already assumed that





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independent variables in this research affect the dependant variable. In other words, variations in the personal consumption are likely to be explained by variations in the four types of income.

Table no.3 *Growth rates of incomes and consumption on a yearly basis*

Year	Income from property	Income from insurance	Wages and salaries	Income from small business	Consumption
	Growth rate (%)				
2015	234.95	16.34	-3.45	15.41	-1.19
2014	-23.54	0.05	-4.91	347.34	19.46
2013	-51.47	26.82	16.49	-72.45	-0.13
2012	-67.15	-21.57	4.91	146.06	13.75
2011	243.64	25.16	-0.047	-12.35	-3.21
2010	-49.09	2.41	-6.33	-14.8	-7.83
2009	-16.03	-4.82	28.73	1057.81	2.15
2008	-	-	-	-	-

All of the data on which these cross tabulations are based will be used in the next parts of this research, while conducting the regression analysis. While first table showed only results in a form of trends, such as increases and decreases, this table shows the actual change of the values during the period use for this research. Changes are presented as growth rates, shown in percents and they are based on the calculating the variations in every variable independently. The growth rates are comparisons of the values between the certain year and its last year. For example, growth rate of income from pension insurance on the level of 25.16% show the increase compared to the value of that variable in the year of 2010. As the first year on which comparisons are made is the year 2008, there is no growth rates created for this year.

Table no. 3 can clearly show the mentioned changes in the income from small business. The first growth rate is enormous and it probably had positive impact on the variations in consumption. But, it looks like growth rate of consumption for the year 2009 does not accompany the huge variation as in the income from small business. It is possible that new big earnings are often saved for the later usage. Maybe that money crossed the national border and maybe it was used for investments, so that small business can become a big financial organization.

The positive impact of big changes in the income from small business can be also seen through growth rate for the year 2012. The independent variable again had dynamic variations, so it is very possible that the growth rate of 146.06% for the value of income from business made effect to the variations in the consumption, whose value also shows big increase on the level of 13.75%. Therefore, this table fulfills the relations shown in previous cross tabulations.





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2.4. Data collection

While conducting this research, several methods of data collection were applied. In general, most of the information is gathered online, by visiting web sites of famous economic institutions, national and international. The reason for this situation is that they are specialized in the field of economic research and offer free usage of data, which they have in possession. Those institutions follow international standards of data collection and they are obligated by law to perform such activities or they perform those activities as non-obligatory, but under the framework of legislative.

In the first part of the research, it was important to define what the subject is and which factor could be relevant for the usage in this research. Before using any public information offered by various organizations, observation and logic were used to evaluate the potential relations between numerous variables. Before entering the fieldwork and appliance of the techniques, understanding the theory is the most important factor for every research. For example, if you think about money supply many factors can be related to its values. However, not just that trying the analysis with many different factors can take too much time and money, but can also be irrelevant at the end. If we think that production in some industry can be crucial for determination of the value of money supply we can easily be wrong. Their correlation would probably exist, but more indirectly than directly and with the limited variations of money supply explained. If you are doing this kind of research, then it is important to understand the logic behind it, based on the economic theory. So, in this case it would seem more likely that active interest rates would have direct impact on the money supply. Why? Because, depending on the level of interest rates people will take certain quantity of money from the bank. Depending on interest rates, people will also give certain quantity of money to the bank. Therefore, the money will be created on that way and more money will circulate in the economy.

Following that logic based on observation of economic processes, variables have been chosen for this research. While thinking what would have a great impact on the consumption, it was significant to understand the theory behind it. What makes all of the consumptions possible? If “there is no free lunch”, we can imagine that there is a source for every consumption. Money is needed for buying products and services, which we consume during our entire lives. In addition, we are the civilization based on consumption. While industrial revolution created society based on production, we now live in the time where people are consumers before anything else. Post effects of industrial revolution created economic and living conditions in which we have too many options for every need. If you want to buy soda, you will have to choose between twenty brands in a store, or between hundreds of brands in the world. Nevertheless, economic logic behind it tells us that everything has a price. So the other side of the consumption is the resource. In this research, resources are shown through economic indicators such as incomes. Moreover, there are many types of incomes. You can get through working for a private company or the government, in which case you will gain salary. As every service has its price, so does the service of





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your work. In that sense, salary is nothing else but the price of work. On other hand, if you own a company you can earn profit, which is in the economic terms referred as income from business. Other types of income include dividends, gained from companies in which you are a partly owner. Also, there are ways to earn money from your property, receive pension if you are retired or receive money from various types of insurance.

So which incomes are best in defining the level of consumption? Leading the theory that a majority of the people in Montenegro is working population and people who are in retirement, incomes from pension insurance, wages and salaries are the main source, which covers the consumption. Since this research analyses the total personal consumption, it is wise to use more types of incomes. So the next types have been chosen by realizing through observation and through statistical results used from national and international organizations that big impact on consumption are created by incomes from business and property. Statistical reports of the National statistical office of Montenegro were the first science based evidence that property is a popular way of gaining money in Montenegro. Except for that, it is understandable and easily proved by many big economic organizations, national and international economies are based on the activities of small and medium sized businesses. Since there are much more small businesses in Montenegro, especially if we count domestic entrepreneurs, it was recognized by the National statistical office that income from small business specially creates an impact on the consumption.

All of the data that is used in this research is collected through reports of the statistical organizations. So it is important to realize which techniques lie behind those data collections. Methods used for collection are based on the usage of questionnaires conducted through interviews. There are many reasons why this was appropriate method and therefore, the data for this research. First, interviews for these data were done in person and by specially trained people to do that. Most of the data, especially for the regression analysis, are collected under the constitution of law, which guarantees a higher quality of the data collected. In comparison to the social networking where there is no verification of the information provided by the respondents.

Usage of questionnaires also has advantages for this research, because responses can be analyzed with quantitative methods by assigning numerical values. Having in mind that this research is based on statistics, numerical values are preferable. Also, data collection conducted by institutions which are tied to these activities by law, do the pretests which can be compared and analyzed. So that is one more evidence that attention to the quality of data has been paid.

Not only reports from statistical institutions have been used. For this research, another method of data collection was relevant. It refers to documents and records, also gained from government institutions. They consist of examining data in the form of databases, registers and financial records. They were important for identifying statistical units used for this research. Most of all, they were a good starting point for creating a new base of carefully chosen data. That database is a resource of statistical information, on





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which the regression analysis is conducted. In this research, the main method of examination and analysis is not based on questionnaires. Though questionnaires have been used by other institutions and their results were the secondary data used for this research, direct collection for regression analysis is based on creating the new database. The created database is based on reducing the statistical material on the level that is only important for the subject. For example, there were not used data for all types of incomes, but only for four types. Also, there were not used data about specific types of consumptions such as food, clothes etc. But, it is created on the selection of data which are in consensus to the objectives of this research and the hypothesis which have to be tested in order to get the expected results.

Documents and records are a good way for collection of data for this research, because first of all, it is a student project. So, the budget is very limited and this way of data collection is inexpensive, provides a good background information and may provide knowledge gained through times which are not noted by other means. Also, all other methods used for this research are based on secondary data. All the information has already been collected, processed and reported by other institution and this is the reason for those sources to be very advantageous. That not only can give an opportunity to review the data available for this project before potential collection of primary data, but also tells us which questions need to be addressed. Secondary data used for this research are appropriate for another reason, because their collection is based on fieldwork. On that way, the data need to be sufficiently descriptive. They must be factual, accurate and cleared from irrelevant information that can be gained through the process. So it is important for creating the database used for regression analysis. In addition, regression analysis has been a carefully chosen method for the research. Because, the essential results of this research will show what the relationship between the incomes and consumption is. In which extent their correlation is relevant, are the chosen incomes sufficient to explain the variations in the level of consumption during the years. By using these data and analysis, we will find what lies behind consumption and understand the households as main consumption units on the market.

2.5. Research and analysis evaluation

After starting the regression analysis in the SPSS program for four independent variables and one dependent variable it is required to explain obtained tables and graphs so we can understand the statistical analysis, regression model and the essence of this project.





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Tables number 4 and 5:

Variables in the model and the model of summarized statistics

Model	Variables Entered	Variables Removed	Method
1	Income from small business, Income from property, Wages and salaries, Income from pension insurance ^b		Enter

a. Dependent Variable: Personal consumption
b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.995 ^a	.990	.989	3926216.282	.990	671.535	4	27	.000

a. Predictors: (Constant), Income from small business, Income from property, Wages and salaries, Income from pension insurance

b. Dependent Variable: Personal consumption

Variables are entered by "Enter" method, which means that all entered variables remained in the regression model, which is based on a multiple regression equation, in which the independent variables are "Income from pension insurance", "Income from property", "Income from small business" and "Wages and salaries", while the dependent variable is "Personal consumption".

Table 2 shows main information about the validation of regression mode, and those are: Determination coefficient R Square, which is shown in the second column, amounts 0.995 which actually tells that 99.5% of variability in dependant variable "Personal consumption" is explained by variations in four independent variables entered in model. More precisely, these four independent variables explain 99.5% of "Personal consumption".

Sig. F Change amounts 0 which is lower than 0.05 and actually means that we should reject the null hypothesis H_0 , which presents the assertion of value of population and in this case represents assertion that adding new variables in the model cannot significantly affect the regression model, therefore cannot affect the R Square. Regarding that H_0 is rejected, conclusion is made that entering the new variables in the model can significantly affect an increase of determination coefficient.





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Tables no.6 and no.7
ANOVA table and Table of coefficients

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.141E+16	4	1.035E+16	671.535	.000 ^b
	Residual	4.162E+14	27	1.542E+13		
	Total	4.182E+16	31			

a. Dependent Variable: Personal consumption
b. Predictors: (Constant), Income from small business, Income from property, Wages and salaries, Income from pension insurance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-1683403.715	3825208.207		-.440	.663					
	Wages and salaries	.023	.137	.008	.169	.867	.871	.033	.003	.158	6.310
	Income from pension insurance	3.843	.226	.899	17.019	.000	.990	.956	.327	.132	7.565
	Income from property	12.285	3.916	.079	3.137	.004	.483	.517	.060	.583	1.715
	Income from small business	4.042	1.613	.075	2.506	.019	.735	.434	.048	.416	2.402

a. Dependent Variable: Personal consumption

By table 6 is tried to determine does at least one of the independent variables explain properly the dependent variable in the model. ANOVA table shows shares of explained and unexplained variations. The value of significance is Sig.= .000 which tells us that at least one independent variable in the model explains properly the dependent variable. Comparing the evaluated values of F test with the table value is also stepped up in the zone of rejecting the null hypothesis which states that neither one of the independent variables does not explain the dependant variable. So the conclusion through ANOVA table is that at least one independent variable explains properly the dependent variable.

Table of coefficients shows how much which independent variable in the model contributed to prediction of the value of dependent variable. Based on not standardized B coefficients in the table "Coefficients" is created a regression equation $Y^{\wedge} = .023 * X_1 + 3.843 * X_2 + 12.285 * X_3 + 4.042 * X_4$, where the independent variables are:

- X1 - Wages and salaries
- X2 - Income from pension insurance
- X3 - Income from property
- X4 - Income from small business





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While the dependant variable Y^{\wedge} is Personal consumption. Coefficient a amounts .023 and presents the value of dependant variable when the independent variables are equaled to zero. Coefficient b presents for how much will the dependant variable change if the independent variable X_2 is increased by 1 unit, while other independent variables stay unchanged. From the equation is clear that Income from property has the biggest influence on the Personal consumption and that if the Income from property is increased by 1 unit, there will be an increase of Personal consumption by 12.285 Euros. In addition, coefficient d amounts 4.042 and creates a positive effect on the personal consumption, meaning that the increase of profit will increase the personal consumption.

These results show that assumptions regarding the relations between the independent and dependent variables came true, meaning that there is a positive correlation among them. To create a proper image of the effects on personal consumption, these results are not obligatory and certainly not enough.

Before every explanation of results, we should do the logic tests first. For example, the equation shows that wages and salaries do not create a significant effect on the personal consumption. That is strange, because wages and salaries are the main type of income for majority of households. Not every household owns a business or property, so it is strange that the biggest effect on the consumption will have income from property. These variations can be explained by understanding the economic conditions, which could not have been included in this research. For example, real estate market had big changes during the last decade, which can result with the dynamic effects of incomes from property on the personal consumption. Also, every country is based on small and medium sized companies and it is logical that the increase of profits will be a step which leads to the increase of property purchases. Table of correlations will make it clearer whether these relations among variables are exactly as in the equation. With this more sophisticated instrument, can be shown more precise results of the statistical analysis.

Column Sig. for almost every independent variable is lower than 0.05 that shows that independent variable explains the dependant variable. That can be checked by individual t tests for every independent variable, where the t value of variables are in the zone of rejecting the null hypothesis, having in mind that H_0 states that coefficient B is equal to zero and that the independent variable does not explains the dependent variable. These results are in the same table as with the values of the coefficients of variables, so they should also be compared with the rest of the statistical results in the regression analysis.

Based on standardized coefficient Beta, the conclusion is made that the biggest effect on the Personal consumption is created by Income from pension insurance; regarding that absolute value of that coefficient is the highest (.899). This is a first sign that the impacts of independent variables on the dependent variable shown through equation are not the final results on which we can create the image of correlations among the variables. These results show that the biggest effect is not created by income from property, which can be more logical because the majority of population in Montenegro represents the people in retirement, so the variations in this value can create a significant effect on the total personal consumption of households.





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Still, as for the previous results obtained through equation, we should take in consideration the rest of the results before making a definitive conclusion. Table of correlations and graphs will complete the analysis.

Table of Coefficients shows some more results. Level of tolerance (Tolerance) shows if there is a multicollinearity and because in this case it is not lower than 0.1, coefficient shows that there is no problem of multicollinearity. In other words, there is no connection between the independent variables. That also shows VIF, which is obtained as a reciprocal value of level of tolerance. If the average VIF is not higher than 10 it proves the absence of problem of multicollinearity. So this is another assumption of the regression analysis which is satisfied.

Table no.8 Collinearity diagnostics

Collinearity Diagnostics ^a								
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Wages and salaries	Income from pension insurance	Income from property	Income from small business
1	1	4.787	1.000	.00	.00	.00	.00	.00
	2	.136	5.936	.04	.01	.00	.02	.33
	3	.039	11.033	.01	.04	.13	.48	.05
	4	.031	12.372	.90	.03	.02	.23	.04
	5	.007	26.238	.06	.92	.84	.27	.58

a. Dependent Variable: Personal consumption

In the table, Collinearity Diagnostics through column Condition Index is possible to additionally test if there is a problem of multicollinearity. If the value of this index is higher than 30, there is a multicollinearity. In this research, value of Condition Index for every variable is lower than 30 and according to these results, there is no problem of multicollinearity.

From the table 9 of residual statistics can be seen that the average value of residuals is equaled to zero, which represents another completed assumption of regression. Values of standardized residuals are in the interval from -1.535 to 1.288, which actually means that there is no extreme value bigger than 3 standard deviations which can significantly affect the regression. That also proves Cook's Distance, which if it is higher than 1 means that there is a individual value which affects the result of analysis, but in this case the maximum value of Cook's Distance is .102 which means that there is no such extreme value.





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Table no 9. *Residual Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	88893584.00	176469328.0	126453167.2	36591578.96	32
Std. Predicted Value	-1.026	1.367	.000	1.000	32
Standard Error of Predicted Value	985084.813	1697023.625	1337959.138	203535.980	32
Adjusted Predicted Value	90096592.00	175672112.0	126405109.1	36499411.72	32
Residual	-5253224.000	4409625.000	.000	3194098.038	32
Std. Residual	-1.535	1.288	.000	.933	32
Stud. Residual	-1.669	1.410	.006	1.020	32
Deleted Residual	-6212043.500	5395597.000	48058.086	3822630.713	32
Stud. Deleted Residual	-1.730	1.438	.007	1.030	32
Mahal. Distance	1.599	6.653	3.875	1.442	32
Cook's Distance	.000	.102	.040	.031	32
Centered Leverage Value	.052	.215	.125	.047	32

a. Dependent Variable: Personal consumption

Table no. 10 *Correlations*

		Personal consumption	Wages and salaries	Income from pension insurance	Income from property	Income from small business
Pearson Correlation	Personal consumption	1.000	.871	.990	.483	.735
	Wages and salaries	.871	1.000	.869	.569	.497
	Income from pension insurance	.990	.869	1.000	.414	.698
	Income from property	.483	.569	.414	1.000	.372
	Income from small business	.735	.497	.698	.372	1.000
Sig. (1-tailed)	Personal consumption	.	.000	.000	.003	.000
	Wages and salaries	.000	.	.000	.000	.002
	Income from pension insurance	.000	.000	.	.009	.000
	Income from property	.003	.000	.009	.	.018
	Income from small business	.000	.002	.000	.018	.
N	Personal consumption	32	32	32	32	32
	Wages and salaries	32	32	32	32	32
	Income from pension insurance	32	32	32	32	32
	Income from property	32	32	32	32	32
	Income from small business	32	32	32	32	32





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Table of correlations shows more precisely how do the independent variables affect the dependent variable. Some of the results are significantly different compared to the results obtained through regression equation. For example, wages and salaries have clearly bigger impact. Actually, 87.1% of variations in the dependent variable are explained by variations in Wages and salaries. In other terms, Wages and salaries explain almost 90% of the value of Personal consumption, thus is clear that this independent variable should stay in the model. As it was assumed above, it is not logical that income from property should have that big impact on personal consumption.

Table of correlations shows that around half of the variations in the Personal consumption are explained by variations in the Income from property. Although, these results do not mean that we should only take them in consideration. While making a conclusion, we should consider the results of the equation, correlations and other tables, along with the graphs results, which will be represented in this research. According to the results, the income from pension insurance has actually a big impact on the Personal consumption. Due to the assumed impact regarding the majority of people in Montenegro, which are retired people, table of correlations shows that exactly 99% of variations in the Personal consumption can be explained by variations in the Income from pension insurance.

As predicted profits create big impact on consumption, due to the evaluation that the economy of countries like Montenegro are based on small businesses, table of correlations shows that 73.5% of variations in dependent variable can be explained by variations in independent variable. In other words, 73.5% of the value of Personal consumption can be explained by the value of Income from small business.

In combination with the results from rest of the tests conducted in this analysis, every independent variable is good in explaining the value of the dependent variable "Personal consumption", thus it is wise to keep these independent variables in the model. They have not only passed the correlations test, but also the various multicollinearity tests, as well as the ANOVA test and summarized statistics model, which shows that this model is valid for estimation of the dependent variable.

One more assumption that should be completed is existence of normal distribution of standardized residuals. That assumption can be tested by Histogram and P-P diagram of standardized residuals (Graph 1).

According to Histogram, normal distribution of standardized residuals is questionable, because there are clear deviations from expected value, so additional testing of normality is required.





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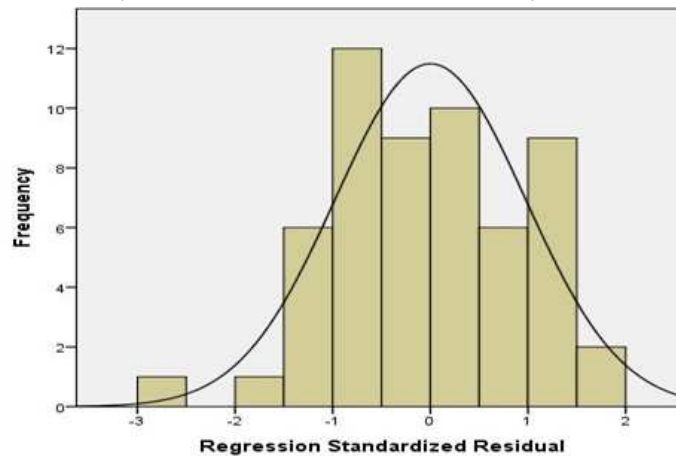
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Graph no.1 *Histogram*

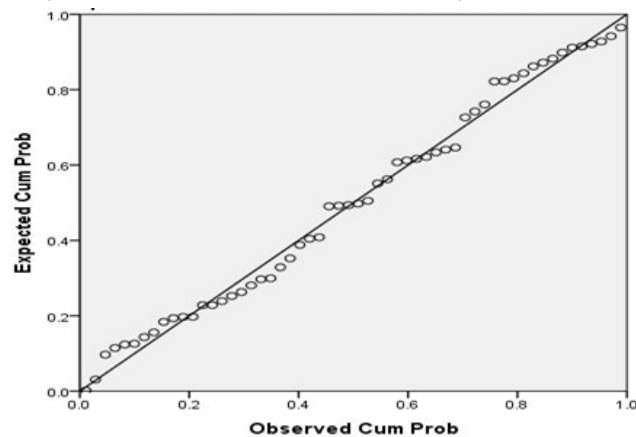
Dependent Variable: Personal Consumption



Graph no.2

Normal P-P plot of regression standardized residual

Dependent Variable: Personal Consumption



P-P diagram gives a clearer image of normality of standardized residuals. If the individual values are distributed on the line of regression, or in the mild cases very close to the line of regression, it can be claimed that there is a normality of standardized residuals. In this case, individual values are very close to the line of regression and it can be assumed that the normality exists. But, the best solution is to start the test of normality which gives the concrete results about the given subject.





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Table no.11 *Tests of normality*

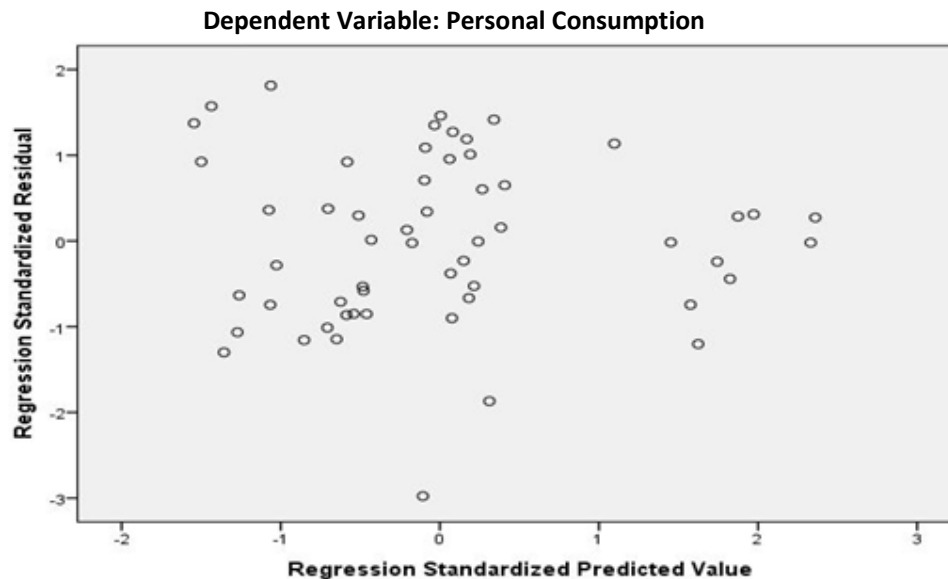
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	.079	56	.200*	.972	56	.224

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Through conduction of Kolmogorov-Smirnov and Shapiro-Wilk tests of normality, can be correctly determine if certain variable is normally distributed. The null hypothesis H_0 of this test defines that there is a normal distribution of certain variable and if the column Sig. is lower than 0.05, the null hypothesis is rejected, so it states that normal distribution of variable does not exists. In this test, value of coefficient Sig. is in both cases higher than the critical value, which actually proves the theory that the normal distribution of the examined variable exists. In other words, the assumption of the normality of standardized residuals is proved and completed.

Graph no.3 *Scatterplot diagram*





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The last assumption that is left to test is the equality of the variances of residuals, in other terms the existence of homoscedasticity. Homoscedasticity is tested by Scatterplot diagram where if there is a dispersion of data in the diagram, in other words if there cannot be noticed any correctness (order, scheduled data) that means that the homoscedasticity exists. In this case, it could not be determined any order of the data, so the homoscedasticity do exists and variances of residuals are the same for all values of the dependent variable.

After testing all assumptions of linear regression and conducting the entire analysis, it can be concluded that the given regression is correct and the obtained results are valid. Logical expectations from the beginning of the research about the direction of movements of relations between the dependent and independent variables came true. In other words, all null hypotheses have been proved so the objectives are now achieved.

2.6. Ethics

Data used for this statistical research are gained through public access to information provided by the National statistical office of Montenegro. Since this research is based on households as statistical units, the primary data had been obtained through interviewing. These data are official secret and every participant in the survey must respect this. As a student/researcher, I do not have the possibility to access the filled questionnaires, neither any other person who was not officially included in conducting the survey. These data are hidden in safe places, so they cannot be seen in a public building or some form of transportation used for transfer of data between the institutions, which form the national statistical system. All data collected from the individual households and their members are confidential. While collecting the data, all respondents are informed that the confidentiality of these data is guaranteed. The data on an individual level cannot be accessed, because the results obtained through interviewing are published on the aggregated level. That is how the presentation of individual data is disabled.

The Law on Statistics and Statistical System of Montenegro regulates the standards regarding the confidentiality and protection of statistical data. There are several institutions responsible for production and publication of data and they are all obligated to respect the standards of confidentiality and protection of statistical data. The essence of this law is the principle on which is based on, that personal data must be used exclusively for statistical purposes. In the respect of this principle, statistical confidentiality represents the protection of data related to individual statistical unit. In addition, statistical units from which the primary data are collected have been chosen only for statistical purposes. For secondary data, if the data are obtained indirectly from administrative or other sources, the law still has to be respected. That means that the protection from using data in non-statistical purposes and unlawful publications is provided. Although, this principle of statistical confidentiality does not apply to the statistical data on public administration bodies. Since this is a student research, conducted through usage of public information, all





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the activities have been completed with the respect of the Law on Statistics and Statistical System of Montenegro.

Based on this law regarding the confidentiality of individual data on the natural or legal persons are represented as an official secret. This means that direct or indirect identification of natural or legal persons is not allowed and possible. In the purpose of providing this service quality, all measures of administrative, technical or organizational nature are undertaken. These activities are needed for the protection from unlawful access, disclosure or use. These standards are guaranteed during the implementation of many big statistical actions, such as census of population, dwellings, agricultural census. Also, these standards are respected during the collection, classification, processing, analyses and publications of data for household budget and thus, for the household consumption survey. While conducting these activities enumerators, instructors, controllers and other persons involved in the statistical process keep confidential all information obtained through interviewing.

In the end, while processing data, interviewed persons' name and surname are not captured in. Until the processing is completed, the data are kept properly and stored safely. When the statistical project is finished, all the questionnaires and hard copy forms of data are destroyed, so there are only public information on aggregated level, provided through the national statistical system, from which the data for this research have been used.

3. Target audience

While constructing the research, first it was important to determine which part of the population is significant for examination. The basic statistical units used for this research are households. Data on which the analysis is based are collected from the National statistical office of Montenegro. The statistical office collected the data through survey method and their survey unit was any sampled household. That means that households constituted of one or more persons were valid for research. The term “household” is talking about a group of persons living together or a person who lives alone in a separate housing unit. What is important is the relationship inside the household. For example, a household consisted of several persons is valid for this research if the members are spending their income on food and other crucial products and services, necessary for living. These households are usually families. On the other hand, if a household consists in one person who lives in a separated housing unit, it is valid for research if the person is spending his/her income separately.

Household structure is flexible. Its members can be temporarily absent for many reasons. For example, if the member is serving the military or is in prison less than 12 months, it is covered by the survey. It is the same for students; they are counted in the household regardless of the period of absence during the studies. Also, if the member of household is absent due to work responsibilities, it won't exclude the member from survey if the member is not abroad for period longer than 12 months. The essential to this





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method is the finance that is bounded to the household. Therefore, the members must spend their incomes on food and other essentials together.

If some members do not participate in group expenditures, then they are analyzed as a separate household inside the housing unit. That means that all members share the housing unit, but have separate incomes and consumptions. For example, it is common that student roommates represent this type of statistical unit. There are more exclusions from the survey except from the time limitation of their absence. Members of so called collective households are not relevant for this research. Collective households mean it on hospitals, schools, prisons, private, government and religious institutions, etc. The main reason for them not being valid is that these persons have no fixed residence. Only in cases when person stays in the collective household less than six months and is financially linked to the household can be covered by the survey. Also, guests and similar persons who are only temporarily present are not relevant for this research and are not covered by the survey conducted by the National statistical office.

4. Conclusions

All statistical units important for this research are based on households on the territory of Montenegro. Data collected through survey is conducted for all parts of the country, rural and urban areas. This data collection is conducting during the entire observed year (from 1 January to 31 December). Relevant information for this research and the household budget survey are related to income and consumption. During this time any household is observed for a month. The analysis of the household includes behavior through calculating the expenses and incomes. Every year, around 192 197 households are estimated. After the collection, the data are processed. In the end an average value of their incomes and consumptions is created.

All parts of the household budget survey are conducted with the appliance of the standards of EUROSTAT, statistical office of European Union, while also respecting the standards of International labor organization. The survey applies the method of keeping diary and interview method. Interviewing households is based on questionnaire. It is important to know that a household keeps the diary about their consumption for the period of one month. Specially trained interviewers do all of the parts of data collection based on the questionnaire. In order to provide assistance to data collection they are strongly advised to make at least three visits to a household.

While choosing the right target audience it was crucial to understand that research is based on all residents in Montenegro. The sampling was created with the consideration of number of people in Montenegro, as well as with their financial flows related to this territory and financial obligations inside the households as statistical units.





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Ethical Universities of Integrity and Ethics Management in the Romanian University Environment

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Abstract. The paper shows that, now, the University is an institution whose goals, valid for each of its members, include development and professional affirmation, the evolution of knowledge and research in the conditions of respect for the rule of law and human rights. The University respects the dignity of each of its members and promotes academic integrity on ethical principles. Its members are committed to contributing to the democratic development and prosperity of society. The values and principles that universities promote in particular, and whose actual achievement is sought to ensure, are: academic freedom, personal autonomy, justice and equity, merit, professionalism, honesty and intellectual integrity, transparency, respect and tolerance, responsibility, goodwill and care. The management of ethics in the academic environment is the coordination of all elements related to the moral life of a university. "Institutionalization of ethics" in academia is a new reality for which we must be prepared. I believe that, the last decades have insistently imposed on public awareness the importance of taking into account the ethical dimension of the life of universities. Ethical codes, ethics committees, ethical audits, ethical education of staff, techniques to create an institutional culture of a moral nature have all become increasingly widespread.

Keywords: ethics management, applied ethics, academic integrity, ethical training, the state of immorality in the academic environment

JEL Codes: I21, I23

1. Introduction in the historical background and evolution of ethics management in the university environment

Concerns about improving morality are surprisingly old, and they have always been the mark of the civilized world. In modern times, there is the temptation to neglect such civic engagements and public programs of moral improvement. We still have the illusion that ethics can be reduced to spontaneous compliance with laws and regulations.

Philosophers of morality have always been interested in the usefulness and applicability of their theories. Studying the theories of some authors such as Kant, Mill, or Hare, any student was able to see the emphasis they put on "apps" - procedures first, viewed as exercises, to show that theory works.



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The etymology of the ethical word derives from the Greek ethos that originally defined the customs in general, but today it is reduced only to the meaning of moral customs. Ethos also mentions the moral profile of the human community, the morale of the groups.

The applied ethics deals with contextualization, problem solving of concrete situations, thus is providing accurate moral guidance. It deals with the study of controversial issues of contemporary society, in fields such as university ethics, pedagogical ethics, bioethics etc. Focused on the study of deviations from the traditional principles of morality, the applied ethics aims to broaden the thematic field of ethics and limit generality, thus providing answers about the concrete life of a person or a distinct community, such as the academic environment.

In recent years, the importance of taking into account the ethical dimension of academic life has been strongly imposed on public consciousness. Ethical codes, ethics committees, ethical audit, ethical education of staff, techniques to create an academic culture of moral nature have become more and more widespread. "Institutionalizing university ethics" is a new reality. The various "ethical content" in the academic world has begun to force new theoretical refinements, simply generating a new branch of management - the management of university ethics.

Management of ethics in the university environment as a management discipline deals with the development of those leadership tools that contribute to the ethical development of a university as well as those methods that can be used to determine the direction in which the academia should develop. The management of ethics in the university environment presupposes the description and analysis of the current ethical situation through "ethical audit", i.e. by assessing the state of "ethical content" of the academic environment, determining the desirable situation and deciding on the measures to be taken in perfect harmony with the other forms of management (e.g. "ethical development of the university"). Management of ethics in the university environment is the result of the increasingly visible imprinting of the academic environment with responsibility / morality, regarded as an indispensable condition of their existence. A university demonstrates moral responsibility when it subordinates its interests to the interests of its clients, the students.

In this context, ethics management in the university environment is represented by all the activities and measures that follow the institutional organization of ethics for the creation of integrated universities.

Not to confuse ethics management with ethics of management or management ethics, i.e. the study and control of ethical issues raised by different forms of management - strategic management, quality management, social management, etc.

The management of ethics in the university is altogether different. This represents a new branch of management of an educational institution. It must also be distinguished from "academic ethics" in the broad sense, that is, from the traditional analysis of ethical issues in universities to provide normative clarifications and moral guidance, using various ethical theories and analytical tools provided by the philosophy of morality.

Academic ethics is an area at the intersection between ethics of research, ethics management in the academic environment and the professional deontology of the researcher or professor. The concerns possibly circumscribed in this area are far from being a recent development (since the dawn of modernity, ethical debates about the correlative debts of teachers and students, or topics such as the moral



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acceptability of the use of corpses for the development of medical knowledge). Although, there has been a significant autonomy in the last 20-25 years, especially as a result of the need to respond theoretically to requirements arising from research and education funding bodies as well as from public opinion. Thus, dedicated journals have appeared or consolidated (the most well known is probably the Journal of Academic Ethics, edited at Springer), and several books or compendia have been published.

According to Ronald Jeurissen's opinion, ethics management in the university environment aims to improve decision-making processes, procedures and academic structures, so that academic activities are as much as possible linked to ethical principles. The tools used are ethical codes, ethical audit, and other strategies to lead a university on the path of morality. According to Donald Menzel, ethics management in the academic environment does not consist of controlling and penalizing the behavior of academic staff or reflecting on the ethics of the academic workplace. It is rather the set of actions taken by deans or vice-rectors to stimulate the formation of a moral conscience and an ethical sensitivity capable of impregnating all aspects of university activity. This type of ethics management in the university environment is to promote and maintain a strong ethical culture in the workplace in the academic environment.

The experience of ethics management in the world's universities is short-lived, about two to three decades, but some models of university ethics have been proposed. Some authors speak of four stages in the evolution of ethics management in the university environment, namely: the initial stage, ethical awareness, the stage of ethical reasoning, consisting of procedures and criteria for decision-making, the stage of ethical action and the stage of ethical leadership, promoting employment and ethical culture.

At this moment, in Romania, ethics in higher education is approached as "something to be done", being imposed by normative acts. Therefore, most Romanian universities aim at fulfilling the minimum standards imposed by specific methodologies, the effects of which are relatively low. Compliance with national standards leads to uniformity, compliance. However, we consider that a voluntary approach to ethics management in the higher education system is necessary in order to increase the competitiveness of the system. The elements of ethics management in the university environment must be acknowledged and assumed by each academic member of the academic environment.

University ethics management must offer the opportunity to exchange good practices and promote both traditional European values, such as solidarity, cooperation, freedom, tolerance, efficiency, respect for human rights and the principles of ethics management, and of total quality. All these are materialized in orientation towards students, the internalization of student-faculty/university relationship, the quality of primary education, continuous improvement of teaching methods, system vision and data argumentation.

The effectiveness of ethics management in the academic environment, generally speaking, depends on the university's ability to exploit all types of information, namely all communication channels, both formal and informal, thus building an open ethic culture university. This is fundamental in the university environment where the construction of an "ethical learning community" calls for the presence of efficient information networks - supported both by structural platforms and by individual efforts.



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2. Ethics management in the Romanian academic environment

D. Menzel believes that, in order to build "ethical universities of integrity," we are forced to rely on ethics management in the university environment, which can acquire four types of strategic approach. The first is the compliance-based strategy, i.e. the formulation and enforcement of ethical rules in the academic environment. The second is the cost-inclusion strategy, a vision that treats unethical actions as a cost factor, which must be reduced, minimized or eliminated. The third is the learning strategy, where the emphasis is on ethical training processes and assimilation of ethical provisions. The fourth is the strategy of creating an academic culture of a moral nature. This is considered the most promising of all, assuming the others.

Interesting is also the list of "tools at the disposal of ethics managers in the academia", tools to help build ethical universities of integrity. These tools are a moral exemplary leadership team; ethical training in the university; the existence and implementation of ethical codes at the academic level; professional vows; ethical audit, human resources management (teachers) respecting ethical criteria at academic level; moral counselors.

Ethical training is considered the most important method of the above, and the means of enforcing morality (signing an oath, assessing performance, penalizing, etc.) have the least importance in determining staff to comply with ethical rules, contrary to the common viewpoint that the enforcement and sanctioning mechanisms are most effective. This conclusion confirms the idea of Kantian origin that ethical rules should not be imposed but self-imposed autonomously.

G. Rossouw and L. van Vuuren present an interesting evolutionary point of view, which starts from the finding by several experts that "universities are experiencing a process of evolution in order to increase their sophistication in terms of ethical performance management." The two authors identify five stages of this process, five stages of academic ethics management evolution, each representing the preferred strategy of universities to think about the management of their ethical lives, starting with the total ignorance of this dimension and going as far as that in which it is fully integrated into all academic activities.

1. The first stage of ethics management in the university environment is the state of immorality (the immoral), the total ignorance of the ethical dimension of a university's life. At this stage, universities are usually immoral and believe ethics is something that does not concern them. All these "immoral" universities are at a precarious level of integrating ethical values. Their ethics management strategy in the academic environment is a primitive utilitarian, requiring the making of decisions that are of benefit to as many students as possible (to maximize good) regardless of the means used. Such a rudimentary model of pseudo-management of ethics in academia has its own risks. History has shown that at some point the financial consequences of immorality can become fatal. Once the student has lost confidence in his academic institution providing educational services, it is virtually impossible to regain it. Then there may be a rupture between the moral culture of the university and the ethical preferences of a part of the students - which may generate their migration or their staying in a state of dissatisfaction. However, this latent dissatisfaction may explode on the first public scandal. After that, it will produce the collapse of the university. The risk of scandal in "immoral" universities is extremely high. Relationships with deceived students can also gradually deteriorate to a level where they are irreparable, causing university collapse.



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2. A higher stage of ethics management in the academic environment is the reactive academic stage. At this stage, university management (rector, vice-rectors, university senate, deans or department managers) realizes that something must be done to avoid the risk of unethical behavior. For them, these risks are real. Nevertheless, their ethical competence is very absent. Such universities are convinced that a display of moral commitment (the presence of a set of moral values) will create an appropriate context for ethical behavior at the academic level. These universities claim to be ethical without ensuring their management's compliance with the set of ethical standards. They have formally adopted ethical codes, but do nothing with them. This is in fact a proof of incapacity to do ethics management in the university environment, and therefore immoral behaviors prevail in these institutions. However, such behaviors are usually unpunished because there is no culture of evil represented by them. Universities at this stage are apparently sensitive to threats from unethical behaviors and formulate to them behavioral standards and moral codes. Like the immoral universities, those in the reactive state are very susceptible to scandal - easy to trigger as long as there is a big gap between ethical standards and real behavior. Formal gestures do not convince the teachers or the students, and the lack of confidence can thus advance to fatal levels ("I do not want to learn in Romanian universities", "I do not want to follow a master program in Romania"). Because the mere existence of codes does not guarantee moral behavior, what would otherwise be required is a more proactive managerial attitude, an effective ethical commitment to universities.

3. The ethical academic compliance standard satisfies this requirement for effective ethical commitment to universities. The third stage in the evolution of ethics management in academia means consciously engaging universities in monitoring and managing their ethical performance. Instead of having an academic code of ethics in order to reassure students and teachers, the code becomes the standard in which the university measures its own ethical performance. The Code is applied through disciplinary measures and penalties that are being pursued by the administration. Management's aim here is to prevent unethical behavior and eliminate costs associated with it, i.e. behaviors that affect the reputation of the university, such as scandals, poor quality of educational services provided or fraud. It is known that a good ethical reputation attracts students who have become more and more attentive to ethical details. Ethically compliant universities are explicitly committed to regulating academic ethics and eradicating unethical behavior. They periodically review their ethical code to adapt it to the circumstances. To be effective, the establishment of a managerial function to guide its compliance process must accompany this code. An „office of ethics” or compliance office (ethics desk) can ensure this. The managerial process of ethics in academia can be even more complex and include ethical auditing and regular public reporting of the university's ethical performance. The disadvantage of the compliance strategy is that the ethical standards of the university are imposed from the outside, which diminishes the moral autonomy and responsibility of the teaching staff. This type of management poses the risk of bureaucratization, artificially multiplying the rules, and obsession with imposing them through penalties. That is how we find in such ethical codes a substantial chapter of administrative, even penal sanctions, and the functions of the ethics committees are reduced to one: the resolution of disputes.

4. The stage of ethical academic integrity is the one that assures an internalization of ethical values and standards in the academic environment. Instead of pursuing their imposition from the outside, the subjective commitment of staff is pursued in relation to a multitude of values that are specific to the educational institution and define it (academic ethics "integrity"). Along with this, it enters the special field



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- which requires a special managerial competence - of "value training and value engagement" in a university. Its goal is not only profit, but also raising the level of ethical academic performance, but not by penalizing unethical academic behavior, but by encouraging ethical academic behavior. Universities engage on this path when they realize that ethical academic performance is of strategic importance and is a favourable factor in the competition on the university market. The managerial strategy specific to this stage is one that facilitates the internalization of ethical academic standards to all members of academic life. Such a strategy starts with a comprehensive diagnosis of the ethical culture of the university. It promotes the discussion of the ethical aspects of university life, and believes that the model offered by moral academic leaders is decisive. The training of staff capable of making informed ethical decisions - their training on ethical academic decision-making methods - as well as the emphasis on reward rather than penalty is also characteristics of universities in this stage of development. Internalizing values has the effect that teachers have the task and the ability to do ethics management in each of their academic backgrounds.

5. In time, there is a profound transformation in academic culture - an "ethics management in the transformational academic environment". The stage of total alignment is characterized by the integration of ethics into the purpose, mission and goals of the university. Ethics is no longer seen as one of the aspects of academic life that must also be led, but it is an integral part of the university without which it cannot fulfill its purpose and mission. Ethical academic thought is considered to be of strategic importance, and unethical academic behavior is seen not only as a threat to the success of the university, but also as a very rationale of being the institution subvert. The goal of ethics management in the university environment is to strengthen academic morals as an essential part of the university's culture and purpose. The University will also create a specific managerial position (a director with ethical issues) and an ethics committee, but its specificity is that all university management must play a role in this process, and this means that it must integrate ethics into the structure of their own academic management. Managerial accountability for university ethics is no longer limited to a special ethical function (an office), but dispersed throughout the university and at all its managerial levels (rector, dean, departmental directors). Such a university will not focus on punishing unethical academic behaviors, nor on rewarding ethical ones, but on celebrating those who become personalities of academic life and who embodies the vision, purpose and moral commitments of the university. Ethical commitment becomes a second nature of its members.

3. The academic Romanian learning system as a state of fact

The description of Rossouw and van Vuuren's five stages of evolution of ethics management can be a useful tool in raising awareness of the differences between ethics management in universities across universities, helping to sketch the direction of its evolution.

As a conclusion, we can say that there is an ethical code in all Romanian universities because they all responded to an order of the minister of education. Therefore, the ethical codes were not created to meet a need, but a requirement. However, the codes are made in most cases by colleagues in the academic world and not by some people specializing in management, which is why their amateur character is often flagrant. Professional academic managers who exist in English and American universities, etc. are trained through a specific training and have extensive knowledge of how to make a university budget, how to make



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a strategic plan, how to ensure quality in the university, etc. The difference is in the hard reality of inter-university competition, and this difference is enormous.

In this context, we obviously ask ourselves whether there have been instruments and tools for the application of these codes. To this question, the answer is rather negative. In addition, that's why. Codes can be put into operation and developed by Ethics Committees where there are experts in ethical decision-making methods. Committees exist in all universities, but unfortunately, most are focused exclusively on litigation, not on the application or development of the code of ethics. For example, ethical training - even compliance - is such a means of implementation. At the academic level, many universities say that there is an ethical training with teachers, but often teachers say they have been personally involved in such an activity, but they are done all in a hurry. The dedicated phone line, designed to provide feedback from the organization's staff, does not exist in the vast majority of universities, although it is desirable. At the end of it there should be moral consultants and consultancy activities, but they do not exist and the attitude towards their usefulness is rather reserved. Ethical audit activities were rarely conducted in the Romanian academic environment. Or if they are made, they often appear only in documentation. The inclusion of ethical academic restrictions in the strategic plan is rather absent, as the strategic plan is rather formal. Also, in our country, ethical debates around ethical issues of the university are not encouraged. At the same time, ethical criteria are not part of the promotion grid. The majority impression is that there is an ethical organizational culture, but lack of ethical training, moral complaints, ethical discussion, or ethics insertion into university management makes this answer problematic. One good thing is that a plurality of ethical visions, not just the Christian one, is becoming aware and accepted. So there are formal codes and ethical committees, but the means to implement moral norms are extremely fragile.

It could be argued that moral issues are considered as important for universities, since we believe that compliance with ethical standards is in the benefit of the educational institution and that the university has moral obligations to young people who appeal to it. At the same time, ethical criteria for hiring are spontaneously used (references from the university where the teacher had been previously employed). It is also to be recognized that there are still, occasionally, significant moral problems in universities (giving and taking bribes to exams, sexual harassment, plagiarism, etc.), and that often immoral behaviors are often claimed, that both teachers and administrative staff (secretaries, cashier, technical-sound service, service staff) can still be educated morally. We believe there is an organizational culture conducive to ethics, although there is no exercise in the debate on ethical issues in academia.

4. Conclusion:

We consider some examples of priority ethical themes for Romanian universities, so for the ethical training, which can take place there. Here is the examples: living and taking bribe at exams; sexual harassment; private use or appropriation of goods from the university's patrimony; drinking alcohol during the program; plagiarism; conflict of interest; influence traffic (promotions etc.); verbal aggressiveness in some professors and students; arrogant treatment of students; nepotism in employment and students' grades; misogynism; violation of the right to confidentiality; student stigmatization to provide material advantages.

Romanian universities seem to be between the reactive and the compliance levels. The development of critical, autonomous moral thinking or the assimilation of ethical decision-making methods are not explicit



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goals, and there is neither the exercise of public moral debates nor the integration of moral criteria into university management. In conclusion, Romanian universities are in the best case at the level of compliance, with variations from one university to another. It is a more declarative stage of ethical evolution, in which was made a first ethical code exercises, generally, having an educational function, and it is not mandatory. However, the general attitude is favorable to recognizing the existence of moral issues in universities, its importance and complexity, which requires skilled people, although there are great reservations about accepting specialists dedicated to this issue or "moral counselors". "Collegial" style also seems to be preferred in solving this problem.

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Mountain law and climate change

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Abstract: This paper presents 22 indicators used to highlight the actual global warming trends. The indicators are the outputs of a detailed research activities performed by scientists from all over the world. These 22 indicators were divided into eight separate categories: atmosphere and climate; glaciers, snow and ice; marine systems; terrestrial ecosystems and biodiversity; water; agriculture; economy; human health. Some specific mountain area aspects are relieved with Mountain Law in Romania.

Keywords: global warming, climate indicators, climate change, mountain area, mountain law, Blue Economy

JEL Codes: F01, I00, K19, Q01, Q57

1. Blue Economy and the main causes of global heating

The complexity of the 21st Century society and economy is also the most important source of vulnerability. Man, as a social entity through his enormous ability to organize society has been able to endanger man precisely as a biological entity. This society and the economy on which it relies depend on fossil energy resources. These resources, as well as many other resources that we use today, are exhaustible and this makes unsustainable permanent economic growth. Scientists have demonstrated this and are looking for solutions to avoid a deep crisis. One of the absurdities of the modern era is the fact that valuable materials are considered waste, these materials should serve as raw materials in a new production cycle [15]. Production systems should work like natural systems, where nothing is lost, all materials are reused in a cyclical system.

An attempt to find a solution was the "green economy" model, which tried to reduce pollutant and greenhouse gas emissions parallel to job creation through private and public sector investments. But the green economy proved to be very costly and it turned out that it did not solve the problems of the system. But there was another try: the blue economy. In Gunter Pauli's book "The Blue Economy: 10 years - 100 innovations - 100 million jobs" [8], an economic model is presented that transforms society's abundance into abundance by treating it - a different way and from a new perspective of the big issues that cause environmental problems.



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According to this business model, seemingly individual environmental problems can be linked with scientific solutions based on nature's inspiration and mechanisms can be created that are beneficial to the environment and also bring economic and social benefits.

The basic idea of this economic model is that entrepreneurs can create economic benefits by creating jobs, reducing energy use, increasing benefits at every stage of the process, and engaging the community [10].

Health geographer Ronan Foley [11] asks for a broader effort to value the blue: by incorporating health, well-being and wider cultural practices; by opening up the ontology to an ethically framed duty of care; as well as the emotional and affective power of blue (all themes familiar to human geographers); and adds psychotherapeutic geographies and legal geographies (legitimation, ownership) to the mix. Perhaps most pertinent to our mountains to seas argument is his promotion of an ethical care perspective [12].

The global warming trend of recent years is due to the "greenhouse effect" induced by additional generation in the atmosphere as a result of human activities, gases naturally occurring in the environment and to some extent in the ozone. Water vapor also contributes to the greenhouse effect. Normally, the solar radiation once reached the surface of the earth, is reflected in part, reaching the cosmic space again. The additional presence of greenhouse gases in the atmosphere has the effect of successively reflecting the sun's radiant heat, thereby contributing to the global warming of the atmosphere. The latest data indicate an increase in the average global temperature of 0.7 ° C [4]. A similar phenomenon occurs in heliothermal lakes. The most famous example in our country is the Ursu Lake from Sovata. The salty lake created by the natural barrier of the course of the Criș-Toplitză and Auriu streams is covered on the surface by a film of a few millimeters of fresh water from the two streams. This film acts as a reflective glass for solar heat radiation, preventing them from leaving the mass of water, which they additionally heat, all the more so as the depth is higher. Since the lake is used for its therapeutic qualities, periodically, over a day, treatments are discontinued to allow the thin film of fresh water to recover. If in the case of Lake Bear, this greenhouse effect is positive, not the same thing happens in case of additional heating of the atmosphere. The additional contribution to the greenhouse effect, divided by the main greenhouse gases, is in percent, in the order of: carbon dioxide (61%), methane (19%), chlorofluorocarbons and hydrochlorofluorocarbons (13%), nitrous oxide (6.3%), hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride as a whole (0.7%). The most important contribution to greenhouse gas emissions lies in the energy sector through the emissions of carbon dioxide and nitrogen oxides from combustion of fossil fuels (coal, oil, gas) in large combustion plants. Significant contributions lie in transport, agriculture, communal households. Waste dumps are an important source of methane emissions. [6]

2. Arguments and indicators involving climate changes

Analyzes conducted over the past few years have highlighted a global average temperature increase (+0.7 ° C), due in particular to the increase in CO₂ Reconstitution made for the last 400,000 years, shows periodic oscillations of the global average temperature of the atmosphere, with a period of approximately 100,000 years, taking as a reference the average of the years 1961-1990. (1) Deviations from the reference line were up to approx. - 8 ° C downwards and approx. + 3 ° C, up. The same variation, in phase, is found in terms of CO₂ concentration naturally occurring in the atmosphere, variation that has led to temperature increases or decreases in the past. The appearance that leads to the idea of global warming different from



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the past temperature peaks is the increase in the carbon dioxide peak compared to the other historical peaks, an increase due to anthropogenic activities. This explains another anomaly, namely, the almost constant maintenance of the maximum temperatures reached about 8,000 years ago, an element unprecedented in the past. It also draws attention, overlapping the current increase in carbon dioxide due to anthropogenic activities, with its natural growth peak. Of course, questions arise over the precision of the reconstructions and the explanation of the relatively constant maintenance of the relatively high temperatures of the last eight thousand years, although most of them were recorded before the industrial age. Experts have 22 indicators that highlight the current global warming trend. These indicators synthesize the results of an intense research activity of scientists around the world. The report [4] produced by the European Environment Agency in Copenhagen together with the European Center for Air Theme and with the support of the German Federal Environment Agency and the National Institute for Public Health and Environment in the Netherlands points out that the 22 indicators cover eight major areas:

- Atmosphere and climate. Glaciers, snow and ice, Marine system, Terrestrial ecosystems and biodiversity, Water, Agriculture, Economy, Health.

For each of the eight domains, a number of specific indicators, eloquent in terms of climate change, have been established. Some of these, such as Glaciers, snow and ice, terrestrial ecosystems and biodiversity, agriculture or health, reflect aspects specific to the mountain area directly or indirectly. Below we will present these indicators for each of the eight domains separately: [6]

2.1 Atmosphere and climate. The indicators highlighted in relation to the atmosphere and the climate are four: greenhouse gas concentration; global and European average temperature; precipitation in Europe; extreme temperatures and precipitations. The observed decline in precipitation in Southern Europe will have severe effects, manifested as more frequent droughts, with major impacts on agriculture and water resources. Romania, for example, also faces atypical floods since December 1995. With regard to extreme temperatures, it is forecast that cold winters will almost entirely disappear in 2080, and hot summers will become more frequent.

2.2 Glaciers, snow and ice. The three indicators pursued in this area relate to: the state of the glaciers, the snow cover and the Arctic Ocean. The glaciers of the Swiss Alps have reduced their surface since 1850 with one third and the mass by 50%. It is estimated that by 2050, about 75% of the Alps glaciers will disappear.

2.3 Marine system. Four indicators are relevant to the marine system: rising sea levels; sea surface temperature; increasing seasons; structure of marine species. The level of the seas around Europe has increased in the last century by 0.8 to 3 mm / year. The projected rise in sea level between 1990 and 2100 is 2.2 to 4.4 times the growth rate of the 20th century, and the growth trend will continue for centuries.

2.4 Terrestrial ecosystems and biodiversity. Five significant indicators have been identified: plant species structure; the distribution of plant species in mountain regions; the absorption of carbon by the terrestrial surface; plant phenology and growth season; survival rate of birds. It is forecast that the migration of many plant species to the north will continue, and by 2050 their distribution will be affected in many parts of Europe. There is an increase in plant diversity in northern Europe as a result of the shifting of many thermophilous plant species to the north. In the Alps, migration to altitude has led to an increase in the richness of plant species in 21 of the 30 representative mountain peaks. With regard to carbon capture



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capacity by the land surface in Europe, it can be increased by reforestation actions and improved management and planning of the territory.

2.5 Water. Climate change at the water level is quantified through the annual flows of the rivers. They have grown in some regions of Europe, including Eastern Europe, and have declined in others, including southern Europe. Annual flows are projected to fall sharply in southern and south-eastern Europe, but to grow in northern and northeastern Europe, with significant consequences for water availability.

2.6 Agriculture. The agriculture is illustrated by a single indicator: annual crop yield. Annual crop production for sale has grown steadily in Europe over the past 40 years, particularly due to technological advances, while climate change has had little influence. In most parts of Europe, agriculture is expected to benefit from increased CO₂ concentrations and higher temperatures, especially in the center and northern Europe. In some parts of Southeast Europe, agriculture will be affected by climate change as a result of increased water scarcity. Poor harvests will become more frequent as a result of the increasing frequency of extreme climatic events: droughts, floods, storms, hail, as well as pests and diseases.

2.7 Economics. The relevant indicator for the economic area in relation to climate change is the economic loss. If we refer to Europe, 64% of all catastrophic events, based on the 1980s, occurred due to weather conditions and extreme climatic conditions: floods, thunderstorms, droughts, heat waves. Over 79% of the economic losses resulting from catastrophic events were due to weather and climate conditions. Economic losses caused by climate events have increased significantly over the past 20 years, from an average annual value of less than \$ 5 billion to about \$ 11 billion. Four of the 5 years with the largest economic losses in this period were after 1997.

2.8. The health. The last analyzed area of health is assessed by three representative indicators: heat waves; floods; diseases caused by insects. In the summer of 2003, in western and southern Europe, more than 20,000 lives were lost, above the usual rate, especially among the elderly. This situation has been attributed to the heat wave that has faded over this region. Between 1975 and 2001, 238 major floods were recorded in Europe, well above the flood of the previous period. The number of flood-hit populations, with adverse physical and mental consequences, has increased significantly. It should be noted that the loss of life decreased significantly as a result of improved alarm, intervention and rescue measures. In the future, it is expected that the frequency of extreme floods (especially of rapid floods) will increase as a result of climate change. Encephalitis and Lyme disease (Lyme borreliosis) caused by insects (ticks) increased between 1980 and 1995 in the Baltic and Central European regions. It is not yet clear how many of these additional cases are due to the temperature increase in the last decades.

All the above arguments, which highlight a climate warming trend, have prompted decision-makers around the world to promote a series of regulations aimed at counteracting climate change by: limiting greenhouse gas emissions greenhouse gases, carbon sequestration capture capacity at ground level, promotion of renewable energy sources. The most effective global measures have been taken following the promotion of the United Nations Framework Convention on Climate Change and the Kyoto Protocol. [1] These have been strengthened at European level through the adoption of the 6th Environmental Framework Program, the European Climate Change Program and two important directives on the marketing of greenhouse gas emissions permits (Directive 2003/87/EC), as amended by the Liaison Directive (2004/101/EC). The latter regulates the correlation between the flexible mechanisms introduced



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by the Kyoto Protocol (Joint Implementation) [1] and the trading of emission permits under the Directive on the marketing of permits.

3. Mountain law and the mountain economy

The mountains were a place of refuge for the Romanians, a prayer sanctuary, a defensive fortress, a water and food spring, oasis of living and the burial place of their loved ones, a symbol of the ascension and the becoming of Christ, vain defenders, trustworthy friends of our two-dimensional formation. The holy Fathers of the Church say that "the mountains symbolize the back of God", which everyone is carrying, because all the manifestations of God have taken place in the mountains. In the Scripture it is said that Jesus Christ himself gives the mountain a special attention there, always going to pray for himself, turning the mountain into a sanctuary of prayer and conversation with the Father and the Holy Spirit. [3].

Romania's mountainous area is a climate less favored area, agricultural development, isolation and altitude-specific peculiarities, and has been affected in the last 25 years by an ever-increasing decline in the economic and social state of households traditional. Among the natural resources existing at the local level, permanent meadows (pastures and meadows) and livestock breeding constitute the vital elements for the population currently existing in the traditional peasant households located in the mountainous areas of Romania.

The most serious problem facing livestock farmers in the mountain area that generates a pronounced negative dynamics of livestock mainly represented by ruminants (cattle, sheep and goats) is the lack of coupled subsidies for 2-5 cows milk and 10-25 sheep / goats, on average, the traditional peasant households, as well as the non-utilization of high quality mountain products (milk, dairy products and meat products) at prices that compensate for the relatively low productivity of the mountain meadows of small milk produced by the extensive breeding system in which the animal feed is composed almost exclusively of the freshwater polyphloral grass, grazing in the summer season, respectively preserved in the form of hay in the winter season. [2].

Recovery of this situation requires the implementation of appropriate sustainable and sustainable development policies for these areas and the granting of increased subsidies to all livestock farmers irrespective of the size of their herds, taking into account the difficulties and specificities of mountain farming, supplemented by the establishment of short (milk, dairy products, meat and meat products) at prices that are as convenient as possible for producers and acceptable to the large mass of consumers, ensuring the agility of traditional mountain households, reducing mountain depopulation and encouraging young farmers to continue the secular traditions grounded on these settlements.

If it is desired to talk about the mountain economy without mentioning economic and political slipping so far, or without a minimal socio-economic analysis, then it means that any discussion becomes useless and meaningless, without proper legislation, without a Minister of the Mountain, and without a healthy native capital, one cannot talk about a real mountain economic action, but only about a reaction to psychological revolt, the inability of a nation, or attempts to "override the mountain" through the incomensurable effort of some university professors which come with concrete, realistic and sustainable research proposals and projects for a competitive and world-class mountain economy.



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"The right national interest", open to the common and universal interest, is the solution of a profound Romania and of a genuine state of law, and not sluggish or without a country project, and without having the economy of the mountain in the plan of governance, because almost 31% of the national territory is the mountain. [3]

From 2 August 2018, we have a new Law of the Mountain, no. 197, whereby the Romanian state recognizes the existence of specific natural conditions, the differences between the mountain communities and the application of the principle of solidarity for these territories. [5] The law provides Romanians with subsidies and aids if they choose to move to certain mountain areas in the country. The total amount of the subsidies is one billion Euros. According to this normative act, the mountain inhabitants will receive financial and material support to organize their households or to be able to practice in these areas. One billion euros will be allocated from the state budget for 10 years. At the same time, young families of mountain farmers who set up households and raise livestock will be exempted for 5 years from agricultural income tax, and then pay only half of it.

Also, the Romanian state grants financial compensation, in accordance with the regulations in force, to the landowners in the mountain area, located in Natura 2000 sites, natural parks, national reserves of biosphere reserves and other protected natural areas. The Ministry of Agriculture and Rural Development and the Ministry of National Education will collaborate in introducing into the secondary, vocational and lyceutical education a package of study subjects with basic notions about the socio-economy of the mountain area. In addition, the form of organization of pre-school and primary education in the mountain area will be established by methodological norms approved by Government Decision. Practical training of students will be carried out at pedagogical facilities attested by gymnasiums, based on a public-private partnership. Agricultural specialists, doctors, young teachers up to the age of 35, settled in communes or mountain villages more than 20 km away from a city benefit from a "mountain premium" equivalent to 100% of the basic salary. Teachers practicing in isolated villages or mountain hamlets benefit from a "mountain premium" equivalent to 100% of base salary.

Always, through the functions of ecosystems in the alpine regions, the mountain has been an important source of clean air, fresh water, energy and food, in a word, a source of life for people. That is why, on December 11, the International Day of the Mountain was celebrated. Proclaimed in 2003 by the UN General Assembly, the celebration aims to encourage the international community to organize events at all levels to bring to the attention of the public the extremely important role that mountains have in our lives, both from an ecological and economic perspective.

4. Conclusions

This article, there is a brief overview of the implications of climate change, its impact on the environment, and the causes that have triggered these global phenomena. An important place among the sources of greenhouse gases belongs to the energy sector based on the burning of fossil fuels, along with transport, agriculture, communal management. At the same time, the energy sector is also one that can make a decisive contribution to solving this difficult problem by introducing advanced technologies, increasing energy efficiency, promoting renewable energies, etc. The main indicators that highlight the current global warming trend, the global and European regulations for improving the situation, the measures taken in our country to counteract these trends, including through a strong international



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cooperation, have been presented. Some of the indicators, such as: Glaciers, snow and ice, terrestrial ecosystems and biodiversity, agriculture or health, highlight the consequences of global changes on the mountain area, which will lead in the future to the decisive growth of its role and importance for the country's agriculture and economy. The Mountain Law of August 2, 2018 provides Romanians with subsidies and aids if they choose to move to certain mountain areas in the country. The total amount of subsidies is one billion euros.

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