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The mission of the journal is to create a modern platform of full value for discussion, exchange of international and national experience and specific knowledge among professionals in the field of Public Administration; for working out and further correcting the development strategy of public and municipal administration.

The editorial policy is to provide a very clear emphasis on the specific subject along with a focus on the interconnection of the proper public administration problems with the relative economic, legal, political science and managerial problems, including the interaction of the state and civil society.

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- The theory and practices of the public administration;
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- The analyses of experts;
- The discussions;
- Case Studies;
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PREFACE OF THE GUEST EDITOR

Special issues of the "Public Administration Issues" ("PAI") Journal have the tendency to extend the representativeness of researchers from different regions of the world. In this special issue, researchers from distinct regions of Asia (such as Indonesia, Iran and Armenia) adjoin with researchers from Western and Central Europe (Portugal and Slovakia) and with Eurasia (Russia). Much of the research discusses practical hot issues of governance in countries that have certain strong governance peculiarities, and that are mostly out of the scope of classical approaches and theories of public administration and management, are trying to find their natural place to be published. And the "PAI" Journal, which is located at the junction of such streams and visions, is perfectly suited for receiving applications of this kind. The constantly growing number of applications for publication in "PAI" shows that this niche exists and is quite attractive, and that journals oriented on such requests will become more and more in demand.

It is not merely the prerogative of developing countries to deliver research outside standard theoretical frameworks, so to speak, but of any system of governance that is acting in economic, social and cultural conditions beyond those described in the constraints that are presupposed by prevailed constructions of Weberian, NPM and NPG (along with Neo-Weberian) paradigms. Just to mention some examples from this Special issue:

– The great amounts of household waste in developing countries which are creating the problem of finding a new mechanism for sustainable environmental management, that is beyond classic recipes of green energy and reducing pollution;
– The Muslim ethics influencing alternatives to standard approaches (such as whistleblowing, etc.) toward corruption prevention;
– Participation of citizens in governance should be re-oriented more on local values (such as individual and social relationships) and political conditions, on specific forms of citizens self-organization during disaster relief situations (which is quite different from the situation in New Orleans after Katrina);

– Cross-border investments show the asymmetry in investment cooperation under the conditions of sectoral/sanctions limitations, which is far from the Neo-Keynesian theory of investment;

– The phenomena of Public Administration Employees' (PAE) absenteeism, that is broadly spreading in countries that were historically, for some period of time, in the zone of economic stagnation or recession, is a major factor influencing human resources effectiveness. Even though it is found in existing theories of HR management, it has not yet been analyzed properly.

At the presented Special issue some key subjects are highlighted. These subjects were used as a foundation for the distribution of the articles among sections, such as: corruption, employees' behavior and administrative ethics; governance and participation; management of finances; and sustainable environmental management. I hope that the contribution of the authors into the above mentioned areas, their attitudes toward the inclusion of new data, cases, and country-oriented visions will provide the rich soil for inspiring new theories that are more relevant to the conditions of regions of the world that are not covered properly and exhaustively by theoretic approaches that are discussed in the first row of leading international Public Administration and Public Policy journals.

Alexey G. Barabashev

PUBLIC EMPLOYEES' RISK AVERSION AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR: THE EFFECTS OF ETHICAL LEADERSHIP, WORK CULTURE AND PUBLIC SERVICE MOTIVATION

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Abstract

The purpose of this study is to analyze the influence of ethical leadership, work culture, and public service motivation on risk aversion and its impact on organizational citizenship behavior. Risk aversion is the prudence of public employees so as not to violate laws and regulations. Risk aversion variable is treated as a consequent variable of ethical leadership, work culture, and motivation based on portfolio theory. The theory sees risk aversion as a contextual behavior, rather than as an individual characteristic. This study was designed with a quantitative descriptive design in a sample of 130 civil servants in the Tapin District Government, South Kalimantan Province, Indonesia. The analysis was carried out by structural equation modeling. The resulting model has a GFI 0.910; CFI 1,000; and RMSEA 0,000. The study found that ethical leadership has a positive effect on risk aversion but does not have a significant impact on organizational citizenship behavior; work culture has a positive effect on risk aversion and organizational citizenship behavior; public service motivation does not affect risk aversion but has a significant effect on organizational citizenship behavior;

and risk aversion has a positive effect on organizational citizenship behavior. This study has implications regarding the importance of the government to develop ethical leadership and a professional work culture in order to encourage the compliance of civil servants in the legislation. This research has a high originality value because it is the first in examining the determinants and antecedents of risk aversion in the context of public employees.

Background

Employees in the public service environment have long been known to have a tendency for risk aversion (Dur & Zoutenbier, 2013; Buurman, Delfgaauw, Dur & van den Bossche, 2012). Risk aversion is a person's tendency to be very careful in taking risks (Leahy, 2001). Risk aversion is in fact one of the main reasons to pursue a career in public service: it provides a fixed income, a relatively stable career and a decent old age guarantee, in contrast to working in a private organization which is full of uncertainty. In other words, being a public servant is seen as a profession that is safe from risk. In the context of ongoing work, risk aversion can be seen as an attempt to be very careful not to violate the laws and regulations.

Civil servants in Indonesia are risk averse. Hongdiyanto (2014) found that a large proportion of Indonesians seek civil servant jobs because they want to have a stable income and pension package. Similarly, Loso (2008) used samples of 300 fresh bachelor graduates from three universities and found that the reasons to pursue a civil servant profession included salary (59.9%), better future (56.6%), pension package (91.1%), senior benefits (69.9%), and well-being (67.8%). These all convey a risk averse attitude based on economic situation (Di Mauro and Musumeci, 2011). In addition, 67.2% of the samples chosea civil servant profession because they perceived this profession to have a high status in society, indicating a social risk averse attitude.

Risk aversion could be a positive thing for the public service in terms of making sure the government is running well. Nevertheless, the Indonesian government has decreased the number of civil servants for efficiency reasons. In 2012, there were 4.6 million civil servants in Indonesia while in 2017, there were only 4.3 million – a decrease in the number of civil servants per 1,000 inhabitants from 19.7 to 18.5; lower than the Philippines and Vietnam (Tjiptoherijanto, 2018). The decreasing trend resulted in fiercer competition in gaining a public servant profession. Since part of the government efficiency is contributed to by individual civil servants' performance, there is a question about what role risk aversion plays in civil servant performance. Is risk aver-

sion actually detrimental for today's more private-like government administration (Clark, 2016) in Indonesia?

While risk aversion may explain why someone chose a civil servant position, the same reason could also come into play in terms of maintaining the position of someone who is already in a civil servant position. This is intuitive, since bad behaviour would result in loss of salary, future prospects, etc., which were the main reasons for choosing the profession. Yet, Indonesian public service is known to have a high level of corruption. In 2018, it was proven that 2,357 civil servants were guilty of corruption, not to mention the unreported cases from around the archipelago (BBC, 7 September 2018). Corruption is extremely risky behaviour that should not be committed by an individual with high risk aversion. Meanwhile, corruption was cited as the negative predictor of public sector efficiency (Adam, Delis & Kammas, 2011). Was the high level of corruption in public service linked to either low risk aversion or high risk aversion, as suggested by the Costa and Mainardes (2015) study? If it was, what organizational factors drive this risk taking behavior?

Unfortunately, risk aversion variables are very rarely used to predict organizational performance, including organizational citizenship behavior (Leahy, 2001). This variable is rarely used because risk aversion is assumed to be an individual characteristic variable rather than a conditional variable (Deckop et al, 2004). Portfolio theory from Leahy (2001) confirms that risk aversion is not an individual characteristic variable, but a conditional variable. Aversion of a risk is influenced by individual working conditions, in this case stressful working conditions, for example due to the existence of many regulations that regulate how a person must behave. Therefore, Leahy (2001) places risk aversion as a component of an employee's depressive decision dimension. Depressed employees will tend to take an aversive position on risk while non-depressed employees tend to be risk-neutral and even risk-taking. This was proven by Guiso, Sapienza, and Zingales (2018) who found that risk aversion varied with time and increases substantially after a crisis.

In line with this, it is important to consider what factors influence risk aversion in public employees. It can be said that there is no research that attempts to examine the factors that influence risk aversion in employees in the public sector. One study did examine the predictors of risk aversion in college students, and found that having a father who worked in the public sector increased the risk aversion of their children (De Paola, 2013). The reason for this lack of research has been explained above, namely due to errors in taking a theoretical perspective. If portfolio theory is used, there should be many studies that try to examine what variables influence risk aversion.

There are several variables that can possibly predict risk aversion, such as ethical leadership, work culture, and public service motivation. Each represent factors from a team, organizational, and individual level. Ethical leaders, as the name implies, would lead their followers to the ethical behaviour. Ethical norms, in addition to legal-institutional norms, is another restriction on public service employees, and potentially an even more risk averse attitude. This is supplemented by the preferred work culture chosen by the organization.

From the individuals' side, public service motivation offers another restriction on the behaviour of public sector employees. Simultaneously, these three factors could limit risk taking behaviors, maintaining civic servants in their correct path of behaviors and increasing risk aversion.

The same three factors also can directly contribute to organizational citizenship behaviors. Organizational citizenship behavior is "individual behavior that is voluntary, not directly or explicitly recognized through a formal incentive system, and in aggregate encourages effective organizational functioning" (Podsakoff, MacKenzie, Paine & Bachrach, 2000). Included in the category of organizational citizenship behavior is helping colleagues with their work, protecting the interests of the organization, giving advice, promoting the organization, and so on (Vigoda-Gadot & Beeri, 2011). Organizational citizenship behavior is highly expected because it increases organizational efficiency and increases the likelihood of the organization achieving its goals (Popescu, Fistung & Popescu, 2012). In addition, this activity can improve individual, group, and organizational performance (Rayner, Lawton & Williams, 2012).

In itself, organizational citizenship behavior is ethical, hence it would be promoted by ethical leaders. Good work culture also should promote citizenship behavior because it increases organizational efficiency. Individual public service motivation, by definition, would focus on increasing public service quality, and one of the key predictors of public service quality is organizational citizenship behavior.

To test the proposed relationship above, this research was conducted on one of the local governments in Indonesia, namely the Regional Government of Tapin Regency, South Kalimantan Province. The research was carried out at the local government level because the local government was the worst public servant in Indonesia. The Indonesian Ombudsman found that 42.3% of 3,427 community reports in 2017 were directed at the poor service of local governments. This has continued to occur since 2015 (Rochmi, 2018). If the government tries to encourage extraordinary public services, it is very necessary for the government to maintain the compliance of public employees with the legislation, and this means that it is important for the government to increase employee risk aversion. Researchers put forward three variables that have the potential to increase employee risk aversion, namely ethical leadership, work culture, and public service motivation. Work culture and public service motivation are common variables in public management in Indonesia, while ethical leadership is a new variable that can provide a novelty for this research.

Theoretical Review

Ethical Leadership

The concept of leadership has been greatly developed with many conceptions. The commonly used leadership concept is transformational leadership. Even so, Li (2013) views transformational leadership as a starting point towards a leadership concept that is more oriented to ethical aspects. Ethical aspects

are important in public service because public employees are responsible to all of the citizens and become a reflection of the quality of services provided by the ruling government.

In line with the aim of capturing the ethical aspects of leadership broadly, the concept of transformational leadership develops into authentic transformational leadership. The concept of authentic transformational leadership was further developed into authentic leadership by Avolio and Gardner in 2005 (Li, 2013). They get rid of the transformational concept of authentic leadership, making authentic leaders truly lead others according to morality and understand their subordinates honestly and accurately, regardless of whether the subordinate must be transformed or not.

The concept of ethical leadership then emerged through the thought of Brown et al (2005) based on social learning theory. Brown et al (2005) define ethical leadership as "*the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships*, *and the promotion of such conduct to followers through two-way communication*, *reinforcement*, *and decision-making*". Riggio et al (2010) criticize Brown et al's (2005) definition as not capturing a complete ethical concept. A person who behaves maliciously and cruelly can be seen as an ethical leader by the definition insofar as these behaviors are considered normatively feasible in the organization he leads. Ethically, leaders should be based on a universal ethical concept. Riggio et al (2010) refer back to the notion of ethics as something that is the principle of right and wrong in life. Ethical leaders are none other than leaders who demonstrate and uphold these universal principles. Riggio et al (2010) further explore what principles are seen as universal ethical principles and find four principles of goodness, namely prudence, simplicity, fortitude, and justice. In line with this, Riggio et al (2010) define an ethical leader as "a leader whose personal characteristics and actions align with four cardinal virtues of prudence, temperance, fortitude, and justice".

Monahan (2012) takes a different approach. Monahan (2012) conducted surveys on leaders in organizations to find out practitioners' opinions on the meaning of ethical leadership. Monahan (2012) found that executives generally view that ethical leadership is nothing but "leaders having good character and the right values or being a person of strong character" (Monahan, 2012).

Work Culture

Most studies use organizational culture variables to predict organizational citizenship behavior. Even so, there is also the concept of work culture, at least at the practitioner level. A specific concept for Indonesia was issued through the State Apparatus Empowerment Ministerial Decree No. 25 / Kep / M.PAN / 4/2002 concerning Guidelines for the Development of a Work Culture in the State Apparatus, which was updated through the Minister of State Apparatus Empowerment and Bureaucratic Reform Regulation No. 39 of 2012 concerning Guidelines for the Development of Work Culture. In this regulation, work culture is defined as "the attitudes and behaviors of individuals and groups based on values that are believed to be true and have become the nature and

habits of carrying out daily tasks and work". In summary, work culture is defined as "a person's perspective in giving meaning to work". Work culture is also derived from the concept of organizational culture so that indicators of work culture will depend on their respective organizations. In fact, this regulation provides a number of steps that need to be taken to develop work culture indicators for each government institution.

Public Service Motivation

Regarding motivation, the literature has developed motivational concepts that are specific to public employees. This concept is called the Public Service Motivation (PSM). PSM is an intrinsic motivation variable that measures the extent to which a civil servant's motives are in carrying out public services. Motivation is individual, so it can capture predictors that determine the performance of civil servants from the personal aspect, as a complement to a universal work culture and collective ethical leadership.

There are three types of public service motivation, namely rational, normative and affective motivation. Rational reasons are motives for maximizing one's personal interests. This reason is operationalized in the form of interest in public decision making. The normative reason is the commitment to serve the public interest, achieve social justice, and carry out civil duties. Affective motivation is patriotism and self-sacrifice (Naff and Crum, 1999).

Hypotheses

Risk aversion in the scope of portfolio theory applies to all types of employees, regardless of whether they are a public or private worker. For public employees who have an initial mindset of risk aversion, risk aversion behavior can depart not from a depressive situation at work, but rather it has just become a generally accepted norm. Civil servants are faced with a large responsibility because the clients served have the potential to cover all citizens. In addition, public employees also have strict regulations in various aspects of service so that regulations become part of their daily work. With this, risk aversion is important to prevent violations of regulations.

In line with this, the positive influence of risk aversion can occur on performance, including organizational citizenship behavior. This positive relationship can occur because organizational citizenship behavior is an effort to encourage the achievement of public service goals. Therefore, it can be hypothesized that:

H1: Risk aversion positively affects organizational citizenship behavior

Ethical leadership has long been seen as a predictor of organizational citizenship behavior (Mayer et al, 2009; Shin, 2011; Kalshoven et al, 2011). Ethical leadership can have an effect on organizational citizenship behavior because employees learn socially from the example given by the leader and provide rewards to leaders and coworkers (Brown and Trevino, 2006; Toor and Ofori, 2009). As a result of strengthening the social goodness of leaders, organizational citizenship behavior emerges (Kacmar et al, 2011; Kacmar et al, 2013). In line

with this, when dealing with a low public service situation, ethical leaders should try to encourage employees to comply with the laws and ethics of public services. These two things are restrictive and encourage public employees not to take risks by violating regulations. Therefore, ethical leadership should increase risk aversion. On this basis, the following hypotheses are put forward:

H2: Ethical Leadership has a positive effect on risk diversion

H3: Ethical leadership has a positive effect on organizational citizenship behavior

A good work culture should make employees more oriented towards serving the community. This is realized in the form of compliance with laws and regulations that have been designed in such a way as to improve public services. Employees can also be required to be more careful to avoid taking risks in serving the public interest. Even so, there has not been a more in-depth study of the impact of work culture on risk aversion. Researchers argue that employees will be more aversive to risk because they are faced with a low public perception of the performance of public employees. They will increasingly stick to the legislation to produce better public services than before. Therefore, the fourth and fifth hypotheses are:

H4: Work culture has a positive effect on employee risk aversion

H5: Work culture has a positive effect on organizational citizenship behavior

Anderfuhren-Biget et al (2010) found that public service motivation increases overall work motivation. Ritz et al (2016) conducted a meta-analysis of 239 previous studies on the motivation of public services. They found that public service motivation has an impact on job satisfaction, job choices in the public sector, individual performance, organizational commitment, early retirement intention, person organizational fit, organizational citizenship behavior, organizational performance, work motivation, work effort, use of performance data, stress related to employment, choice of intrinsic work, work commitment, mission valence, extrinsic incentive choices, choice to contribute, organizational attractiveness, quality of work, and responsiveness. The organizational citizenship behavior variable has a high level of agreement. Of the eight studies that examined the effect of public service motivation on organizational citizenship behavior, all found positive effects. Meanwhile, related to work stress, which is a predictor of risk aversion according to portfolio theory, there are four studies. Three of these studies showed negative effects while one did not show a significant relationship.

However, the relationship between PSM and risk aversion is unclear. If it is seen that risk aversion is the effect of depression, in accordance with portfolio theory, the motivation of public services should have a negative effect. Meanwhile, if risk aversion is seen as a form of compliance with laws and regulations, voluntary or forced, PSM should encourage employees to be more compliant with the regulations because they reflect good public services. We are more likely to see that there is a positive relationship between PSM and risk aversion, in accordance with the characteristics of employees in the public environment. In line with this opinion, it is hypothesized that:

H6: PSM will have a positive effect on risk aversion

Previous research generally found that public service motivation has a positive and significant effect on organizational citizenship behavior (Ritz et al, 2016; Kim, 2009). Ritz et al (2016) found eight studies that examined the relationship between public service motivation on organizational citizenship behavior and all eight studies agreed that there was a positive relationship between public service motivation and organizational citizenship behavior. In line with this, it is hypothesized that:

H7: Public Service Motivation has a positive effect on Organizational Citizenship Behavior

Research Methodology

Participants

One hundred and ninety-two public employees (192) who worked in the Tapin District Government were contacted for their willingness to complete the research questionnaire. The final result is 130 respondents (N = 130). Respondents consisted of 21% women and 79% men. The highest number of respondents have high school education (45%). The remaining 11% have diploma education, 8% have junior high school education, and 36% have bachelor degrees. There are only six respondents with very low working experience (0–2 years). Meanwhile, the number of respondents with a high tenure of 10 years or more was 75 people. As for the rest, the number of respondents with 3–5 years of work was as many as 23 people and those with a working period of 6–9 years was as many as 26 people. In percentage terms, the most worked period is 10 years or more, namely 57.7%, followed by a 6–9 year work period of 20.0% and a 3–5 year work period of 17.7%. Employees with a working period of 0–2 years are the least with a percentage of only 4.6%.

Research Instrument

Measurement of risk aversion uses the Risk Aversion scale from Leahy (2001) modified into three items: threat, uncertainty, and risk taking. Organizational citizenship behavior was developed using instruments from Niehoff and Moorman (1993) with five indicators: altruism, conscientiousness, sportsmanship, courtesy, and civic virtue.

The ethical leadership instrument, developed from Brown et al (2005), consists of four items: critical attitude, rational attitude, autonomous attitude, and fair attitude. Meanwhile, the work culture variable is measured using five indicators: basic assumptions about work, attitudes toward work, behavior when working, work environment, and work ethic. To measure the PSM, we use the public service motivation instrument from Perry (1996) with three indicators: rational, normative and affective motives. All instruments are measured in the five Likert Scale.

Analysis

We use CFA (Confirmatory Factor Analysis) to determine the validity of the scales. CFA allows for calculating the feasibility of indicators in latent

variables to be a real indicator which actually contains one latent variable to be measured. All variables are examined for validity using CFA with minimum acceptance requirements based on the CFI model match indicator. CFI was chosen because it prevents incorrect calculations due to small samples. CFI has a threshold of> 0.9.

Before testing the hypothesis, a model suitability test is carried out using a structural equation model with a maximum likelihood estimate (ML – Maximum Likelihood). Model compatibility was tested using Goodness of Fit index (GFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) (Rigdon, 1996).

Results

Description of the Sample

Based on the results of the questionnaire, it was found that the description of respondents' ratings on the ethical leadership variables showed high ethical leadership. This was indicated by an average score of 4.08. Indicators of ethical leadership that were rated highest by respondents were regarding critical attitudes, with an average value of 4.20, while the lowest indicator of ethical leadership was rational attitude, namely with an average value of 4.00.

Respondents' assessment of the work culture variable has a mean score of 3.98. The indicator of work culture that was rated highest by respondents was the basic assumptions about work, namely with an average value of 4.11, while the indicator of work culture that was rated lowest by respondents was the behavior when working, with a mean score of 3.80.

PSM is perceived as high, indicated by an average score of 3.68. Public service motivation indicators that were rated highest by respondents were regarding affective motives, with an average score of 3.83, while public service motivation indicators that were rated lowest by respondents were normative motives, with a mean score of 3.47.

Concerning Risk Aversion, employees at Tapin Regency gave a mean score of 3.75. The highest risk aversion indicator was the attitude to face threats, with an average value of 3.86, while the lowest risk aversion indicator was the courage to take risks, with an average score of 3.59.

Respondents' assessment of organizational citizenship behavior variable shows a high value, indicated by the average score of 3.95. The highest indicator of organizational citizenship behavior by respondents was on conscientiousness and civic virtue, each with an average score of 4.08, while the lowest indicator of organizational citizenship behavior by respondents was altruism, namely with an average value of 3.70.

Measurement Model

CFA tests results on exogenous constructs consisting of ethics leadership, work culture, and public service motivation as well as endogenous variables consisting of risk aversion and organizational citizenship behavior, indicating that all indicators have loading factor values greater than 0.50, so that the in-

dicators are valid in reflecting the latent constructs and can be used for further analysis. The GFI value was more than 0.90 indicating an exogenous and endogenous construct formed by indicators that fit with the data.

Hypothesis Testing

The results of hypothesis testing are displayed in Table 1 and Figure 1. The first hypothesis of the current study is on the relationship between risk aversion and OCB. It was hypothesized that a positive relationship would exist between risk aversion and OCB. The hypothesis was strongly supported. Risk aversion was positively related to OCB.

Table 1

Study Variables Estimates by Model Paths
(GFI = .910, CFI = 1.000 RMSEA = .000)

Model Paths			β	p
RA	←	EL	.346	***
OCB	←	EL	.085	.383
RA	←	WC	.375	***
OCB	←	WC	.260	*
RA	←	PSM	.056	.540
OCB	←	PSM	.269	**
OCB	←	RA	.250	*

Notes: GFI = Goodness of Fit Index; CFI = Comparative Fit Index; RMSEA = Root mean square error of approximation; RA = Risk Aversion; OCB = Organizational Citizenship Behavior; EL = Ethical Leadership; WC = Work Culture; PSM = Public Service Motivation.

***p is significant at .000 level;

**p is significant at .01 level;

*p is significant at .05 level.

The second hypothesis advanced in this study centered on the relationship between ethical leadership and risk aversion. It was proposed that with the ethical leadership, employee risk aversion will increase. This hypothesis was supported by the findings of the current study. The relationship was indeed positive. The third hypothesis is on the relationship between ethical leadership and OCB. This hypothesis however is not supported by the findings.

The next set of hypotheses expected that Work Culture will influence Risk Aversion and OCB positively. We find support for both hypotheses. However, for the last set of hypotheses, which expected that PSM will influence Risk Aversion and OCB positively, we only found support for PSM and OCB relationship. No significant relationship was found between PSM and Risk Aversion.

Figure 1: **Statistical Model (GFI = .910, CFI = 1.000 RMSEA = .000)**
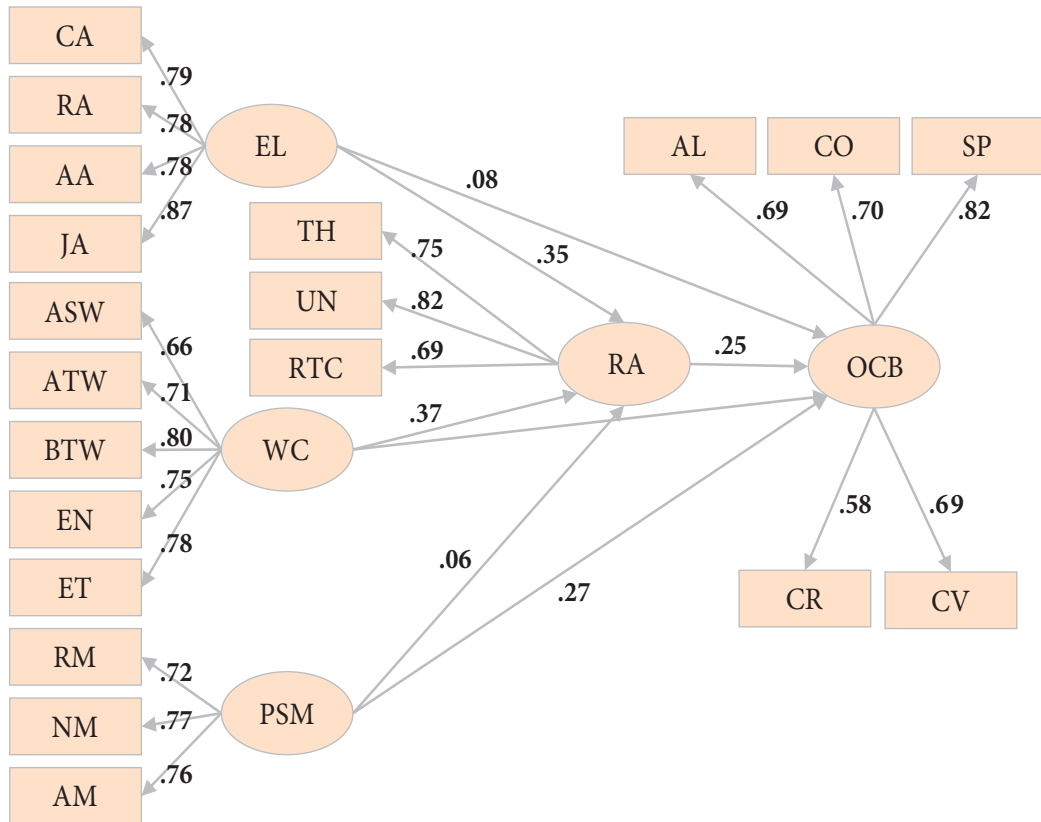
Notes: RA = Risk Aversion; OCB = Organizational Citizenship Behavior; EL = Ethical Leadership; WC = Work Culture; PSM = Public Service Motivation; CA = Critical Attitude; RA = Rational Attitude; AA = Autonom Attitude; JA = Justice Attitude; ASW = Assumption about Working; ATW = Attitude on Working; BTW = Behavior on Working; EN = Work Environment; ET = Work Ethos; RM = Rational Motive; NM = Normative Motive; AM = Affective Motive; TH = Threat; UN = Uncertainty; RTC = Risk Taking Courage; AL = Altruism; CO = Conscientiousness; SP = Sportsmanship; CR = Courtesy; CV = Civic Virtue.

Discussion

In line with the hypothesis, risk aversion has a positive effect on OCB. Risk aversion research on organizational citizenship behavior has never been done. The only research that comes close to resembling this study was the study of Deckop et al (2004) who found that risk aversion moderated the relationship between incentives and organizational citizenship behavior negatively. That is, the higher the risk aversion, the lower the influence of incentives on organizational citizenship behavior. This means that employees with high risk aversion will still be trying less to achieve organizational citizenship behavior even though they have been given incentives for that behavior. Conversely, employees with low risk aversion will enjoy expressing organizational citizenship behavior, especially if this behavior receives incentives or recognition from the organization. This causes the lower risk aversion and higher effect of incentives on citi-

zenship behavior. The finding that risk aversion has a positive effect on OCB in the present study is contrary to this finding but it is understandable given that risk aversion is very important in the context of public services. Under this condition, risk aversion will encourage other employees to remain in the corridor of the legislation. The resulting collectivity is important in order to support good public services in accordance with regulations.

The finding that ethical leadership has a positive impact on risk aversion shows that ethical behavior by superiors provides support for employees to take action on ethical risk aversion. Employees become aware of what should be done and what should not be done so that they do not dare to take risks in doing something that is not feasible legally or ethically, which can cause problems in providing public services.

Even so, the results of the present study are not in line with previous studies which found positive effects of ethical leadership on organizational citizenship behavior (Mayer et al, 2009; Shin, 2011; Kalshoven et al, 2011). The current study found that ethical leadership has no effect on organizational citizenship behavior. This can be caused by ethical leaders more oriented on task performance and not paying attention to ethical issues in contextual performance such as organizational citizenship behavior.

Meanwhile, work culture has a positive effect on risk aversion. The higher the work culture, the higher the risk aversion of employees. In line with this, work culture also has a positive effect on OCB. The positive influence of work culture on OCB shows that work culture is oriented towards achieving goals, and this can be done through OCB. A good work culture will produce professional trust that can help in resource exchange, social exchange, communication, cooperation between employees, innovation, and organizational functioning (Jones and George, 1998; Putnam, 1993).

PSM is not found to affect risk aversion. This result is counterintuitive because motivation should support employees in being obedient of the rules. This situation can be explained if the PSM is double edged for risk aversion. On the one hand, motivation encourages employees to work as best they can in accordance with the regulations that apply to their profession. On the other hand, motivation also encourages employees to take risky initiatives if the existing regulations have not been sufficient for them to provide meaningful public services.

The positive relationship between PSM and OCB can be explained by the existence of the civic virtue concept, which is an indicator of OCB. This concept developed in an academic setting at the April 1984 meeting of the National Council of the American Public Administration Society (Upton, 1989). This council stated that civic virtue is a heroic love for the public interest, serving justice, willingness to sacrifice wealth and comfort for the welfare of society, and unite the soul in providing public services. A person who has high PSM will try to provide public goods (Upton, 1989). For them, job satisfaction comes from helping others, and almost the only thing that is important in their work is doing something that is beneficial to the community or organization (Upton, 1989). Therefore, the public goods, also called public service ethics, has a strong relationship with the PSM.

Conclusion

This study contributes to the ethical leadership and work culture literature by highlighting the role of risk aversion. When leaders act according to generally accepted norms, employees will perceive additional rules that should not be violated, which in turn makes them more aversive to risk. Meanwhile, a professional work culture helps in increasing risk aversion because it affirms professionalism characterized by adherence to regulations that guide the profession.

This study has implications for the importance of public service organizations to take steps that make public employees more compliant with the legislation through increased risk aversion. The government can train leaders to become ethical leaders who are able to keep employees compliant with legal and ethical rules. In addition, a positive work culture must be further instilled so that employees can better understand that compliance with regulations is very important in order to provide good public services.

Although it has theoretical and practical implications as above, this research still has its limitation. Because this study uses cross-sectional design, it is not possible for researchers to make a complete causal conclusion about the influence of ethical leadership, work culture, and public service motivation on the risk aversion and organizational citizenship behavior. It is possible that organizational citizenship behavior actually becomes the motive for employees to comply with the organization, thereby increasing risk aversion because it is indebted to the organization, in accordance with social exchange theory. That is, there is a possibility that OCB influences risk aversion, rather than risk aversion affecting organizational citizenship behavior. Nicholson-Crotty, Nicholson-Crotty, and Fernandez (2016) even show that organizational performance have some influence on risk averse behavior. As a result, the hypothetical model proposed by this study can be better examined using repeated measurements or through longitudinal designs, where data is collected several times over a fairly long time interval.

Another limitation is the relatively small amount of respondents. There are only 130 respondents used in this research. The sample size could explain some insignificant relationships in this research. Hence, future research should be done to replicate with a larger sample size, especially in the field of the impact of PSM on the risk aversion.

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ANTICIPATING THE DURATION OF PUBLIC ADMINISTRATION EMPLOYEES' FUTURE ABSENCES

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Abstract

Absenteeism affects state-owned companies who are obliged to undertake strategies to prevent it, be efficient and conduct effective human resource (HR) management. This paper aims to understand the reasons for Public Administration Employees' (PAE) absenteeism and predict future employee absences. Data from 17,600 PAE from seven public databases regarding their 2016 absences was collected, and the Recency, Frequency and Monetary (RFM) and Support Vector Machine (SVM) algorithm was used for modeling the absence duration, backed up with a 10-fold cross-validation scheme. Results revealed that the worker profile is less relevant than the absence characteristics. The most concerning employee profile was uncovered, and a set of scenarios is provided regarding the expected days of absence in the future for each scenario. The veracity of the absence motives could not be proven and thus are totally reliable. In addition, the number of records of one absence day was disproportionate to the other records. The findings are of value to the Human Capital Management department in order to support their decisions regarding the allocation of workers and productivity management and use these valuable insights in the recruitment process. Until now, little has been known concerning the characteristics that affect PAE absenteeism, therefore enriching the necessity for further understanding of this matter in this particular.

Introduction

An employee is absent when they are not present in the workplace during their regular work schedule. If a worker has more than one absence, then the non-appearance durations are totaled, respectively, to determine the absence period (Zatzick & Iverson, 2011).

Managing absenteeism is critical for any type of company (Zheng & Lamond, 2009). Recent research on causes of absenteeism has unveiled individual characteristics such as personal issues (e.g., illness, stress) (Edwards, 2014; Mudaly & Nkosi, 2015) or external reasons (e.g., family, grievances) (Hebdon & Noh, 2013; Vignoli *et al.*, 2016), with the subsequent effect of the absences being difficult for the HR department to manage. As a result, absenteeism inevitably provokes damage in any Public Administration, so it must be understood and controlled in order to prevent flaws in the process, achieve high levels of job satisfaction and turn it into increased productivity (Papavasili *et al.*, 2019) and, ultimately, efficiency. In this domain, Public Administration is considered an institution that has a large number of employees (Koprić, 2019) and, for this reason, potentially has more absent employees. Taking the example of Portugal, there are over 350 thousand workers in Public Administration, which, in 2017, had a 10.47% absenteeism rate (Estatística, 2018).

There is research on HR management (Armstrong, 2014), absenteeism (Schaufeli, Bakker and van Rhenen, 2009) and the public sector (Carvalho & Bruckmann, 2014; Leontjeva & Trufanova, 2018) as well as studies on data mining (Mergel, Rethemeyer & Isett, 2016) and its application in various contexts (Johnston, 2010; Romero & Ventura, 2013; Moro, Rita & Vala, 2016). However, there is a lack of studies about predicting employee absenteeism in Public Administration. Consequently, this study aims to fill this gap by characterizing PAE absenteeism through analyzing the worker profiles, the motives behind absence, the workers' absenteeism history and job specifics all of which will, in turn, enable us to predict future absences and the reasons for such absences. In January 2017, information concerning the 2016 absences of 17,600 PAE was collected from seven Portuguese public databases.

For the data analysis, RFM methodology was used to add variables to this complex issue, and a SVM for modeling the absence duration. Understanding the reasons that explain the duration of the upcoming absence of a public employee will make a conceptual addition to academia. Additionally, the development of a model to predict the duration of future absences can help HR managers in Public Administration to devise strategies to mitigate such absences accordingly, thus helping in better serving the public.

Theory

Human resources and absenteeism

Employee absences are both costly and disruptive for Public Administration, and the trend has been increasing steadily over the years (Hassan, Wright & Yukl, 2014). Personal illness and family assistance are considered as the main reason for unplanned absences, however, age, bereavement, and disability, all take a toll on the worker, which in turn affects morale, absences and productivity in the workplace (Kocakülâh *et al.*, 2016; Jong, 2018). However, Public Administration institutions have been attempting to determine the validity of these illnesses, along with incentives and possible solutions to mitigate these absences, including those caused by family issues. Effectively, previous findings have revealed that employees usually fake illness or sickness to be able to perform personal affairs (Hughes & Bozionelos, 2007) and detecting the veracity of any justification has been one of the challenges of employers (Beil-Hildebrand, 1996).

Effectively, absenteeism has a large effect either directly or indirectly on a Public Administration's bottom line. The costs associated with absenteeism are significant when everything involved is considered. One cannot look at just what it costs to replace the employee for a day. It is necessary to look at what it is going to cost to lighten the load and attempt to attack these ongoing ever-increasing problems in the workplace. One also has to look at the increase in corporate health benefit costs that will result if a hands-off policy is adopted and absenteeism is not taken seriously (Quinley, 2003).

Since every PAE is different, it will require various levels of analyses to identify the factors that impact absenteeism for a specific employer. If absenteeism is identified as a significant problem, the Public Administration will need to take a hard look at the cause of the problem and begin to consider strategies to recapture lost revenues. Furthermore, as the economy tightens and the related financial stress increases for most employees, it is very likely that employers may see an increase in absenteeism due to financial stress related issues. The more aware a company is of issues related to employee absenteeism, the more successful they will be in implementing strategies to reduce the related cost and increase productivity (Kocakülâh *et al.*, 2016).

Specific factors related to the employee absenteeism in the public sector

There is a positive correlation between age and absenteeism in the Public Administration. In fact, employees belonging to the X generation have higher rates of avoidable absence. On the other hand, Baby Boomers reveal lower rates of avoidable absence (Jurkiewicz, 2000). PAE age also has an influence on their health, affecting absenteeism. Being part of the older group of workers constitutes a moderated risk factor in terms of belonging to the sick list, which is backed up by other reports (Bastos, Saraiva & Saraiva, 2016; Sundstrup *et al.*, 2018). Age and motivation in the public sector are also related. Older PAE desire job security, monetary compensation and job flexibility in order to feel motivated (Bright, 2010). A less motivated employee leads to absenteeism (Rousseau & Aubé, 2013).

Although vacations are not considered to be an absence, they alleviate perceived PAE job stress and thus also the experience of burnout. Absenteeism for

non-health reasons decreased after a vacation, which implies that taking a vacation can be regarded as a stress management technique (Westman & Etzion, 2001). As such, it corroborates findings concerning the beneficial effects of stress management intervention on burnout and absenteeism.

The disability community is large, including not only people in wheelchairs, but also people with other mobility issues, people with varying levels of vision, speech, or hearing impairments and people with cognitive disabilities such as Down's Syndrome (Preiser, Vischer & White, 2018). Depressive and anxiety disorders are also mentioned as important drivers of work disability and absenteeism (Hendriks *et al.*, 2015), which is backed up by other authors (Ahola *et al.*, 2011; Alonso *et al.*, 2011; De Graaf *et al.*, 2012).

In order to prevent long-term work employee disability and absenteeism in Public Administration, more attention should be paid to the work environment (Nguyen, Dang & Nguyen, 2015), offering preventive interventions for early support and practices to appoint alarm signals at workplaces, promoting a way of early recognition of reduced work ability and mental health problems (Hendriks *et al.*, 2015).

Unplanned absences

Unplanned absences occur whenever PAE fail to be present during their scheduled work hours, often with no previous notification (Easton, 2011). In about 60% of absences, PAE either notified their supervisor in the morning of the absence or did not provide any notification. Furthermore, they concluded that unplanned absences disrupt workflow and reduce productivity, mainly because supervisors could not establish a plan for those absences in time (Salehi Sichani, Lee & Robinson Fayek, 2011).

However, unplanned absences and strategies to recover from them were subject of analysis (Eastont & Goodale, 2005). Results concluded that the reduction in total profits due to absenteeism is strongly influenced by the staffing strategies and absence recovery policies that firms adopt to cope with absenteeism. Forty-hour working weeks and zero anticipated absenteeism with holdover absence recovery appears to be a robust combination, on average reclaiming nearly 60% of the profit consumed by unchecked absenteeism. For firms unwilling or unable to implement active absence recovery policies, planned overtime staffing strategies with absence anticipation appear less vulnerable to absenteeism.

Stress is one other reason for absenteeism in the Public Administration (Shoaib, Mujtaba & Awan, 2018). Employees who are suffering from stress at work are less likely to be productive (Lewis, Megicks & Jones, 2017). The causes of stress, or stressors, are numerous and can be found anywhere in the workplace. Psychosocial work stressors such as role ambiguity, role conflict, job design, supervisory behavior, and job insecurity have all been implicated as causes of work stress-related anxiety and depressive illness (Bakotić & Tomislav, 2013; Bowling *et al.*, 2017; Lewis, Megicks & Jones, 2017). Furthermore, stress at work also can lead to physical illness, psychological distress and illness, and sickness absence, invariably leading to absenteeism (Jordan *et al.*, 2003; Molines, Sanséau & Adamovic, 2017).

Stress, depression, or anxiety accounts for 46% of days lost due to illness (Cooper, 2008), and are the single largest cause of all absences attributed to work-related illness. Likewise, stress can lead to seeking alternate PAE, which demands Public Administration resources in the form of recruitment and training. In turn, stress can overburden Public Administration co-workers with additional responsibilities. This can lead to a heavier workload for already distraught employees, which affects their health and eventually results in even more absenteeism (Haswell, 2003).

Organizational restructuring was conducted by one Italian Public Administration in order to reduce sick leave compensation, by increasing the monitoring of the health status of absent employees in the public sector, conducted to a PAE behavioral change before its effective implementation (De Paola, Scoppa and Pupo, 2014). Effectively, it was discovered that the probability of workers taking days off work for sick leave decreased strongly (the estimated effect was of about 53%) once the reform was effectively implemented (Ibid.). The authors also found that absence behavior is responsive to wage reductions and changes in monitoring intensity.

Cuts in statutory sick pay in Public Administration do not significantly affect the incidence of long-term absenteeism. PAE do not significantly adjust their long-term sick leave behavior on the decision to enter an episode of long-term sick leave, however, the effects on the decision to reduce the length of the long-term sick leave episodes produced positive effects in middle-aged employees working full-time, reducing the length of absences significantly (Ziebarth, 2013). However, long-term sickness absences decrease activity and increase social isolation, making PAE have doubts concerning their own competence, increasing the probability of them not returning to work (Vlasveld *et al.*, 2012).

Family assistance also plays a crucial role in absenteeism. Balancing work and family life can affect absenteeism and job satisfaction (Anafarta, 2011; Vignoli *et al.*, 2016; AlAzzam, AbuAlRub & Nazzal, 2017). Childcare is a major issue that affects absenteeism. When combining job and family responsibilities, it implies role-overload and conflict leading to health problems, and, therefore, higher sickness absence (Bekker, Croon & Bressers, 2005).

Resources and support are an important motivational role and fulfill human needs such as relatedness and autonomy (Bakker, Demerouti & Schaufeli, 2005). Furthermore, the instrumental support that workers receive on one domain may free the necessary resources to be fully engaged in other roles, bringing fulfillment and satisfaction to the worker. Hence, family-related instrumental support has proven to mitigate absenteeism (Diestel, Wegge & Schmidt, 2014; Moraes & Teixeira, 2017). It was also found that employees who were more satisfied with the quality of their child's care experienced less work-family conflicts had less work absences (Payne, Cook & Diaz, 2012).

Loss, trauma, and grief are feelings associated with bereavement. This is a sentimental process that occurs when someone experiences a loss of great emotional importance (Foster & Woodthorpe, 2016). Absence due to bereavement leave has an impact on productivity losses and the economic effects are substantial (Fox, Cacciatore & Lacasse, 2014). Overall, it is estimated that 10% of an organizations' employees are going to experience a significant bereavement (Foster & Woodthor-

pe, 2016), and in Portland public teaching service, bereavement leave accounted for about 1.2 days of absence annually, creating an overall impact over students (Portland Public Schools, 2012).

Grounded on the body of knowledge previously scrutinized in the above subsections, the following hypotheses can be raised:

(H1) Due to their higher fragility, older workers are likely to be absent for a longer period.

(H2) Vacations are a worker's right in most countries; yet, motivated workers that really enjoy their day-to-day activities are in less need of the break made available by vacations. In the opposite direction, but with similar results, workers that have not had vacations for a while are those that are key for the Public Administration service, and for whom there is not a replacement. This implies a higher probability of those PAE having their vacations interrupted by the need to get back to service. Thus, we postulate that workers going without vacations for a period are those for whom a future absence tends to be shorter than what was initially expected.

(H3) The literature corroborates common sense in that both occasional and prolonged sickness (Jean & Guédé, 2015) as well as disabilities are likely to increase the absence period. Therefore, we hypothesize that in PAE, (H3a), sickness leads to a longer absence, (H3b) as well as having disabilities.

Methods

Data Collection and Feature Selection

The experimental setup consisted in mono-database mining – data from different data sources aggregated to a centralized repository for the task of mining (Ramkumar, Hariharan & Selvamuthukumaran, 2013).

In January 2017, information from 17,600 PAE was collected from seven Portuguese public databases concerning employee absences that occurred in 2016. Specifically, two main sources of information were scrutinized: (1) absenteeism map, and (2) workers' details. The main goal was to predict the timespan of the next absence based on past information. Thus, such a goal is translated into a target feature (variable) that measures the absence of timespan (Nr.=17, name=AbsenceDays, in Table 1). The independent features (variables) are detailed in Table 1. The "origin" column defines if the feature was extracted or computed, while the "source type" categorizes the source of the feature into three types: user, absence, or entity information. Additionally, a "data type" column is exhibited to clarify the type of data according to the R statistical tool, which was used for the subsequent data analysis procedure explained later.

Feature selection and engineering is a key task in any data-driven model (Domingos, 2012). Moreover, real-world data tend to be incomplete, noisy, and inconsistent (Han, 2005), so the data has to be transformed and cleaned before it is loaded into a data warehouse in order that downstream data analysis is reliable and accurate (Risch *et al.*, 2009). As such, a thorough data preparation step was conducted to clean the dataset and select the most suitable features for the studied problem. Initially, the dataset was composed of 40 different attributes including the output variable, contemplating 59,163 observations (absences which occurred

in the Portuguese Public Administration during 2016), which represent the workers' absences, with different lengths and causes. After analyzing the outliers and incongruencies, the number of observations dropped to 36,499, as well as the selected features, which were 25, classified as "included" in the "status" column, following the procedure by Moro, Rita, and Coelho (2017).

Table 1

Features list

N	Feature Name	Origin	Source Type	Data Type	Description	Status
1	Entity	Extracted	Entity	Character	Worker's entity that is responsible for paying salaries and accounting for the absences	Included
2	WorkerNumb	Extracted	Entity	Character	The Number which identifies the worker	Excluded
3	Contract	Extracted	Entity	Character	Contract type between the worker and the institution.	Included
4	ContractSpecs	Extracted	Entity	Character	Contract's specifications	Included
5	Workplace_Location	Extracted	Entity	Character	Where the worker does their activities	Excluded
6	DayBegin	Extracted	Absence	Integer	First day of absence	Excluded
7	MonthBegin	Extracted	Absence	Integer	Absence start month	Excluded
8	YearBegin	Extracted	Absence	Integer	Absence star year	Excluded
9	DayEnd	Extracted	Absence	Integer	Last day of absence	Excluded
10	MonthEnd	Extracted	Absence	Integer	Absence end month	Excluded
11	YearEnd	Extracted	Absence	Integer	Absence end year	Excluded
12	DateBegin	Extracted	Absence	Date	Absence begin date	Excluded
13	DateEnd	Extracted	Absence	Date	Absence end date	Excluded
14	AbsenceCode	Extracted	Absence	Integer	Code which identifies the absence	Excluded
15	AbsenceDesc	Extracted	Absence	Character	Absence description	Included
16	CalendarDays	Extracted	Absence	Numerical	Absence calendar days (including weekends)	Excluded
17	AbsenceDays	Extracted	Absence	Numerical	Duration of the absence in working days	Included
18	AbsenceHours	Extracted	Absence	Numerical	Duration of the absence in working hours	Excluded
19	BirthDate	Extracted	User	Date	Worker's birthdate	Transformed
20	Gender	Extracted	User	Character	Worker's gender	Included

N	Feature Name	Origin	Source Type	Data Type	Description	Status
21	JobPosition	Extracted	Entity	Character	Worker's job position	Included
22	AcademicQual	Extracted	User	Character	Workers' academic qualifications	Included
23	LivingDistrict	Extracted	User	Character	Workers' living district	Included
24	PPAWorkDays	Extracted	User	Integer	Worker's days in PPA (antiquity)	Included
25	MaritalStatus	Extracted	User	Character	Worker's marital status	Included
26	ChildrenNumb	Extracted	User	Integer	Worker's number of children	Transformed
27	Nationality	Extracted	User	Character	Worker's nationality	Included
28	WorkHours_Day	Extracted	Entity	Numerical	Worker's working hours per day	Included
29	WorkWeekdays	Extracted	Entity	Numerical	Worker's working days per week	Excluded
30	DisabilityPercent	Extracted	User	Integer	Worker's disability percentage	Excluded
31	Specificities	Extracted	User	Character	Worker's specificities	Included
32	DaysNo_Absences	Computed	User	Integer	How many days with no absences?	Included
33	TimesAbsent_LastYear	Computed	User	Numerical	How many times was the worker absent during the year?	Included
34	DaysAbsent_SinceLast	Computed	User	Numerical	Sum of the worker's absences until the present absence	Included
35	Age	Computed	User	Numerical	Worker's age	Included
36	TimesAbsent_SameMotive	Computed	User	Numerical	How many times was the worker absent for the same motive/reason?	Included
37	HaveChildren	Computed	User	Character	Does the worker have kids?	Included
38	AbsentAfter_Vacation	Computed	User	Character	Is the absence after vacation?	Included
39	DaysAfter_Vacation	Computed	User	Integer	How many days was the worker absent after vacations?	Included
40	VacationDays	Computed	User	Numerical	How many vacation days did the worker have?	Included

Data analysis

One way of characterizing a database of customers is by computing their RFM characteristics (Moro, Cortez & Rita, 2015). These allow for capturing customer behavior in a very small number of features, as shown in Table 2. Still, the relative importance among RFM varies with the characteristics of the product and industry (Ibid.). Therefore, in this study, RFM is proposed for human resources. Table 2 shows how each of the three features was interpreted for absenteeism.

Table 2

Adapted RFM telemarketing features analyzed *(Moro et al., 2015)*

Factor	Citation	Application to telemarketing	Application to absenteeism
Recency	How recent is the last purchase? Time of most recent purchase The period since the last purchase The total days between the day of the latest purchase and analysis (days) The period since a customer last purchased	Months from the last purchase up to the current date	Days since the worker failed to show up to work? Was the motive the same?
Frequency	How often does the customer buy a product? Number of prior purchases Number of purchases made within a certain period Consuming frequency (times) The number of purchases made within a certain period	Number of times the client subscribed the deposit previously	How many times, in the last year, was the employee absent? How many days has the worker been absent since last time?
Monetary	The money spent during a certain period Amount of money in total consumed The amount of money that a customer spent during a certain period	The total amount of money the client subscribed in previous contacts	Total amount spent on temporary workers to fill in for the absent worker.

Using the 25 selected features as input to data mining modeling, a SVM was trained to model absence duration. This is a supervised learning technique that transforms the complex input space into a high m-dimensional feature space by using a nonlinear mapping that depends on a kernel (Silva *et al.*, 2018). A 10-fold cross-validation scheme was adopted for more robust validation of the model. In such a scheme, the dataset is split into 10 partitions, with the training set being composed of 9/10, while the test set includes 1/10. The partition selected for testing then rotates among all 10 partitions. The performance of the model was assessed using the mean absolute percentage error (MAPE) metric, which measures the percentage difference between the number of days of absence predicted by the model, and the real value. The results achieved are of a MAPE of 19.26%, meaning that the model can predict the duration of the next absence, up to 4 days, with an error lower than 5 hours.

These results enable us to proceed with the knowledge extraction stage. SVM is considered a black-box model. Thus, specific techniques are required for knowledge extraction. Specifically, the data-based sensitivity analysis assesses the model's sensitivity to varying each of the input features (Cortez & Embrechts, 2013). The result is a list of percentage relevance of each feature to model absenteeism. The six most relevant features, gathering about 59% of the importance, are linked, except for work hours per day, by the absenteeism profile of the worker, i.e., absence's motive and its recurrence. Thereafter, there was no visible pattern in the relevance features, as there is a mix of worker's characteristics, as well as, contract specifications and absenteeism records.

The discovery that the features related to the profile of the worker are less relevant than absence related features is quite interesting, mostly because it opens the door for a generic model that can be created without too much knowledge about the worker and, subsequently, this model can be generalized to all HR departments or all companies. This finding goes along with other studies' authors, previously mentioned in this article, who used past absences to predict future ones (Reis *et al.*, 2011; Roelen et al., 2011; Laaksonen, He & Pitkäniemi, 2013).

Results and Discussion

Table 3 shows the major findings, relating the indicator (scenario of a feature) with the expected result in absence days (and working hours, using the average of 6 hours per day).

Table 3

Scenarios and expected absence days

Indicator	Expected (working hours = average 6 hours per day)
Absence with same motive	Up to 1 day (5.1 hours)
Bereavement leave and sickness	2 days of absence (12 hours)
Ambulatory care	Less than 1 day (4.6 hours)
High number of absence days (233 days)	1.3 days of absence (8 hours)
5 working hours per day	1.2 days of absence (7.2 hours)
No vacations for a long time (361 days)	About 1 day (6.5 hours)
Absent regularly (22 times)	About 1.2 days (7.2 hours)
30% disability	1.19 days of absence (7.1 hours)
Higher disability % (over 30%)	1.13 days of absence (6.8 hours)
No absences for a long period (140 days)	1.22 days of absence (7.3 hours)
Older worker (70 years old)	1.2 days of absence (7.2 hours)

By further taking advantage of the sensitivity analysis, it was possible to perceive how each of the most relevant features affected the number of consecutive days of absence and some conclusions were drawn.

Firstly, if it is the first time a PAE is absent for one of the motives, then it is expected that they will miss work for more than one day per year. However, if the worker keeps skipping work due to the same motive, the duration of the absence shall decrease, which goes against some studies that demonstrate that having suffered a previous sick leave episode implies a significant increase in the risk of experiencing a subsequent one (Roelen et al., 2010; Reis *et al.*, 2011). Although, this might be explained by the feeling of motive recurrence and the suspicion about the veracity of the justification, which is a limitation that has been mentioned in previous studies (Beil-Hildebrand, 1996), or because the employee feels that be-

ing absent for a long time after missing work for the same motive might influence their "image" as a PAE (Mishali & Weiler, 2017).

Also, the motives bereavement leave and sickness tend to lead to a longer period of absence in Public Administration, followed by family assistance, which can get up to almost two consecutive days of absence. Sickness is also mentioned as one of the main reasons for public sector absenteeism (Jean & Guédé, 2015), where stress is highlighted as one of the main factors (George & Zakkariya, 2015). Bereavement leave and family assistance are tied to the family aspect (Spetch, Howland & Lowman, 2011). Among all the health problems, ambulatory care represents the shorter period of absence, with a duration between half a day to one full day of absence.

Effectively, the higher the number of days that the PAE missed work, the longer the duration of their next absence, which goes along with Roelen et al.'s (2011) study about prolonged sickness absence in the past and its impact on future absences. This corroborates H3a.

Likewise, PAE who work five hours per day will be absent for a longer period than others in the public sector, which, after analyzing the dataset, is associated with female assistants with ineffective service commission contracts. This conclusion is on the same page as Markussen et al.'s (2011) study up until the five-hour mark, after which this article shows the opposite – a decrease in the duration of absenteeism with the increase of working hours.

PAE who do not go on vacation for an extended period tend to be absent less than others in the public sector, confirming previous results (Westman & Etzion, 2001), and confirming H2. Taking a closer look at the dataset, it is possible to understand that mainly assistants and technicians, who are effective or in an equivalent regime, do not take vacations that often and so are the ones who should be absent for a shorter time. It is a rather controversial conclusion, as this discovery goes against some of the other studies' results about the role of vacations in absenteeism (Westman & Etzion, 2001), but it should not be discarded as the relationship between vacation and worker well-being is still unclear (De Bloom, Geurts & Kompier, 2012).

PAE who miss work up to 20 times tend to increase their absence duration, although after that it starts to stabilize. Furthermore, this finding is tied to the cumulative PAE absence days conclusion, since both contribute to longer periods of absence; results backed up by Roelen, et al. (2011).

Additionally, PAE with a 30% disability are the ones with a longer absence duration. Interestingly, the next absence duration of an over 60% disabled PAE is about 1.16 days (28 hours), which is shorter than the duration of a non-disabled worker's absence, as Kaye et al. (2011) exposed in their study on why employers do not hire and retain workers with disabilities. There are clear stereotypes surrounding people with disabilities about their poor performance and regular absenteeism, which, from the perspective of absenteeism, has been revealed to be inaccurate. Therefore, H3b is confirmed.

Moreover, PAE that are not absent for a period of 140 days (or close to 5 months) are more likely to be absent for a longer duration, confirming previous studies (Vlasveld *et al.*, 2012). Lastly, confirming H1, an older PAE tends to be

absent for a longer duration than a younger one, a finding aligned with the fact that age comes with a monotonous and significant rise in major disease absences (Markussen *et al.*, 2011).

Conclusions

The most concerning PAE profile is a 70 year old, 30% disabled, PAE with a schedule of five work hours per day, who has just come back from vacation, who mentions that they will miss work because they are feeling sick for the first time, but have already missed work many times for other reasons and for an extended period of time, over 140 days ago.

The RFM methodology had a significant role in the data analysis, managing to get all its computed variables in the 25th most important features, especially considering that five out of six of them were in the top ten most important features, concealing around 43% of the total relevance, which opens the door to using this methodology in other fields of study besides marketing.

To prevent absenteeism itself there are several studies with solutions or that have proven that a policy/reform had a positive impact on it, such as working from home, reduced workweeks and standard weekday work hours, all of which were helpful in reducing absenteeism (Kocakülâh *et al.*, 2016). Reducing the number of responsibilities given to a worker also reduces absenteeism (Gosselin, Lemyre & Corneil, 2013), and a reform on reducing sick leave compensation and increasing monitoring helped to diminishing the long duration hazards (De Paola, Scoppa & Pupo, 2014). Nevertheless, returning to work after an illness is dependent on medical and occupational factors, such as lack of job satisfaction, unsatisfactory relationships at work, or a physically demanding post (Pélissier, Fontana & Chauvin, 2014). On the other hand, public organizations should regulate their employees' vacations according to stressful periods as a way to reduce absenteeism (Westman & Etzion, 2001).

From an academia perspective, this study makes an important conceptual addition to the organizational behavior management area of investigation by providing insights concerning the factors that influence PAE absenteeism, through the development of a model to predict future absences in the Public Administration sector and revealing that the RFM method of data analysis can be applied in the HR area of investigation. Thus, our proposal expands on traditional human resources theories such as Public Service Motivation theory (Bozeman & Su, 2015), Person-Environment fit theory (Zacher, Feldman & Schulz, 2014), self-determination theory (Deci, Olafsen & Ryan, 2017), or Theory of Planned Behavior (Brouwer *et al.*, 2009). By borrowing the Recency, Frequency, Monetary model from the marketing literature, we show that RFM variables, which are known to have predictive value in the customer relationship theory, can also bring value to predicting absences, despite being a totally distinct domain. For managerial contribution, the PAE absence justifications can be used by HR departments to understand and comprehend how long their employees will be missing from work and act accordingly, including allocating other workers or subcontracting to fill the gaps left by those absences.

Limitations and Future Research

Even though the results of the article were quite impressive, there are some limitations that should be mentioned as an opportunity for future research. On one hand, the veracity of the absence motives could not be proven, so future research should implement a strategy to mitigate this limitation. On the other hand, the number of records of one absence day were disproportionate to the other records. So, it would be preferable to obtain a dataset with wider variety of absence records.

For future research, it would be interesting to add continuity to this article, i.e., add more years to the dataset in order to update the data and refine the model. Likewise, it would also be relevant to cross these findings with similar from other countries to understand the national differences in terms of absenteeism. Finally, it would also be interesting to cross absenteeism in the private sector with the results obtained in this article, so that it would be possible to know if there is a common model to be applied to both sectors or if each requires its own.

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GOOD GOVERNANCE AND ANTI-CORRUPTION BASED ON PATTERNS OF OMBUDSMAN MANAGEMENT

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Abstract

Governance and anti-corruption policies and plans, which are supported by international organizations such as the World Bank, together determine all the vital goals in developing countries. There is no doubt about the desirability of good governance. On the other hand, while Western institutions try to force a version of good governance on countries like Iran, Islamic history has two brilliant applicable periods of divine rule. In Islam, two governments or favorable rulings have existed: one during the Prophet (peace be upon him), and the other during the period of Imam Ali (AS). Therefore, the critical questions can be classified as follows:

How vital are these goals in terms of both development goals and the necessary governance preconditions for development? Are these goals really achievable in developing countries? What are the indicators of the Islamic system in fighting against corruption and the achievement of good governance? Does a focus on these issues distract us from the more important and unattainable reforms that speed up the achievement of governance goals?

Generally, focusing on the corruption and implementing good governance reforms in developing countries diverts the attention from practical policies. Although, there are many types of corruption in developing countries, it is vital to create the necessary governance capacities to identify and limit the most destructive types of corruption. Therefore, there is a framework for identifying various types of corruption, in order to set priorities for institutional reform and successful anti-corruption policies. This paper is based on descriptive and analytical methods and all data were collected in the form of documentary studies.

Introduction

Obviously, the role of governance and institutions in increasing development and reducing poverty in developing countries is vital, and also there is no common set of institutions in which all successful developing countries share this issue in this regard. In most successful developing countries, there is significant and certain corruption, and governance in the early stages of development in these countries has encountered significant difficulties. However, these countries have good potential for proper governance, which allows governments to create conditions where the rapid growth and stable political legitimacy of the state are guaranteed. Therefore, in these countries, sustained pressure is both necessary and desirable in order to reduce corruption, but these goals cannot be achieved unless adequate attention is paid to the governance capacity that is needed for sustainable growth (Jasabi & Nafari, 2009).

For good governance, international institutions and their experts determine indicators in order to assess whether the rulers of developing countries govern their community affairs based on these patterns or not. If a country works according to these indicators, it will succeed in this pattern and, as a result, will benefit from all global assistance and international institutions, such as the World Bank, the UN Development Program and the International Monetary Fund. But if they do not work according to these indicators, they will be deprived of this support and assistance (Huther & Shah, 2000). Similarly, according to a document released by the World Bank in 2006, good governance has six indicators (World Bank, 1993): responsiveness, political stability, government effectiveness, quality of laws and regulations, rule of law, and corruption control. According to the World Bank, the closer the country is to these indicators, the higher their economic growth rate will be and therefore the more efficient their private sector growth will be. In addition, total mortality is reduced and the inflow of foreign capital is increased significantly.

On the other hand, one of the goals of establishing a government and ruling in Islam is to address the rights of the deprived and the defense of the oppressed. Imam Ali (AS) states the reasons to accept the government as follows: "Our Lord! You know, what we did was not to get the royal possessions, nor to get anything from the world's post goods, but because we were able to restore the lost signs of your religion and restore peace and reform in your towns so that your oppressed servants be in safe and the rules and regulations that have been forgotten be reenforced." Therefore, it can be concluded that the spread of spirituality, security and prosperity in society (especially the rights of the oppressed people) and the rule of law, were the main goals of Imam Ali to establish the government.

According to the models presented today, some types of anti-corruption reform and governance programs have been chosen by some countries as a part

of their sustainable development strategy, however, the idealistic and desired goals of good governance are neither necessary nor suitable for accelerating and sustaining development. The challenge for developing countries which want to implement institutional reforms and anti-corruption strategies is to learn the lessons from international experiences and also implement the programs and policies that are both feasible and appropriate for their country's circumstances. The governance and anti-corruption programs that some developing countries are currently pursuing do not fully achieve these goals and may even be inaccessible and very ambitious, and divert the attention from the major governance reforms (Kermani & Baskhah, 2009).

Good governance and anti-corruption policies

Corruption usually occurs when government officials violate the law for their personal interests. Bribery and extortion are two of the worst kinds of corruption (Gharani et al., 2010). Some other types of corruption, such as the allocation of public resources to particular individuals for political interests, can also be categorised in this group. Corruption in most developing countries results in significant costs in many areas (for example, wasted development plans, changing the direction of programs and resources used for effective investment, creating problems with transparency and the normal functioning of the markets, etc.). In recent years, comprehensive analysis of the governance role in improving the development prospects of developing countries has proven the effectivity of corruption caused by international institutions (Gholipour, 2005). As a result, this new analysis of corruption can be a part of an integrated analysis about the good governance. The main subjects of this analysis are from anecdotal economics, which defines an efficient market as a market with low transaction costs. Interchange costs are the costs of transactions and activities which in particular include bargaining costs and execution of contracts (Jasabi Nafari, 2009). If these costs were too high, the markets would be inefficient and the necessary transactions such as long-term investments would not be performed. Thus, good governance conditions, which are required in developing countries, can be theoretically recognized as a precondition or tools to guarantee the development process because they have the necessary political and institutional conditions to ensure low transaction costs in the market-based economies.

Weak performance in economic development is described based on inefficiency and high costs of the economic markets. In contrast, the continuation of inefficient markets is based on government interventions that reduce welfare and, more importantly, weak property rights which lead to maintenance and implementation of costly assets. This is followed by the continuing instability of property rights and welfare-reducing interventions in developing countries based on corruption and economic rent (Knack & Keefer, 1995). But the question is that while the number of people who benefit from the corruption and economic rent is low, how are they able to continue their activities to the detriment of the majority? The answer is that this majority is either weakly organized or there is no democratic accountability or responsibility, or if it exists, it is very weak; and this allows the minority to exploit the majority. Poverty and deprivation restrict the institutional capacity of the majority and, consequently, the system will remain in poverty with unsustainable development.

From this perspective, the good analysis of organizational governance creates a set of parallel political priorities that should be followed simultaneously to escape from the poverty trap. This set of interrelated policies combines the economic reforms with the institutional and political reforms, which is known as the "good governance program" (Midri, 2002). However, by studying good governance (Table 1), it seems that instead of a simple focus on economic reforms such as liberalization, it is necessary that institutional reforms, which enhance the stability of intellectual property and the rule of law, anti-corruption reform, and the widespread fight with economic rent and reforms to promote accountability of governments is pursued at the same time. For this reason, it is clear that anti-corruption reform plays an important role in the new reform agenda.

Table 1

The Internal relationship of good governance reform program

Policies for fixing property rights in the country	Anti-corruption and economic rent policies	Government accountability improvement policies
Policies to improve the rule of law, reduce the risk of expropriation, strengthen the judiciary	Anti-corruption policies, the release of WTO restrictions on subsidies and financial obligations of the International Monetary Fund	Poverty reduction and PGBS policies (in some countries) and accountability and decentralization reform

The influence of good governance on improving economic growth

According to the empirical observations, it should be noticed that there is a weak relationship between the discussed conditions in the good governance program and the improvement of economic growth, but there are more important governance conditions that are essential for accelerating and stabilizing economic growth, none of which were identified in a good governance approach. Studying the evidence suggests that, regardless of the potential benefits of good governance, its conditions and in particular its role is not attainable in reducing the corruption in most developing countries (Khan, 2006a). The primary problem for any comparative empirical investigation is that the quality of governance, and particularly corruption, cannot be measured directly. Therefore, it is necessary to define relevant indicators by using mental and subjective judgments, which both have bias and subjective problems (Farrokh Seresht, 2004). However, some studies have shown that, even if these indicators are used, some solid and sound findings that derived from these indicators to support the good governance program cannot be justified. According to the extensive econometric studies that partly show the relationship between the governance indicators, such as corruption, rule of law and other good governance and economic performance, this conclusion is important. For example, there is a stronger relationship between the quality of governance and income, thus it can be concluded that richer countries have better governance and less corruption. But in such studies, it is very difficult to paint an accurate picture because in general it can be said that higher incomes along with high-

er levels of development make it possible to create good governance conditions. The corruption and other governance indicators will be accepted as policy objectives if a relationship between the governance indicators and economic growth are established (Knack & Keefer, 1995).

In the empirical studies, the most important issue is that we should compare similar issues, and so it is very difficult to find the countries that differ only in terms of the governance index. Specifically, countries are at different levels of development, and in order to measure their economic performance they should be at least divided into developed countries (with high incomes) and the rest as developing countries. It seems that the greatest relationship between good governance and economic performance appears when all countries are classified in just one group. But the result would be more interesting when it comes to dividing these countries into two categories – developed countries and the rest of the world – and grouping the latter into two convergent and divergent countries. The convergent countries are those countries with standards of living similar to the advanced countries and the level of the growth rate in these countries is equal or even higher than the advanced countries. On the other hand, the divergent countries are those countries in which the average growth rate is much lower than that of the developed countries. The result is that the governance differences between the convergent and the divergent developing countries are likely to be significant, but these differences are not included in the good governance indicators, which traditional policy makers usually focus on.

The IRIS Center's governance and corruption indicators are shown in Tables 2 to 5. While all governance indicators have a well-known subjective problem, these indicators are widely used and are very appropriate to illustrate the most important features of the problem. If we use the World Bank benchmarks provided by Kauffman and his colleagues, the same result will be obtained. But the World Bank indicators have only been available since 1996. The IRIS governance index has been available since 1984 and it is a combination of five indicators of "government corruption, rule of law, quality of bureaucracy, non-compliance with government contracts and the risk of foreclosure" (Knack & Keefer, 1995). This index is between zero (lowest score) and 50 (highest score). In addition, the index of the corruption between zero (lowest score) and six (highest score) was defined and used in this research work separately.

Table 2

The governance and growth for 1980–1990
(Intellectual Property Index varies from 0 (the worst case) to 50 (the best case))

Convergent developing countries	Divergent developing countries	Advanced countries	
35	53	24	Number of countries
23.7	25	47	The average property rights index in 1990
9.5–40	38.3–10	50.32.3	Registered property index domain
3	0.4	2.1	The average per capita GDP growth rate per capita in 1990–2003

Table 3

The governance and growth for 1990–2003
(Intellectual Property Index varies from 0 (the worst case) to 50 (the best case))

Convergent developing countries	Divergent developing countries	Advanced countries	
12	52	21	Number of countries
3	2.6	5.4	The average property rights index in 1990
1–5	0–6	6–3	Registered property index domain
3.5	-1	2.2	The average per capita GDP growth rate per capita in 1980–1990

Table 4

The governance and growth for 1980–1990
(Intellectual Property Index varies from 0 (the worst case) to 50 (the best case))

Convergent developing countries	Divergent developing countries	Advanced countries	
35	53	24	Number of countries
3	3	5	The average property rights index in 1990
0–5	5–0	6–2	Registered property index domain
3	0.4	2.1	The average per capita GDP growth rate per capita in 1990–2003

Because all of the primary indicators of governance have been prepared since 1984, using these indicators for 1980s data is less accurate than that of the 1990s. Based on our studies, it is expected that a higher per capita income results in better governance, and if a country grows rapidly for a period of time, the higher incomes provide better governance characteristics for that country, even if these characteristics do not exist at the beginning of this period. But if we do not have enough information in this regard, we might be wrong to conclude that this better governance leads to better growth, even if the cause of this growth is something else. As expected, the obtained data shows that developed countries, in comparison with developing countries, get a better score in all governance indicators. The comparisons between the developing (high growth) and divergent (low growth) countries are very interesting. The data revealed that the difference in the governance indicators for both groups is negligible in terms of both general governance and specific indicators. Thus, here the results for the corruption indicators are shown on the basis of difference in the elements of the governance indicators. According to Table 2, which is related to the 1980s, the data obtained for all countries show a positive and weak correlation between good governance and economic growth. However, a closer look suggests that the governance indicators in the convergent developing countries are slightly better

than those of the divergent countries. It is important to note that both countries are significantly worse than the advanced countries (Khan, 2006b)

There is a very small difference between the convergent and the divergent developing countries but, as shown in Table 3, the difference in the growth rates among the convergent and divergent developing countries is associated with a very insignificant difference in the quality of the governance. By looking at the data related to the 1990s (see Table 3), it can be observed that there are no significant differences between the convergent and the divergent developing countries, but during this decade, the indicators of the governance of the convergent developing countries in comparison with the divergent developing countries has been weaker.

The convergent developing countries achieved a relatively better score than the divergent developing countries in terms of corruption index in the 1980s, but both countries have a worse situation than the advanced countries (see Table 4). However, in the 1990s, this insignificant difference between the convergent and the divergent developing countries is completely eliminated, as seen in Table 5.

Table 5

The governance and growth for 1990–2003
(Intellectual Property Index varies from 0 (the worst case) to 50 (the best case))

Convergent developing countries	Divergent developing countries	Advanced countries	
35	53	24	Number of countries
3	3	5	The average property rights index in 1990
0–5	5–0	6–2	Registered property index domain
3	0.4	2.1	The average per capita GDP growth rate per capita in 1990–2003

In the 1990s, the average indicator of corruption in the convergent and divergent developing countries is quite similar. However, the score of both countries is significantly weaker and lower in the corruption index compared to the advanced countries (Khan, 2006a,b,c). In general, it can be said that the positive relation between corruption and the other indicators of governance and the economic growth in the obtained results is misleading. This does not mean that there is no significant difference between the governments of the convergent and divergent developing countries, rather it means that important differences in their governance characteristics are not well recognized by the analytical framework of the governance.

There is no significant difference between the convergent and the divergent developing countries in terms of the governance characteristics, but there are too many differences in their economic performance. The challenge that the divergent developing countries are faced with is how to boost economic growth, while the challenge for the convergent developing countries (Group 2) is to sustain the previously achieved growth. Under the Good Governance Program, the divergent countries (Group 1) can become advanced countries (Group 3) by implementing

good governance reforms and moving to the top of the chart. But this suggestion is based on the above evidence, not on historical observations of developing countries, whereby they first improved their governance characteristics and then increased their growth rates, even as high as the advanced countries (which is described as good governance).

So much historical evidence shows that the challenge for the divergent countries is to recognize policy and governance changes. This recognition allows countries to move from Group 1 to Group 2. The challenge of the Group 2 countries is the better understanding of what they have achieved through good luck. It means they can act in a manner that can sustain their good performances over the time. Undoubtedly, for the second group, a good time for governance reform is when their growth has begun, which finally allows them to move from Group 2 to Group 3. But in the poorer countries, there is little evidence that proves the second phase of the reforms is fully implemented.

A lot of research has been done on the management potential of Group 2. These studies identified some of the specific governance capacities of the convergent developing countries. The proposed capacities can be summarized as: the capacities of support funds and the resources of the main productive sectors, the directing of funds and resources to these sectors, helping these sectors to achieve more advanced technologies, market regulation to increase productivity in the productive sectors, and the social stability and the rule of law through redistributive policies. Unfortunately, in different countries there is no set of institutions that achieved these goals. For example, the policies and strategies that are followed in South Korea, Malaysia, China, and India are completely different from each other.

Good governance in Islam

In Islam, the ruler of Islamic society that is called the king or sultan does not mean possession and domination, but one is confronted with such words as "Imam" (ruler and leader) and "governor". The leader and Imam are the ones who are leading the community and nation and they themselves are the leader of this movement. Provincial governorate implies the meaning of continuity. The Governor of Ummah (nation) and people is the person who is responsible for public affairs. The ruler in Islam is the one who is at the head of the government and is obliged to carry out a divine and important duty. He is the one in society who carries the heaviest burden. On the other hand, there are people that are supposed to be respected with all their aspirations and spiritual values and also ideals. Imam Ali's view about the government is a divine outlook. An outlook that is fundamentally different from the power-based outlook. At the beginning of his ruling, Imam Ali (AS) accepted this great responsibility because of getting the oppressed right from the tyrant.

Common anti-corruption policies

The greed of government officials is one of the main reasons for corruption as they have the power and authority to bribe citizens or disrupt their affairs. These are people whose law-breaking is not properly controlled nor punished. Therefore,

bureaucrats and politicians are more likely to engage in corruption to make themselves stronger. Many studies have been conducted on the causes of corruption. Although in these studies there are differences in the analysis of the corruption, there are similarities among them about the main motivations of the corruption, which allows us to describe it in the general framework of the theory of greed and power (Rose-Ackerman, 1978). To fight against corruption, the appropriate policy response is generally based on the fight against the corruption which has motivations expressed in the greed and power theories. The following cases can be summarized as the indicators and policy responses:

1. Reducing the power and authority of government officials through liberalization and privatization.
2. Increasing the salaries of government officials so that they can resolve their life problems.
3. Increasing the rule of law in order to prosecute or arrest bureaucrats and politicians.
4. Encouraging higher transparency in government policy-making and decision-making through the implementation of democracy, decentralization, and also creating and encouraging civil society watchers.

However, corruption is not entirely due to the factors expressed in the power theory and greed in the developing countries, but the adoption of such indicators and anti-corruption policies in many developing countries can significantly reduce corruption. Although those effects are not denied, the comprehensive studies and also the case studies showed that many of the major tools for policy-making identified in the power theories and greed are limited. For example, numerous studies have been performed in the Indian subcontinent and Eastern Europe which show that policies reducing government authority through liberalization and privatization have a negligible effect on reducing corruption in developing and transitional countries. Indeed, in many cases, privatization and liberalization have been accompanied by significant increases in corruption (Harriss-White & White, 1996).

In this regard, it seems unlikely that an increase in the salaries and the rewards of government officials (the theory of power and greed) would not be effective unless the government officials lose their positions by committing corruption. Adopting such support requires a profound change in political and legal structures. Although there is no doubt that there is a relationship between increasing the salaries of public servants and reducing corruption, the implementation of such policies is unlikely and too low (Besley & McLaren, 1993).

While there are many plans to increase the rule of law in developing countries, there is little evidence about the influence of this policy. The empirical evidence proves how far the promotion of the rule of law in developing countries has helped reduce corruption or achieve other development goals (Carothers, 2003).

On the other hand, studying the strategy of promoting transparency and creating new institutions, such as an Ombudsman, facilitates protection and support by outside institutions. This is not surprising because this is the area where many international policies are focused. In a study conducted by Huther and Shaw for the Evaluation Department of the World Bank, it was discovered that in developing countries with low levels of the governance, many strategies such as intro-

ducing the ombudsman and increasing public awareness of corruption, are not effective (Huther & Shah, 2000). However, their results indicated that reducing the government size, increasing citizen participation and promoting the rule of law (to some extent) in such countries are the best strategies.

According to the relationship between democratization and corruption, it is believed that corruption is lower in good democracies. Short-term democracy has little effect on corruption, but the long-term effects can also be explained by the fact that only economically successful countries can create long-term sustainable democracies.

The regression analysis carried out in the developed and developing countries revealed that decentralization has a significant effect on the reduction of corruption. At the same time, these studies show that when the regression analysis is conducted only for the developing countries, no relationship exists between the decentralization and the reduction of corruption. The above result is more crucial because it involves analyzing the advanced and developing countries in a regression, which had a major conflict with the obtained results.

The prevalence of corruption from the Islam perspective

In the Sharia of Islam, corruption and expediency are the criteria and benchmarks for determining ordinances and rulings. One of the main factors that lead to the government's survival and strength, and also to protect society from negative deviations, is to benefit from a comprehensive and dynamic law. This law must be such as to fight with even the lowest deviation and corruption, which impairs the supreme value of human beings, and therefore the corrupters in society do not feel safe. The rules must have the necessary capability and comprehensiveness in such a way that the punishment must be commensurate with the related crime. In such law, the offender must be treated fairly while crime repetition has to be prevented effectively. The Islamic government has based its rules on divine laws due to the defects in human laws and the existence of trial and error therein.

Corruption in Islamic government

Corruption has a special meaning in each science. In jurisprudence, one of the main topics is "denying corruption" and whether the prohibition of an act leads to its corruption or not. In this situation, corruption is against correctness, where correctness means full and effective and corruption means defective and ineffective. According to the various aspects of jurisprudence, corruption has different meanings. In worship, which is intended to be cherished, corruption means the violation of action, thus preventing the action causing the corruption and disorderly effects of it. In transactions, corruption means violating a contract. In criminal jurisprudence, corruption means unlawful acts and refers to any act of sin that is defined under some of these meanings.

Structural motivations for corruption in developing countries

Studying the theory of greed and power proved that the theory ignores some of the structural problems that developing countries face. The problem is the high level of corruption in developing countries. Understanding the structural stimuli

of corruption makes it possible to adopt a more rational stance on anti-corruption policies in developing countries and also to design appropriate anti-corruption policies to deal with all kinds of corruption. These stimuli include as follows:

A) Corruption related to government intervention

One of the common principles for fighting against corruption is the prohibition of private intervention in the government sectors. In order to accelerate development, such an action is not only necessary, but also an opportunity for extortion by official authorities. It is important to note that this assumption is incorrect. In order to accelerate economic development, the management of some sensitive interventions is necessary. Such interventions have been used by all successful Asian developing countries (Khan, 2006b). These interventions are in addition to the interventions that governments need to create a flexible basis for maintaining prosperity. Many of these interventions are beneficial and the governments need to be able to capture, recognize, maintain and manage them effectively.

Although liberation may not solve this problem, some anti-corruption strategies that are supported by the current anti-corruption program can be used. For example, improving the rule of law or increasing the salaries of official agents can help reduce corruption in areas where the government has sensitive tasks. However, some evidence suggests that these strategies are unsuccessful and require a long time to run. Therefore, other effective strategies should be adopted to deal with destructive bribery and malicious economic rent (Khan, 2006a).

Surprisingly, this answer may be similar to the answer that which advanced countries have used in dealing with economic rent and destructive bribery. In advanced countries, governments play an important role in managing the economies, and this inevitably leads to incentives for extensive economic rent. The economic rent becomes legalized in advanced countries because the interventions and economic rents have a legal infrastructure. This leads to economic rent being formed in a legal framework (e.g. lobbying industry groups to increase their benefits within the described limits). According to our definition, this economic rent with the illegal forms in developing countries is considered as corruption. Modern sections are emerging in developing countries and the helping interventions are often informal with no broad political support. However, it should be noted that this issue does not apply to all developing countries, especially the more developed ones.

Therefore, in this regard, the distinction between the desired outcome of the intervention and the cost of the economic rent of this intervention should be distinguished. Economic rent does not seriously affect the outcome of the intervention, but the resources used for it are considered as a social expense. Nevertheless, the effect of the intervention can be positive. The government's ability to ensure the effective intervention and the institutions, which can limit the cost of the economic rent, are both important in this case. However, the former is more important because no value exists in these sensitive areas to limit the cost of the economic rent, but achieving most of the intended results of the intervention fails. Therefore, the priority of developing countries should be to strengthen the government capacity to help economic growth in the vital areas, such as access to technology or the preparation of important infrastructure for the manufacturing sectors. Neverthe-

less, corruption can be significantly reduced in all developing countries by recognizing and legitimizing these government interventions in the areas that they have not been previously regulated. Simultaneously, the policy-making should strengthen the government's regulatory capacity in order to manage and regulate the intervention and economic rent. It can be said that while all developed countries still have some degree of corruption, albeit due to their high capacity in these sectors, the corruption does not disrupt the government's core duties. Therefore, the main focus of anti-corruption strategies should be to strengthen and reinforce these capacities, but this item has been underestimated in developing countries' development programs.

B) Structural Motivations of Political Corruption and Financial Constraints

It seems that dealing with other corruption motivations in developing countries may be even more difficult, and governments should propose short-term strategies to address the destructive effects of this kind of corruption. One of the fundamental problems of governments in developing countries is to maintain political stability in a situation where financial resources are severely limited. Maintaining political stability requires the availability of sufficient financial resources to help areas that have political power or social legitimacy. However, this issue is ignored in the allocation of income and resources, through economic processes. The tax in developed countries ranges from 35% to 50% of the gross domestic product, which is mainly distributed in different areas to maintain social cohesion and political stability. On the other hand, in developing countries, only 10% to 25% of the gross domestic product is assigned to tax due to the small size of the modern sectors and institutional weaknesses. In most developing countries, after paying employee salaries, no money is left to provide essential services or to create vital infrastructure for development (Khan, 2006b). In many developing countries, the main development cost is financed through domestic bonds and also external financial flows, and, as a result, little financial space remains to achieve the required stable redistribution of funds. Nevertheless, strong institutions exist in the developing countries, which want to maintain the redistribution and political stability. This goal is not usually achieved by limited redistribution through the budget. This structural problem explains the importance of Patron-Client networks in developing countries. The transfer of non-budgetary resources through strong support networks to powerful areas is a common mechanism for maintaining the political stability in all developing countries. Unfortunately, this process has the potential to exacerbate corruption because political power is used extensively to benefit individual followers in order to keep the political supporters in power through this mechanism. The political scientists and sociologist have shown hundreds of different social gaps that have been formed around the Patron-Client categories in the developing countries. However, clarifying the reasons for the widespread presence of the Patron-Client bands in all developing countries requires a more comprehensive explanation regardless of the cultural history, economic strategies and even political institutions (Khan, 2006b). An important part of this explanation in developing countries is the economic problem of maintaining political stability during a financial shortage. Due to the lack of resources, it is

not possible to provide the required resources for all the deserved groups in all domains. So, supplying the required resources should be carried out through the networks unclearly. If these resources are not available in the budget, the governments are forced to provide it through non-budgetary means, which involve corruption. Therefore, increasing the resources to create the political stability can lead to the political corruption in all important areas (Khan, 2006a).

Figure 1: **Motivations of political corruption in developing countries**
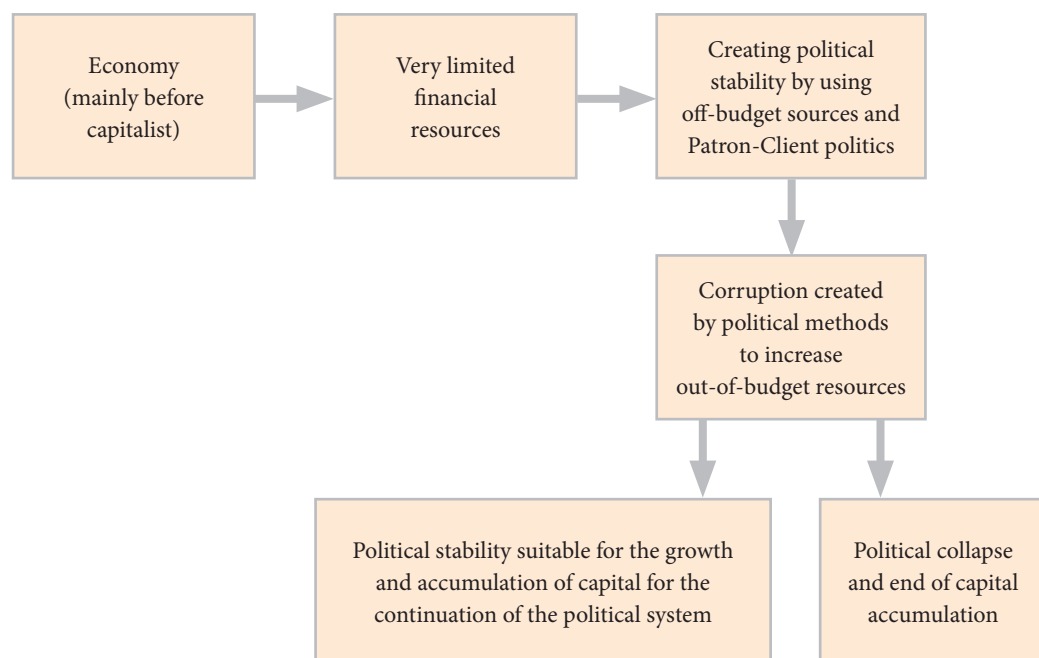
If greed and power allow the spread of some of these cases of corruption, they will also allow government officials to benefit from these systematic stimuli. Still, the power of authority or the greed of officials cannot be regarded as the main motive for this type of corruption. As illustrated in Fig. 2, the main drivers of this type of corruption are financial constraints and the political stability. The financial limitations cannot be restricted as long as the possibility of creating this kind of corruption is relatively eliminated.

Incidentally, although the supportive policy and associated political corruption are common in all developing countries, the results of these issues are completely different in regards to economic development. Hence, in some cases this policy can lead to political stability and thereby lead to growth, but in other cases it will fail. The reason for the difference in the success and failure in some developing countries is not the lack of political corruption. This is due to the difference in organizing the Patron-Client politics and also managing dispersed demands.

In this regard, our analysis of the motivations of political corruption is compatible with the evidence of the political corruption and the failure of the reforms in all developing countries. Reformist governments, which are chosen from among

the most well-known candidates and substituted by corrupt governments, seem to be corrupted by exerting pressure on the existing order in a relatively short period of time. This example shows that the existing robust structural stimuli are so strong that they will finally overcome the anti-corruption policies. These experiences show that reforming the transparency and accountability system by addressing financial constraints and achieving political stability through transparent financial transfers on its own cannot solve the problem of corruption. There are also many case studies about corrupt politicians who have defeated honest politicians in elections even when their corruption is revealed and there is no transparency in their functioning.

It should be noted that this argument does not mean that the fight against political corruption is impossible, but rather it means that this fight must not be condemned to failure and that its results can be achieved at future. Reforming and corrective measures in governance should be focused on guarantee the preservation of political stability. It also should be focused on the destructive effects of political corruption, which seriously threaten social and human development and eliminate the stability and legitimacy of the government. The reforms that are appropriate for solving those problems are valid only for a particular country, and it is not possible to provide similar anti-corruption strategies for all countries.

It is worth mentioning that the difference between developing countries in the means of applying Patron-Client politics strongly depends on the subtle differences in the organization of political parties, and the Patron-Client groups. The historical experiences in changing the direction of the economic approach (e.g. South Korea in the early 1960s and Malaysia in the early 1970s) are closely related to changes in the organization of domestic politics in the countries. The examples demonstrate the possibility of achieving political stability even if the policy of support is not immediately eliminated. Current government programs and policies do not provide any starting point for developing countries to determine their governance weaknesses or to help them to implement reformist governance plans in order to address the more destructive dimensions of political corruption.

C) Weak ownership and exchanges (transactions) with non-market methods

One of the main structural problems in many developing countries is not enough protection of private property due to limited government resources. In most of the commonly used analyses of governance and corruption in developing countries, it is widely assumed that ownership rights can be substantially supported through governance reform and the reduction of corruption. This analysis ignores this economic reality that the establishing of a stable national comprehensive system for ownership rights is costly. Developed countries also achieve significant stability in ownership rights at the last stages of their development (when most assets reach their highest levels of productivity) (Khan, 2006b).

The results of the new institutional economy, provided by Douglas North, show that the protection of ownership rights is costly. These costs are considered as transaction (exchanges) costs, and the new institutional economy emphasizes that the exchange costs in advanced economies account for roughly half of all economic activity. The cost of exchanging for an efficient economy is much lower than

the exchange costs of other countries. For an efficient market-based economy like United States, exchanging (transaction) costs for its dealers may be low at the exchange place (the definition of an efficient market), but the total exchanging costs for the whole economy are not low. Of course, these exchange costs can be paid because almost all assets in a developed country are productive (as defined) and the owners can pay personal costs and taxes based on the legal and security system, which ensures the low exchange costs.

By analyzing a developing country, it must be acknowledged that most of the assets have low productivity and the cost of supporting them is high. It is not surprising that all developing countries are suffering from weak and frivolous property rights (ownership).

The factors for this instability can be seen in Figure 2. When most of the assets in one country do not yet have high productivity, the ownership rights cannot be defined and considered effectively.

Figure 2: **Factors for transferring assets with out-of-market methods in developing countries**
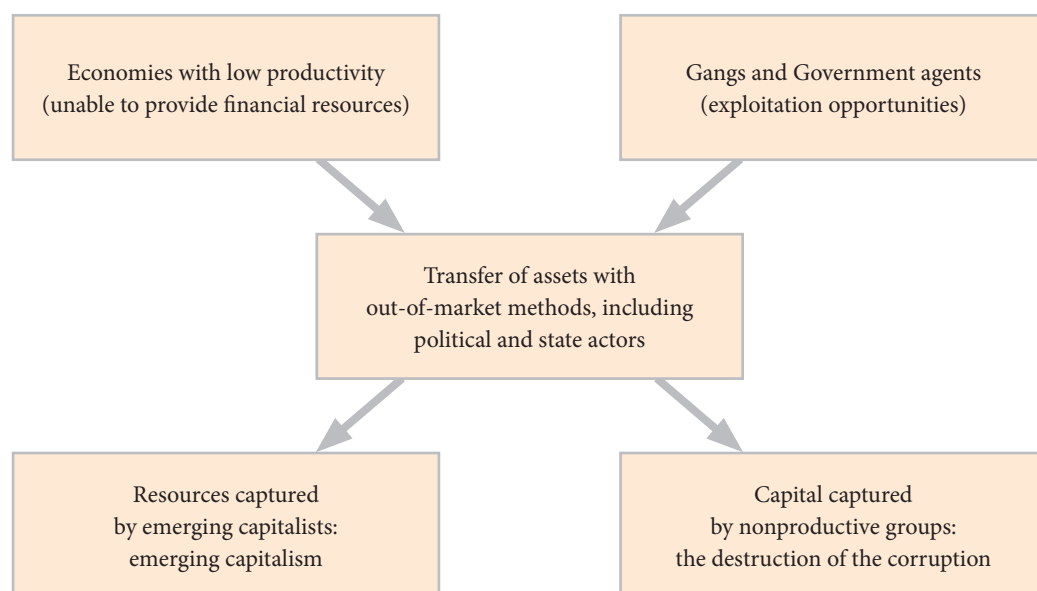
Developing countries are facing much more instability in property rights (ownership) than developed countries. This is not entirely due to greed or misuse of power by their government officials. When the ownership is not secure and the exchange (transaction) costs are high, many exchanges (transactions) will inevitably be costly through the market. Thus, in developing countries the out-of-market distributors are more visible everywhere than in developed countries. These transactions that are not conducted in a free market include the high-level misuse of political power, allocating state land for development and extensive use of the authority to allocate state resources. These processes are structurally essential in developing countries but eventually may lead to abuse

and corruption. But these processes cannot be stopped just like the Patron-Client politics and political corruption, simply by addressing the greed and power of government officials, because there are stronger structural factors which stimulate these processes. The consequences of this exchange out of the market can either lead to a successful transition to a modern capitalist economy, or to the destruction of resources.

The case studies reveals that many Asian and African developing countries with low growth rates (when compared to China) are generally facing a high degree of conflict over ownership in their economies. However, the consequences for the economies of these countries are very different from each other. In countries such as China, the profits of the investors into the productive sectors have considerable stability (if they are always profitable). However, comparing the ownership rights in China with those of other countries proves that the majority of the Chinese owners are likely to be confronted with the challenge of ownership rights.

On the other hand, in poor countries, the main problem is that the generative entrepreneurs often face uncertainty in their expectations, and as a result, the level of investment between them is low. This analysis shows that a more significant set of governance reforms is required, which can create sustainable expectations in the critical sections in order to accelerate investment and growth. Instead, in poor countries without sufficient economic resources, trying to implement the reform programs to achieve stability in the ownership rights likely leads to the failure and abandonment of the programs.

D) Exploitation and expropriation

The worst and the most destructive type of corruption in most developing countries is government corruption. According to government corruption, the government officials use their political and military power to seize the citizens' property. The Patron-Client politics in developing countries and the exchange of assets by out-of-market methods are a form of exploitation which hinder investment and development. The critical boundary between maintaining political stability and damaging sustainable development in the patterns of Patron-Client politics is vague and ambiguous (see: Fig. 3).

Figure 3: **The main motivations of exploitation and expropriation**
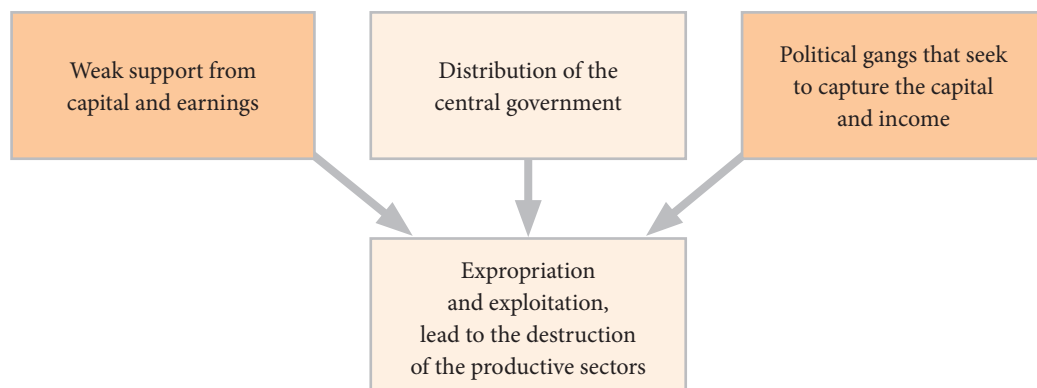
When the government is integrated and it is institutional and political organizations can be consistently compatible with each other, it is unlikely that the common Patron-Client politics or non-market exchanging methods lead to government destruction (Shleifer & Vishny, 1993). This is solely because the superior governmental organizations, due to their own interests, limit the lower officials or the organizations whose authority threatens their entire interests.

Nevertheless, the main anti-corruption program may ignore some major problems in some of the developing countries. In these countries, transparency, increased salaries, and anti-corruption auditors have no required or necessary effects. Policies and programs in these countries should be based on the creation of a Hobbesian government in a society in which the state is separated from that society, not an emphasis on Adam Smith's reforms that restrict the freedom of the state. This program is strongly based on the greed and power theory for the thousands of permanent problems in developing countries with poor performance.

In this regard, it can be concluded that the decline and fall into exploitation in some of the weakest developing countries is not due to the greed and power of the official, but because of the official inability to impose or implement the desired social order. In those countries, reforms based on an incorrect analysis of the corruption factors can eventually decrease the government's ability to take decisive actions. This analysis does not deny that government legitimacy is very important. In addition, it does not deny that the government that behaves arbitrarily may not be able to impose a social order. This analysis reveals that the main factors that cause such problems should be precisely determined and solved by anti-corruption reforms.

Our discussion about different motivations behind corruption in this section can help to explain the contradiction that all developing countries have a high level of corruption and all of these countries have failed in their early stages of the development in the good governance. These observations can be explained by the argument that many of the corruption and poor governance drivers (such as poor ownership) are structured and therefore they are generally inevitable in all developing countries. However, high-growth countries have potential governance capacities that allow them to avoid most of the destructive aspects of such structural stimuli.

The effect of politics on corruption

By considering the other motivations, the reforming programs such as liberalization, increased salaries, law domination and transparency do not cause a significant reduction in corruption. However, there is no reason why unnecessary downtime and other malicious interventions should not be targeted or eliminated in developing countries.

Based on necessary state interventions, the reforming programs should be completely different. Historical observation has shown that successful governments suffer from a degree of corruption in these areas, but those countries have powerful government capacities which guarantee the achievement of desir-

able outcomes. In addition, the cost of the corruption in those countries is not so high as to eliminate the net profit generated by these outcomes. On the other hand, governments with less success cannot fulfill their essential duties effectively and, as a result, the corruption in those areas is very destructive, because the rent seeking cost is added to the poor results. We believe that the reforming programs and policies in this area should focus on strengthening the government capacities and formuling and correcting the economic rent seeking.

In the case of political corruption, all developing countries must tolerate levels of corruption that cannot be solved in the prolonged period. In addition, some strategies should be defined in developing countries to limit this kind of corruption by increasing financial redistribution in order to maintain political stability in a transparent manner. However, the priority of midterm reforms must be to limit the destructive effects of political stability through the Patron-Client networks. This problem may be solved in some countries through the restructuring of these political arrangements. It should be noted that this is a completely internal problem that the developing countries must solve on their own terms. The ownership instability and the related corruption is an effective problem in developing countries. But in the high growth countries there is appropriate institutional capacities in order to guarantee stable expectations in the important areas. In other countries, the priority of the reforms should be focused on learning from experiences, to develop the governance necessary capacity, even if a desired level of stability in ownership is not achieved in all of those countries over the years.

Finally, exploitation is the most important threat to developing countries. All successful countries significantly reduced exploitation and increased ownership because they had powerful governments which could stop the lower authorities (officials) or dealers being in contact with the local authorities. Rapid and sustainable development by governments that do not have the ability to impose the social order is not possible. However, there are many examples of fast growing governments that suffer from corruption. Strengthening the executive capacity in states (governments), which are faced with predatory governmental behavior is better than the elimination of inefficient states (governments).

Conclusion

This paper analyzes whether it is possible to interpret governance plans as a prerequisite for development. The results show that both weak ownership and structural motivations for corruption make it hard to achieve development in a developing country, regardless of their economic performance. According to our analysis, the real danger occurs when those structural motivations are not properly understood. Apart from the mentality of the corruption indicators and the possibility of manipulating them, the studies proved that the negligible differences among those indicators do not reveal the prospects of development in developing countries. Instead, the obtained results proved that in order to accelerate the economic and social changes in the developing countries, the important governance capacities for each country should

be determined separately. Meanwhile, a framework is required to distinguish between the different types of corruption in order to regulate the possible priorities for reforming national institutions and anti-corruption strategies. In addition, the results revealed that by emphasizing a long list of unachievable goals as urgent corrective priorities, the opportunity for performing the vital reforms is ultimately destroyed. On the other hand, the forming program is at the risk of creating frustration and making it impossible to conduct the reforms, because it seems impossible to achieve its goals.

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QUANTITATIVE ANALYSIS OF FACTORS AFFECTING CITIZEN PARTICIPATION IN LOCAL GOVERNANCE: THE CASE OF YEREVAN

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Abstract

The purpose of this research was to identify the key factors affecting active citizen participation in local governance and understand the extent to which each of them affects the potential participation. A survey was conducted among 1004 citizens of Yerevan to reveal the main characteristics of those who were for and against active participation, their attitudes towards certain types of participation, as well as the reasons for not participating. The questions included in the questionnaire resulted in an input of both dependent and independent variables (predictors). Raw data were processed through Microsoft Excel and then imported into SPSS 20.0 software. Collected primary source data were used to build a binary logistic regression model. The 0.353 value of Nagelkerke R2, which characterizes the predictive power of the logistic regression, may be considered a significant result for analyses in social sciences. The models also revealed individual relationships between potential citizen participation and some specific variables that might enable local authorities to carry out more targeted and effective policies in terms of participatory governance. Disclosure of such relationships can be useful not only for ensuring active participation of citizens in local governance, but also in terms of contribution both to the theory and practice of public administration.

Introduction

Nowadays, citizen participation in decision-making is one of the necessary conditions for effective local governance. Public services at local level have the peculiarity that they directly affect the everyday living problems of the residents, and they immediately experience that impact in their daily lives.

Participation practices in local governance have experienced a particularly rapid development in the mid-twentieth century, with the use of new mechanisms and methods. According to Roberts, "citizen participation is the process by which members of a society (those not holding office or administrative positions in government) share power with public officials in making substantive decisions related to the community" (Roberts, 2009, p. 7). Beierle defines public participation as any formal mechanism that can invite ordinary citizens or their representatives into decision-making (Beierle, 1998, p. 6).

And irrespective of the fact that the importance level of citizen participation has always been fluctuating, it is obvious that at present these processes are considered as indivisible components of the modern local governance system. Citizen participation has also been referred to by Sherry Arnstein, who interprets it the following way: "The idea of citizen participation is a little like eating spinach: no one is against it in principle because it is good for you" (Arnstein, 1969, p. 216). Fitzgerald et al. argue that as science and technology advances, traditional stakeholders in the policy-making process should work together with citizens to make an impact by exploiting individual and collective intelligence (Fitzgerald et al., 2016, pp. 257–258).

Mohammadi et al. claim that good governance is driven by enhanced people participation. Since, people participation in local issues is the heart of local governance, it is thus the main factor in local development, with both at the national and local governments taking the lead (Mohammadi et al., 2018, p. 1776). Given this universal support for the idea of community involvement, it can be argued that the main debate among theorists, policymakers and governing bodies is not about the necessity of citizen participation, but rather on how to generate the maximum benefit from this process.

Although citizen participation is a simple idea at first glance, Rosener notes that the seemingly simple phenomenon is actually a very complicated and intricate concept and the lack of knowledge about the effectiveness of participation is probably the result of the fact that few people realize its complexity (Rosener, 1979, p. 458). In this aspect, the literature review reveals extensively diverse and distinctive approaches to the effectiveness of citizen participation (Berner, 2012, pp. 128–163). Some scholars emphasize also the lack of diversity and inclusion. Well-educated, civically active and politically interested citizens are overrepresented in all forms of citizen participation (Michels, 2017, p. 880). A careful study of literature suggests that there are no authors who oppose the idea of citizen participation or consider it a negative process.

However, in many cases people are simply not aware of the forms or methods of participation, and, in general, about having the opportunity to participate. In this regard, in order to ensure effective participation, it is important

to first understand the factors that affect citizens' decisions to actively participate, which will allow the authorities to evaluate the participatory governance capacities in their administrative units and increase its effectiveness. An indepth study of incentives for participation in local governance is needed not only to evaluate the phenomenon of participation but also to develop and implement appropriate approaches and mechanisms by the authorities. It is also of utmost importance to find out which factors and variables have the largest impact on citizens' decisions to participate. The effectiveness and expediency of citizen participation also depends on who exactly the participants are and what kind of public group they represent.

Methodology

A survey was conducted among 1004 of the Yerevan electorate in order to reveal the main characteristics of those who were for and against active participation, their attitude towards certain types of participation, as well as the reasons for not participating. The representative sample size was calculated for 850,000 citizens who have the right to vote, at a 95% confidence level, with a confidence interval of 3.

The concept of "active participation" was presented as the practice of joint discussion of budget and development plans with local authorities as well as having a direct impact on their decisions. As a result of the preliminary research, the presumption had been that the relative weight of citizens having active participation from the total population would be very low, so an attempt was made through the survey to find answers to the above mentioned questions. The survey was conducted both in electronic form and by hand to hand distribution of questionnaires.

The survey was organized in a way to ensure that all administrative districts of the city, age groups, income groups and other target groups were covered by the questionnaire. At the same time, the questionnaire was designed to the greatest possible extent in a simplified way so that it could provide a larger number of answers and significant representativeness. In particular, all the questions (with the exception of the question on the number of family members) were closed-ended.

Apart from the main characteristics, we have tried to find out what kind of participation was observed among a very limited number of active participants, as well as the main reasons for not participating. By dint of such an approach, it became possible to identify problems of participatory governance and ways to overcome them.

We applied a set of statistical methods to be able to answer questions like "which factors affect citizens' decisions to participate?", "to what extent certain factors affect their decisions?" or "what's the probability of a citizen with given features to participate?". *The econometric analysis was summarized by construction of a regression model, the results obtained by which will enable city authorities to identify the potential groups of active participants and develop targeted policies of participatory governance.*

Collected primary source data were used to build the econometric model. It gave us an opportunity to explain and predict citizen participation in the governance of the city.

The questions included in the questionnaire resulted in an input of both dependent and independent variables (predictors). Raw data were processed through Microsoft Excel (Figure 1) and then imported into SPSS 20.0 software. The main task of the presented model was to explain the decisions of citizens to participate in the governance, or otherwise to reveal the "potential participation", which was considered as dependent variable in the model.

Data Analysis and Key Findings

A simple linear regression model based on an ordinary least squares method could not be applied because the dependent variable is not continuous and can only take two values. A linear probability model had also been considered with dichotomous dependent variable, but it was rejected because all the independent variables also had to be continuous, which we do not have in our case. Both dependent and independent variables have qualitative features.

Figure 1: Processed Raw Data on Citizen Participation in Yerevan through Microsoft Excel (1004 observations)

Sources: Compiled by the author according to his own calculations.

For the purpose of analysis of citizen participation in Yerevan, binary logistic regression was applied, which makes it possible to transform qualitative data into quantitative variables through the creation of dummy variables. For each independent variable a specific dummy variable was created, which receives values of either 0 or 1 (Table 1).

Table 1

Encoding of Dummy Variables Used in the Model

		Frequency	Dummy Variables									
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Administrative district	1	131	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	2	119	1.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	4	62	.000	1.000	.000	.000	.000	.000	.000	.000	.000	.000
	5	142	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000
	6	118	.000	.000	.000	1.000	.000	.000	.000	.000	.000	.000
	7	58	.000	.000	.000	.000	1.000	.000	.000	.000	.000	.000
	8	22	.000	.000	.000	.000	.000	1.000	.000	.000	.000	.000
	9	106	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
	10	116	.000	.000	.000	.000	.000	.000	.000	1.000	.000	.000
	11	49	.000	.000	.000	.000	.000	.000	.000	.000	1.000	.000
	12	81	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000
Income	1	135	.000	.000	.000	.000	-	-	-	-	-	-
	2	462	1.000	.000	.000	.000	-	-	-	-	-	-
	3	207	.000	1.000	.000	.000	-	-	-	-	-	-
	4	87	.000	.000	1.000	.000	-	-	-	-	-	-
	5	113	.000	.000	.000	1.000	-	-	-	-	-	-
Age	1	357	.000	.000	.000	-	-	-	-	-	-	-
	2	292	1.000	.000	.000	-	-	-	-	-	-	-
	3	234	.000	1.000	.000	-	-	-	-	-	-	-
	4	121	.000	.000	1.000	-	-	-	-	-	-	-
Education	1	171	1.000	.000	-	-	-	-	-	-	-	-
	2	156	.000	1.000	-	-	-	-	-	-	-	-
	3	677	.000	.000	-	-	-	-	-	-	-	-
Attitude towards authorities	1	105	1.000	.000	-	-	-	-	-	-	-	-
	2	339	.000	1.000	-	-	-	-	-	-	-	-
	3	560	.000	.000	-	-	-	-	-	-	-	-
Familiarity with the district head	1	514	1.000	-	-	-	-	-	-	-	-	-
	2	490	.000	-	-	-	-	-	-	-	-	-
Gender	1	383	1.000	-	-	-	-	-	-	-	-	-
	2	621	.000	-	-	-	-	-	-	-	-	-
Previous Participation	1	142	1.000	-	-	-	-	-	-	-	-	-
	2	862	.000	-	-	-	-	-	-	-	-	-

The base model, constructed without the effect of independent variables, predicts the dependent variable to take value "2" (which reflects potential participation) with 62.3% accuracy (Table 2). This is derived from the fact that 62.3% of the respondents answered "Yes, it's always important" to the following question "Do you think that citizens, including you, should actively participate in the governance of the city?". The other 37.7% said "no, it's useless". The base model without predictors is worth considering, because by comparing with the main model it's possible to reveal the predicting power of independent variables.

Table 2

Base Model (Without Predictors) Prediction Accuracy

Observed		Predicted		
		Y		Percentage Correct
		1	2	
Step 0 Y	1	0	379	.0
	2	0	625	100.0
Overall Percentage				62.3

Table 3 shows dummy variables used for the model, which reflect specific groups of population. For instance, for independent variable "age" 3 dummy variables have been created. The corresponding question in the questionnaire was formulated in the following way: "What is your age?". The options for the answers were: a) 22 and under, b) 23–36, c) 37–52, d) 53 and over. Based on those 4 answers, 3 dummy variables were created and one of them was left out as a reference category (in this particular case, it's first age group, which is used by the model to measure the relative impact of all the other age groups). This kind of approach has been used for the whole model. Dummy variables for three possible answers to the "age" question have been encodes as AG2, AG3 and AG4.

Table 3

Dummy Variables, Used for the Binary Logistic Regression Model

Variable, representing the group	Description of the Group
AG2 – second age group	23–36
AG3 – third age group	37–52
AG4 – fourth age group	53 and over
IG2 – second income group	200–600 dollars per month
IG3 – third income group	600–1000 dollars per month
IG4 – fourth income group	1000–1400 dollars per month
IG5 – fifth income group	more than 1400 dollars per month

Logistic regression generates values within the range from 0 to 1, which can be interpreted as probabilities. In the given case the model makes it possible to measure what the probability is for a citizen with specific features (age, income, education, political views, etc.) to be willing to participate in the governance of the city. In fact the model also enables the identification of factors affecting citizen participation.

Hosmer and Lemeshow's goodness-of-fit test, which is based on χ^2 (chi-squared) distribution, is one of the most robust tests of the logistic regression model, which checks to what extent model fits the specific case. However, unlike other indicators, in this case the model is considered to be fit if the value of probability for identifying statistical significance is more than 5%. In our case (Table 4) the value of P is 0.876 which is significantly more than 0.05. *This fact allows us to argue that the model largely fits the case and can be applied for predicting potential citizen participation.*

Table 4

Hosmer and Lemeshow Test for the Main Model

Step	χ^2 chi-square	Degrees of Freedom	Statistical Significance (P)
1	3.790	8	.876

Because binary logistic regression was used instead of simple or multiple regressions, ordinary R^2 is not applicable for measuring the predicting power of the model. For this purpose Nagelkerke R^2 was counted instead, which is based on the comparison of the logarithmic values of the probabilities of base and main models (Nagelkerke, 1992).

Table 5

Nagelkerke R^2 Coefficient for Measuring Predicting Power of the Main Model

Step	-2 Log Likelihood	Nagelkerke R^2
1	1056.211	.326

As can be seen from the table, the value of Nagelkerke R^2 is 0.326, *which means that potential citizen participation of 32.6% depends on the value of predicting dummy variables which are included in the model. In accordance with this final fact, it can be asserted that the model is effective for predicting potential citizen participation and has significant level of predicting power.*

The main logistic regression model, that includes the impact of independent dummy variables, predicts the dependent variable to take value "2" (which reflects potential participation) with 73.6% accuracy (Table 6). Thus, as compared to the base model (62.3%), predicting accuracy has increased by 11.3%. This significant growth of model efficiency comes about to reiterate and support

the positive results, already gained through the Hosmer and Lemeshow test, as well as measuring the Nagelkerke R^2 coefficient.

Table 6

Predicting Accuracy of the Main Logistic Regression Model

Observed		Predicted		
		Y		Percentage Correct
		1	2	
Step 1 Y	1	212	167	55.9
	2	98	527	84.3
Overall Percentage				73.6

For the discussion of regression model, it is also important to refer to the statistical significance of the dummy variables and then to exclude from the model those predictors, which do not have P<0.05 value.

Table 7

Variables in the Main Model

	β	S.E.	Sig. (P)	Exp (β)	95.0% Confidence Intervals for Exp (β)	
					Lower	Upper
District	-	-	.428	-	-	-
District1	-.227	.312	.467	.797	.433	1.469
District2	-.222	.376	.554	.801	.383	1.673
District3	.114	.317	.718	1.121	.603	2.086
District4	-.221	.316	.485	.802	.431	1.491
District5	-.400	.399	.316	.670	.307	1.465
District6	.608	.562	.279	1.837	.611	5.524
District7	-.509	.328	.121	.601	.316	1.144
District8	.181	.326	.579	1.198	.633	2.268
District9	.272	.410	.507	1.313	.587	2.933
District10	-.147	.351	.676	.864	.434	1.717
Age	-	-	.000	-	-	-
AG2	-1.073	.201	.000	.342	.231	.507
AG3	-1.631	.212	.000	.196	.129	.297
AG4	-1.316	.254	.000	.268	.163	.441

	β	S.E.	Sig. (P)	Exp (β)	95.0% Confidence Intervals for Exp (β)	
					Lower	Upper
Male	-.005	.167	.978	.995	.717	1.381
Education	-	-	.000	-	-	-
Secondary	-.982	.207	.000	.375	.249	.563
Vocational	-1.022	.216	.000	.360	.236	.549
Income	-	-	.002	-	-	-
IG2	.701	.232	.002	2.017	1.280	3.176
IG 3	.725	.263	.006	2.065	1.233	3.458
IG4	1.511	.392	.000	4.529	2.102	9.761
IG 5	.786	.321	.014	2.194	1.169	4.117
Attitude towards authorities	-	-	.000	-	-	-
Positive	2.428	.458	.000	11.336	4.616	27.837
Neutral	.407	.165	.014	1.503	1.087	2.077
Familiarity with the district head	.111	.161	.492	1.117	.814	1.533
Previous Participation	1.034	.285	.000	2.811	1.607	4.919
Constant	.725	.344	.035	2.065	-	-

The data included in the fourth column of the table indicate that some of the predicting variables (grayed out) have no statistically significant impact on potential participation (P> 0.05), for example, the group of variables that determine the administrative district. Each of the administrative districts in Yerevan has separate authorities and, in this respect, when modeling the administrative district factor, it was assumed that the respective authorities may have an impact on the decision of the citizens. For this purpose, the corresponding dummy variables have been created for administrative districts, from which "Kentron" administrative district has been adopted as a reference category. However, as the indicators of statistical significance suggest, the potential participation of the population does not depend on the particular administrative district, or in other words the active participation of the residents of Yerevan is equally possible in all administrative districts and there is no significant difference among them.

The results of the analysis show that there are no significant gender-dependent differences in the willingness of the citizens to actively participate. The probability of the null hypothesis to be confirmed is very high, close to 100% (P = 0.978). The same circumstance is also confirmed by the exponential value of the "Male" dummy variable (Exp (β) = 0.995), which means that male citizens are only 0.05%

more eager to actively participate in the city administration. Thus, the gender of the participants, as a separate predictor, is not statistically significant and must be excluded from the model.

The same applies to the dummy variable that is created to describe whether the active participation of the population in the governance of Yerevan depends on the factor of recognizing the head of his own district. The latter was incorporated in the model since the elimination of district municipalities in Yerevan and the formation of administrative districts had some negative consequences in terms of the "accessibility" of local authorities. In particular, the current heads of administrative districts, appointed by the mayor (unlike the former heads of municipalities who used to be elected by the population), often detach themselves from the problems of the citizens and lose the connection with them, which is one of the mandatory preconditions of effective local governance.

The survey reveals that 490 out of 1004 citizens of Yerevan, effectively half, do not even know who the head of their administrative district is. This is a very low percentage, given the fact that after the constitutional amendments the main purpose of the formation of the administrative districts was to bring the governance of a major city closer to the population and to ensure the link between the city administration and its citizens through the head of administrative district. Anyway, the results of logistic regression analysis make it clear that this particular factor does not have a significant impact on the willingness of citizens to participate in the decision-making ($P = 0.492 > 0.05$). For this reason, the corresponding dummy variables were excluded from the model.

The new improved model was tested both for fitness and predicting power, which produced differing results from the main model. The Hosmer and Lemeshow test results also indicate this time that the probability of null hypothesis confirmation (0.266) significantly exceeds the normative value of 0.05, *which allows us to claim that the improved model also fits the case and it can be used for describing potential participation (Table 8).*

Table 8

Hosmer and Lemeshow Test for the Improved Model

Step	χ^2 chi-square	Degrees of Freedom	Statistical Significance (P)
1	11.691	8	.266

As for the predicting power of the improved model, it can be clearly seen in Table 9 that the Nagelkerke R^2 value has slightly decreased from its initial value (0.326) to 0.313, which means that potential participation is by 31.3% dependent to the changes in the predictors, as included in the model. This insignificant change is a result of the exclusion of statistically non-significant variables from the improved model. Regardless of this fact, the *high value of Nagelkerke R^2 asserts that the improved model is also an effective tool for prediction and has significant predicting power.*

Table 9

Nagelkerke R² Coefficient for Measuring Predicting Power of the Improved Model

Step	-2 Log Likelihood	Nagelkerke R²
1	1068.308	.313

The improved logistic regression model, that excludes the impact of statistically non-significant dummy variables, predicts the dependent variable to take value "2" (which reflects potential participation) with 72.9% accuracy (Table 10).

As compared to the base model (62.3%), predicting accuracy has significantly increased by 10.6%, even though there has been a slight decrease compared to the main model (0.7%).

The latter is a result of dismissing non-significant variables from the model. *Thus, it can be argued that the improved model is more effective in terms of predicting potential citizen participation.*

Table 10

Predicting Accuracy of the Improved Logistic Regression Model

Observed		Predicted		
		Y		Percentage Correct
		1	2	
Step 1 Y	1	206	173	54.4
	2	99	526	84.2
Overall Percentage				72.9

The values for the dummy variables, used in the improved model, are presented in Table 11. In particular, beta coefficients, their standard errors, statistical significance, exponential values of the coefficients, as well as confidence intervals are counted. The data included in the fourth column of the table indicate that all the predictors included in the improved model are statistically significant, because for all of them null hypothesis is rejected with the $P<0.05$ value.

The negative value of beta coefficients indicates that the given dummy variable decreases the probability of active participation, and their corresponding exponential values are less than one. For sure, these values depend on the choice of reference category, because the probabilities for dependent variable are counted in terms of relative values of given dummy variable and the reference category.

Table 11

Variables in the Improved Model

	β	S.E.	Sig. (P)	Exp (β)	95.0% Confidence Intervals for Exp (β)	
					Lower	Upper
Age	-	-	.000	-	-	-
AG2	-1.013	.195	.000	.363	.248	.532
AG3	-1.569	.205	.000	.208	.139	.311
AG4	-1.204	.248	.000	.300	.185	.488
Education	-	-	.000	-	-	-
Secondary	-.944	.200	.000	.389	.263	.576
Vocational	-1.015	.212	.000	.362	.239	.548
Income	-	-	.000	-	-	-
IG2	.707	.227	.002	2.027	1.298	3.165
IG3	.799	.260	.002	2.223	1.336	3.699
IG4	1.628	.379	.000	5.095	2.422	10.720
IG5	.835	.307	.006	2.305	1.264	4.205
Attitude towards Authorities	-	-	.000	-	-	-
Positive	2.421	.455	.000	11.258	4.612	27.482
Neutral	.379	.160	.018	1.461	1.068	1.998
Previous Participation	1.063	.281	.000	2.894	1.669	5.019
Constant	.600	.250	.016	1.822	-	-

For the economic interpretation of the data, the exponential values of the beta coefficients are particularly important. Thus we will refer to them one by one through the corresponding dummy variables.

As stated already, five dummy variables were created for independent variable "Age" in accordance with specified age groups, from which AG1 (22 and under) was taken out as a reference category. The exponential values of the beta coefficients of age groups show that active involvement in the management of the city is particularly important for those under the age of 22, as the dummy variables for all other age groups have an exponential beta value of less than one, 0.363, 0.208 and 0.300. The difference is especially significant between the citizens aged under 22 and 37–52. The latter group is 79.2% (1−0.208 = 0.792) less likely to have an active participation in city governance, compared to those aged under 22. *Thus, we can assert that citizens under the age of 22 are the most active group for participation in decision making.*

The dummy variable that identifies higher education has been chosen as a reference category for the independent variable "Education". As the theoretical hypothesis suggests, citizens with higher education are more prone to participatory actions (Verba, 1995). In particular, the findings of presented logistic regression suggest that citizens with higher education are much more likely to have an active participation in comparison with the other two groups, more specifically, 61.1% more compared to those with secondary education, and 63.8% more than those who have vocational education.

The analysis of income groups provides quite valuable results for potential participation. Five income groups were shaped in the regression model, the first of which was considered as a reference category (up to $200 per month). Beta coefficients for other groups have received exponential values of 2.027, 2.223, 5.095 and 2.305, respectively. This data already suggest that participating in local governance is considerably less important for those with less than 200$ monthly, compared to the other groups. However, it is also interesting to note that the representatives of the 4th income group ($1000–1400 per month) are particularly active, being more than five times likely to have any willingness for active participation in local governance than the citizens of the first income group. At the same time, it would be a mistake to assert that as the income of the citizens grows, they will tend to have more willingness to participate, because according to the results of the analysis, citizens from the highest income group are about 2.2 times less likely to be willing to actively participate in local governance. *Consequently it can be concluded that from the income groups perspective the greatest potential for participation in governance exists among middle-income citizens.*

For graphically illustrating the above mentioned dependence, the vertical axis is labeled "potential participation", calculated through the exponential beta values of the income group, and the horizontal axis is labeled "averaged income groups" showing changes in income of the citizens. *Figure 2 clearly shows that potential participation of the citizens increases as income grows, however the level of potential participation starts to decline from a certain level of income ($1200).*

Figure 2: **Potential Citizen Participation, Depending on Income Level**
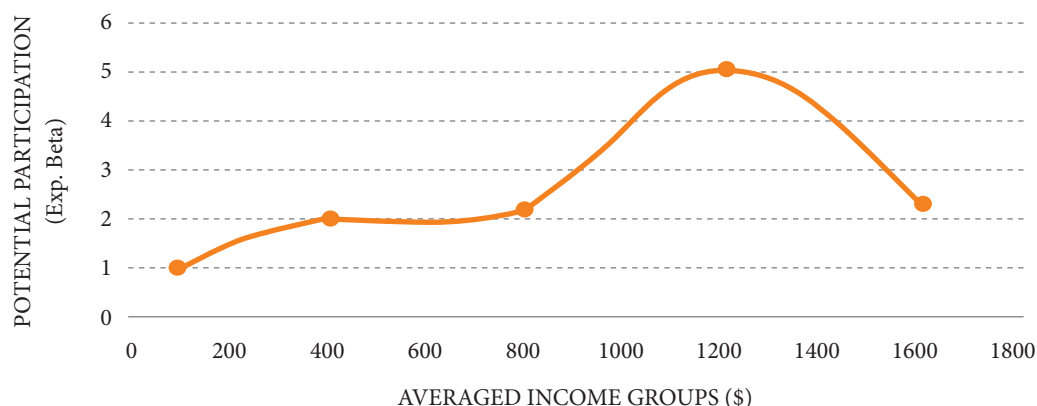
Disclosure of this kind of relationship between income and potential partici-pation can be useful not only for ensuring the active participation of citizens in lo-cal governance, but also in terms of contribution both to the theory and practice of public administration. The results obtained in this research consistently prove the need for equitable distribution of income and the formation of a middle class. If there is a high proportion of middle-income people in a given city or country, then a more successful civil society can be formed, with a considerable level of de-mocracy and active civic participation. Citizens with neither high nor low levels of income are as willing to actively participate in decision making at local level as people with middle incomes are. In this sense, a functioning middle class is an indispensable condition for the implementation of effective public administration, based on genuine democracy.

The willingness of citizens to have active participation is significantly af-fected by their own attitude towards the ruling authorities. Three dummy vari-ables were created based on the predictor "attitude towards authorities" from which "negative attitude" was chosen as a reference category. *The results of the analysis show that those citizens who have a positive attitude towards the authori-ties are 11 times more likely to participate compared to those who have a negative attitude (exp (β) = 11.258).* It is also important to note that the likelihood of the active participation of neutral citizens is only 46% higher than those negatively predisposed (exp (β) = 1,461). *The values obtained prove that the process of par-ticipation is largely caused by political factors, which, in fact, hinders effective participation. A considerable part of the population which showed a willingness to actively participate is the segment expressing the will of the city authorities: this circumstance not only impedes effective participatory governance but also suggests that the civic participation mechanisms should be reshaped and improved.*

It is logical to assume that the portion of the respondents who had previ-ously been engaged in any type of participatory processes (public hearings, participation in the council meetings, etc.) would be more likely to participate in the future as compared to the rest of the citizens, as they effectively repre-sent the "active community". This hypothesis was also confirmed by a logistic regression analysis, but the exponential value of the corresponding beta coef-ficient was only 2.894, which means that the likelihood of the active participa-tion of citizens with previous experience of participation was only 2.9 times higher than for the opposite segment of the population. *This low exponential beta value of the dummy variable obviously indicates that the existing forms of participation in Yerevan are ineffective and a large number of citizens refuse to participate in the future, being dissatisfied with the outcome of their previous participation experience.*

The type of model used in this paper (logistic regression) basically contains two risks that can often have a negative impact on the reliability of the results. The first is the danger of autocorrelation, which, however, relates to models made up of time series data and does not threaten the model we represent. The next risk is the presence of potential multicollinearity, which means that the independent variables are in strong correlation among each other. This is likely to result in high values of standard errors and, thus, underestimate

or overestimate the impact of individual independent variables on the dependent variable (Baum, 2006). This risk actually threatened the model we presented, so we tried to estimate it by analyzing the correlation between predicting variables (see: Table 12).

**Correlation Matrix for Dummy Variables,
Used in the Improved Model**

	AG2	AG3	AG4	Sec. Ed.	Voc. Ed.	IG2	IG3	IG4	IG5	Pos. Att.	Neut. Att.	Prev. Exp.
AG2	1.00	.502	.412	.186	.043	-.039	-.016	-.003	-.015	-.027	.050	-.046
AG3	.502	1.00	.400	.092	-.067	-.006	.009	-.014	.010	-.063	.048	-.015
AG4	.412	.400	1.00	.069	-.092	.026	.045	-.018	.037	-.010	.041	-.020
Sec. Ed.	.186	.092	.069	1.00	.240	-.012	.075	.054	.033	-.029	-.064	-.042
Voc. Ed.	.043	-.067	-.092	.240	1.00	.060	.134	.125	.168	-.039	-.072	-.039
IG2	-.039	-.006	.026	-.012	.060	1.00	.684	.466	.582	.027	-.079	-.017
IG3	-.016	.009	.045	.075	.134	.684	1.00	.422	.527	.045	-.047	-.076
IG4	-.003	-.014	-.018	.054	.125	.466	.422	1.00	.361	-.006	-.047	-.055
IG5	-.015	.010	.037	.033	.168	.582	.527	.361	1.00	.025	-.030	-.044
Pos. Att.	-.027	-.063	-.010	-.029	-.039	.027	.045	-.006	.025	1.00	.122	-.097
Neut. Att.	.050	.048	.041	-.064	-.072	-.079	-.047	-.047	-.030	.122	1.00	-.002
Prev. Exp.	-.046	-.015	-.020	-.042	-.039	-.017	-.076	-.055	-.044	-.097	-.002	1.00

The data presented in the table show that there is no risk of strong correlation among independent variables. Strong correlation is observed only among the dummy variables from the same category (e.g. 0.684 between IG2 and IG3), which is natural for such variables. And since they can never interact with each other, multicollinearity is also not possible.

Conclusions

The results obtained through this research enable us to identify the key factors affecting active citizen participation in local governance, understand the extent to which each of them affects the potential participation and also predict it. As a definition of active participation, we considered all the forms of participation that involve joint discussions of the budget, development plans, as well as any other type of direct impact on decision making. The first model included all available independent variables, but because of the lack of statistical signifi-

cance, some of these were excluded, as a result of which the improved model was suggested. The 0.353 value of Nagelkerke R^2, which characterizes the predictive power of the logistic regression, may be considered a significant result for analyses in social sciences (Maddala, 2001). The models also revealed individual relationships between potential citizen participation and some specific variables that might enable local authorities to carry out more targeted and effective policies in terms of participatory governance.

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MODES OF NETWORK GOVERNANCE IN DISASTER RELIEF: THE CASE OF THE BANGKOK FLOOD RELIEF, 2011

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Abstract

Purpose. The purpose of this paper is to map and explore network governance in a disaster relief situation. The case of the Bangkok Thailand flood relief of 2011 was used to examine network governance in four relief activities: food activities, relief items activities, medical service activities, and rescue activities.

Design/methodology/approach. We used multimethod research combining Social Network Analyses (SNAs) and in-depth interviews with 16 organizations and 29 key informants representing state organizations, the private sector, Local Non-Government Organizations (NGOs) and the social sector involved in the relief activities of the Bangkok flood relief in 2011.

Finding. We found contrasting modes of network governance in the four Bangkok flood relief activities. The networks within food and relief items activities were more connected, with the local NGOs, university, military and voluntary sectors being the

key stakeholders, while the networks within medical services and rescue activities were segregated representing specialization roles within state organizations, the private sector, local NGOs and social sectors in the medical and rescue activities.

Practical implications. The findings highlight the importance of identifying patterns of network governance during disaster reliefs at it can help policy makers in formulating an effective disaster reliefs management.

Originality/value. This paper for the first time presents the pattern of network governance in the context of disaster relief activities using Bangkok flood relief 2011 as a case study.

Keywords: disaster management; network governance; social network analysis; Bangkok flood relief.

Introduction

Network governance has become a prominent phenomenon in governance and public management studies in recent decades (Emerson, Nabatchi & Balogh, 2012; Provan & Kenis, 2008). Provan and Kenis (2008) define network governance as networks among legally autonomous organizations that work together to achieve not only their own goals but also a collective goal. Ansell and Gash (2008) explain that network governance relates to a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process or in managing activities that are formal, consensus-oriented, and deliberative, and which aims to make or implement public policy or manage public programs or assets. This definition stresses six important criteria: (1) the forum is initiated by public agencies or institutions; (2) participants in the forum include non-state actors; (3) participants engage directly in decision-making and are not merely "consulted" by public agencies; (4) the forum is formally organized and meet collectively; (5) the forum aims to make decisions by consensus (even if consensus is not achieved in practice); (6) the focus of the collaboration is public policy or public management. Rhodes (2017) posits that network governance requires various actors such as citizens, businesses, and non-profit organizations to become collaborative producers (co-producers) of public services.

In the context of disaster management, increasing the number of actors involved in humanitarian aid and disaster relief operations urges a need for better network governance, and as as Pettit and Beresford (2009) posit, a growing number of humanitarian aid and relief organizations sometimes fail to achieve effective and efficient disaster relief operations. A vast network of emergency relief and development organizations leads to obstacles. For example, emergency relief organizations are often operated by an isolated actor that displays individual, societal responses and is crisis-oriented. Other issues sometimes found

are a lack of coordination among various actors, which leads to duplicity in the operation, overspending of resources, tensions among the different groups involved, and delays in relief to the affected citizens. International organizations, governments, the military, local communities, the private sector, and academics sometimes have been unable to collaborate and work together during disaster reliefs (Moore, Eng & Daniel, 2003). Hence, effective network governance among international actors and local actors, among different levels of governance, and among public sectors, private sectors and NGOs are needed to achieve an effective relief operation. As the World Humanitarian Summit 2015 noted, aid actors should work with local and national authorities to enhance capacity rather than replace local and national capacities (Churruca-Muguruza, 2018).

Despite the increasing involvement and roles of various international and local actors within humanitarian aid and disaster relief operations, there are minimal empirical studies which identify and explore modes of network governance within such operations (Ahrens & Rudolph, 2006; Howes et al., 2015; Koliba, Mills & Zia, 2011). Most of the existing studies that account for humanitarian aid and disaster relief operations are conceptual or theory-based (Howes et al., 2015). This study aims to empirically examine modes of network governance in a disaster relief operation and address the gaps in the disaster relief operation. We used the case of the Bangkok Thailand flood relief in 2011 to examine patterns of network governance in four relief activities; food activities, relief items activities, medical service activities, and rescue activities. The four areas of disaster relief were expected to show the difference in network governance characteristics and relationships among the actors and give a different point of view on the disaster relief operation, which also included non-humanitarian aid organizations. SNA was used to map the modes of network governance, while in-depth interviews were used to explore the roles and relationships among key actors in the networks.

Network governance structure in humanitarian aid: a conceptual framework

To identify modes of network governance, we used the conceptual framework from the humanitarian aid operation network which illustrates the general structure of network governance within a humanitarian aid operation (Taylor et al., 2012) (Figure 1). This framework explains that the humanitarian aid and disaster relief operation networks can be divided into two groups; key actors and support actors. Key actors mean actors who primarily respond to humanitarian aid (Taylor et al., 2012). They operate with other actors or share finance. Most of them operate with the same goals and humanitarian aid principles. Key actors include local NGOs, International NGOs, United Nations humanitarian agencies, the International Red Cross and Red Crescent Movement (ICRC), agencies in the affected country that are responsible for the crisis, humanitarian organizations in the region, foreign donor governments and agencies. The function of the key actors consists of providing a quick response to sudden-onset disasters that overcapacitate the national agencies, and responding to the basic needs of the affected people in the case of a failure response of the national agencies (Taylor et al., 2012).

Figure 1: **Humanitarian aid operation framework**
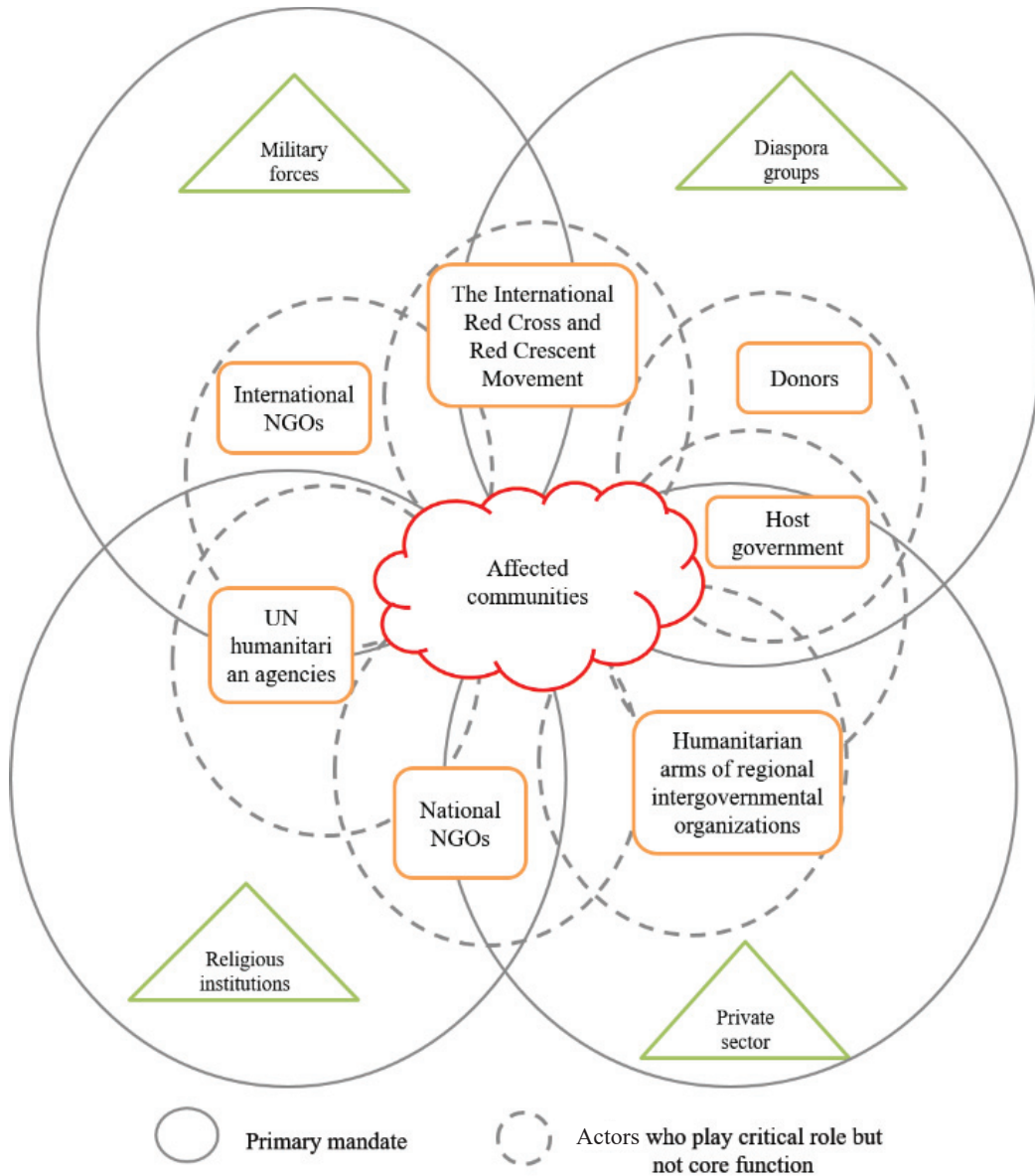
Source: Taylor et al. (2012) authors adapted.

Secondly, supportive actors refer to organizations that do not have humanitarian actors as a core function (Taylor et al., 2012). They can play an important role in a humanitarian response by cooperating with other key actors of humanitarian aid, i.e. building the capacity of disaster preparedness, recovery, and resilience at the local level, and distributing victims to humanitarian aid actors. In any humanitarian assistance operation, the national agencies are the main actors who cope with the crisis and achieve the needs of the affected people by using either existing or private resources, without seeking international humanitarian aid. International humanitarian aid is the supplementary support

in order for the national capacity to deal with the crisis. Accordingly, the operation of humanitarian aid in different cases needs to apply different functions suitably with hazard scales, and crisis context. The size and types of these will vary in each crisis.

Research Methods

We used multimethod research combining social network analyses and in-depth interviews to achieve the study aim. SNA was used to identify modes of network governance among actors within four disaster relief activities (Prell, 2012). SNA was the suitable method for mapping the structure of networks as Serrat (2017) explains that power no longer resides exclusively (if at all) in states, institutions, or large corporations but is located in the networks that structure society. SNA seeks to understand networks and their participants and has two main focuses: the actors and the relationships between them in a specific social context. UCINET software was used to analyze network data collected from interviews with key stakeholders (De Nooy, Mrvar & Batagelj, 2018; Freeman, 2017; Wasserman & Faust, 1994). To explore roles and relationships among actors within network governance, we used in-depth interviews. The interviews were conducted using the snowball technique (Trost, 1986), starting with the Thai Red Cross, then Banpu Public Company Limited, the Coca-Cola Foundation, Friends (of "PA") that cooperate with the Thammarasamee Foundation, ThaiPBS, the Navy, and CU. Following this, CU mentioned the Por Teck Tung foundation and the military. After interviewing the military, then we interviewed DDPM and LTA, NIEM, and the Ministry of Foreign Affairs. In total, 16 organizations and 29 respondents were interviewed.

Findings

In the case of the Bangkok flood relief in 2011, the Thai government decided to promulgate the Government Administration Act B.E.2534 (1991) instead of the national disaster prevention and mitigation plan B.E.2550 (2007); therefore, the organizations in charge of the national plan did not have authorization. The relief operation was operated by humanitarian aid organizations and government organization base on their responsibility. The relief operation actors attempted to develop existing cooperation. In this paper, we focus on four reliefs activities: food, relief items, medical service, and rescue activities.

Networks in food relief activities

Figure 2 describes the mode of networked governance within food relief activities. Here we found thirteen key actors: Banpu Public Company Limited, the Coca-Cola Foundation, Chulalongkorn University (CU), the Department of Disaster Prevention and Mitigation (DDPM) Thailand, Friends in Need (of "PA") Volunteers Foundation, Thai Red Cross Friends (of "PA"), Head/representative of communities, Land Transportation Association, the Military, the Ministry of Foreign Affairs, National Institute for Emergency Medical (NIEM), the Por Teck

Tung Foundation, the Royal Thai Navy, the Thai Red Cross, the Thammaratsamee Foundation, and food activity volunteers in the Bangkok flood relief 2011. There were four clusters in the network: five actors representing state organizations, four actors from NGOs, two actors from the private sector, and two actors from social sectors. The color of the nodes in the social network was used for identifying different clusters; pink for a state cluster, blue for a private sector cluster, black for local NGOs, and white for a social sector cluster.

Figure 2: **Modes of network governance within food activities in Bangkok flood relief 2011, Thailand**
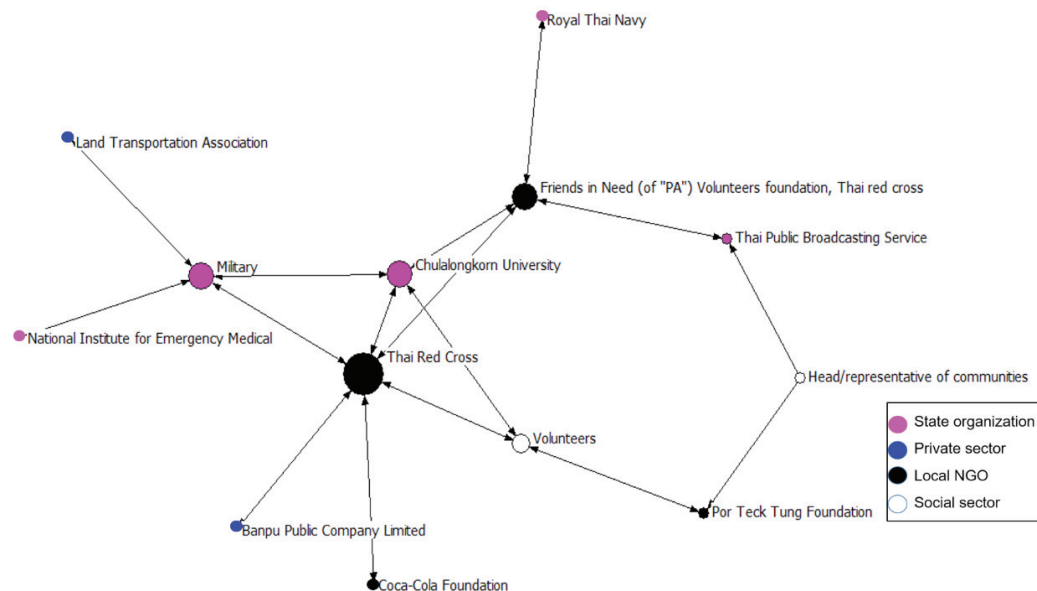
The Thai Red Cross was the key actor in the food activity response during the disaster. They produced ready-to-eat food for the affected people and affected organizations, and also delivered it. A mobile kitchen bureau was responsible for manufacturing ready-to-eat food and cooking in bulk to provide for the number of operators. The Thai Red Cross contacted its volunteer base who in turn persuaded their friends and relatives to help too. In addition, the Thai Red Cross broadcasted their activities through their website, media, and digital boards to motivate the general public to become volunteers. Volunteers helped to prepare ingredients, wash and chop fresh vegetables and meat, cook or help the chefs, pack food, combine a bag of rice and a bag of food, count the packed food and put into big plastic bags, and then convey it to trucks. Most of procurement came out of the Thai Red Cross budget. Moreover, the Thai Red Cross received more money and food items such as seasonings, fresh ingredients, frozen food and bottled drinking water from supportive private sector organizations and individuals. These supportive organizations included the Coca-Cola Foundation, Thailand that had MoU with Thai Red Cross after the 2004 Tsunami

2004; the foundation donated bottle drinking water, money, support trucks, and volunteer staff. Another was the private sector Banpu Public Company Limited, Thailand which supported trucks and drivers for a month covering all expenditure such as fuel, maintenance expenditure, the wage of drivers, and so on. The company is responsible to Thai Red Cross directly.

In terms of food delivery, the Thai Red Cross worked with volunteers and sometimes operated with the military. The military came with trucks and human resources. Operation with Friends was the affiliation of the Thai Red Cross that had the Royal family as its supreme executive. The foundation responded to flood relief but only had volunteers as its leading operators. In the case of the Bangkok flood relief, the Thai Red Cross supported the foundation in its delivery fresh ingredients because the foundation did not have enough staff and space for producing ready-to-eat food in large amounts; therefore the foundation asked Chulangkorn University (CU) to help with its manufacturing section. CU was located near both the foundation and the Thai Red Cross, plus there were human resources and a large space. CU agreed to produce ready-to-eat food for the foundation. The foundation took the CU team to visit the affected area at Ayutthaya province to survey the food production at its temporary location. The CU team tried to collect more information from others that with experience, then set up a kitchen at the central space of the university, called Sara Phra Kaew. In the beginning, CU set up one tent for cooking and used the next building as an ingredient warehouse. CU cooked once a day to provide for lunchtime, with menus using chickens, vegetables, and eggs because of the low cost and also because these foods would serve all religions and all ages.

The amount of food produced depended on the order from the Friends (of "PA"). The majority of the operators were volunteers who were CU students, CU staff, and, in the main, the general public. The public watched the news on television about the activities of CU, and, after seeing that, they came directly to work with CU. The activities of CU did the same with the Thai Red Cross. CU produced food for a month, from 1,100 boxes to 43,896 boxes, and the foundation supported with money, a big oven for cooking rice, and liaising between CU and the Thai Red Cross. CU did not respond for delivery as the main. Therefore the delivery section was operated by the military and others connected to Thai Red Cross and the foundation. The military and others only took ready-to-eat food once a day. Sometimes CU members joined in these activities.

As for the operation of the military itself, it operated in the field with NIEM along with the Friends (of "PA") through the Thai Red Cross for the delivery of ready to eat food. Sometimes, the military asked for more support from LTA. LTA supported trucks for the military when military request. In the field operation, the military surveyed the affected areas with other organizations. After that, they set the operation plan. Sometimes the organizations would join others for food delivery, such as NIEM. Another organization delivering ready-to-eat food of Friends (of "PA"), the Royal Thai Navy, did it only for a few days to assist the foundation by taking ready-to-eat food from CU,

while the Navy produced some food and delivered it to affected households around the Navy's office at the same time.

Thai PBS operated as the existing network of Friends (of "PA") for cooperation among field implementers and affected people and between organizations and organization actors. When Thai PBS staff operated in the field, they needed to meet or contact a head/representative of affected communities to get information on the number of affected households and communicate information on the flood and transport situation. Similar happened when the Por Tec Tung foundation would deliver food, and the foundation would contact the head/representative of the affected communities. On the other hand, in some cases the head/representative of the affected communities directly contacted the organizations.

A statement by the head of the relief section, bureau of relief, civil affairs office, department of Naval civil affairs mentioned that the survival bags of Friends (of "PA") were packed at the Naval flying section in Bangkok and Satthaheep naval bases, and that the Navy took them by trucks and delivered them. In terms of the Thai Red Cross, when most disasters occur, the Navy has informed that they want a certain number of survival bags to go to the Thai Red Cross, then make an appointment for delivering to affected households, especially in affected areas that are located near the Chaopraya River and its distributaries.

The central actors include two main manufacturers; the Thai Red Cross and CU – the two main cooperators; and Friends (of "PA") and the military. A week into the disaster, affected people needed food. The network shows the actors went to the manufacturers and cooperators. The well-known actor in disaster relief in Thailand is the Thai Red Cross which leads the public and organizations think of the Thai Red Cross first. Therefore, the majority of actors approach the Thai Red Cross. In the Bangkok flood of 2011, there was another state organization – CU – which produced much of the ready-to-eat food based on the requirements of Friend (of "PA"), and even though CU was not a relief organization, it could be one of the important actors regarding food activities. CU was only responsible for producing. Therefore, CU needs other organizations for dealing with delivery.

Network in relief items activities

Figure 3 describes the mode of networked governance within relief items activities. Within these activities we found fifteen key actors: Banpu Public Company Limited, the Coca-Cola Foundation, Chulalongkorn University, the Department of Disaster Prevention and Mitigation (DDPM) Thailand, Friends (of "PA"), the head/representative of communities, the Land Transportation Association, the military, the Ministry of Foreign Affairs, NIEM, the Por Teck Tung Foundation, the Royal Thai Navy, the Thai Red Cross, the Thammaratsamee Foundation, and volunteers. There were four clusters in the network: six actors represent state organizations, five actors are from NGOs, two actors are from private sectors, and two actors are from social sectors. The Thai Red Cross is the most important actor in the network.

The Thai Red Cross provided survival bags by procurement mostly out of the Thai Red Cross budget and also with a donation from private sectors and individuals which led the Thai Red Cross to become one of the donation hubs for relief items. Packing survival bags started with classifying the group of items checked by expiry date. In terms of clothes, they classified for gender and condition. The Thai Red Cross prepared survival bags for distribution by themselves based on direct requests from affected people and the requirement of other organizations. They not only supported with survival bags but also with ingredients for cooking such as donating seasoning for some affected areas that had set up temporary kitchens. The formal supportive organization of the Thai Red Cross was the Coca-Cola Foundation, Thailand comprising of three beverage companies. The organization could help in two ways: the first foundation donated bottle drinking water while the second supported the logistic system. The logistic system was a strong point of the foundation because the three companies always delivered to many shops in various areas through Thailand. Another supportive organization that directly proposed their willingness was Banpu Public Company Limited which supported with trucks and drivers and with some expenditures to the Thai Red Cross.

Figure 3: **Mode of networked governance within relief items activities in Bangkok flood relief 2011, Thailand**
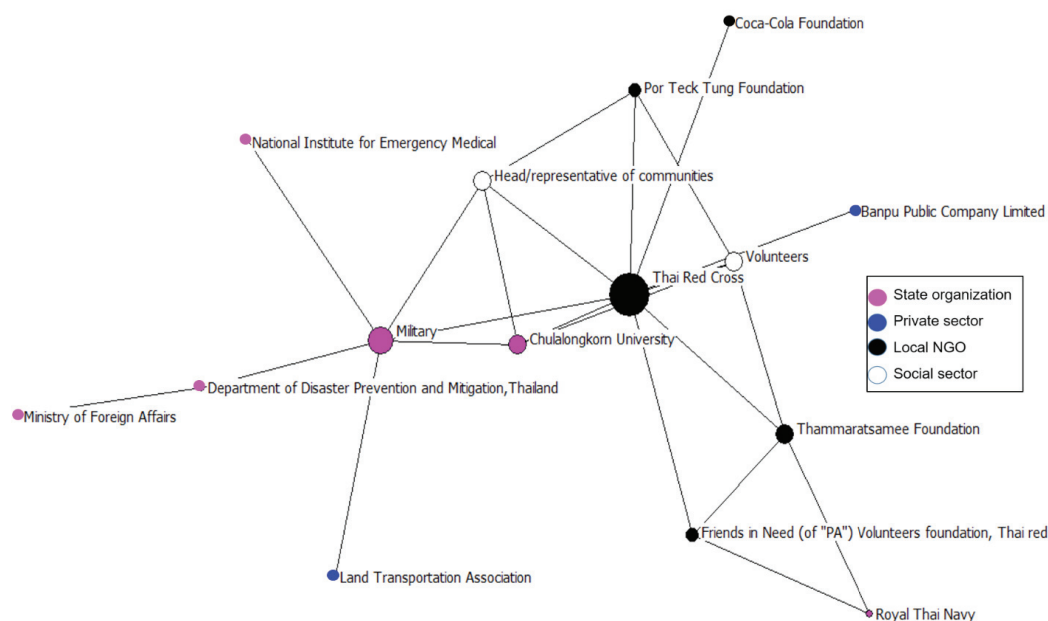
The Thai Red Cross managed the requirements of affected people and affected organizations, who requested it directly from them. They attempted to gather groups in the same affected area, for example, the same village, same condominium, or same apartment for assistance in the same day, the exact number of affected people, and to contact the head/representative of commu-

nities. On the other hand, the organization could contact the head/representative of communities for getting information such as the flood or transport situation, and made an appointment. This was similar to CU, but there were not many cases, whereas the military and the Por Teck Tung Foundation would contact the head/representative of communities when they surveyed the area. The military was cooperative when it received calls from affected people or affected organization.

The military would contact and authorize organizations. The military, navy and NIEM conveyed and delivered survival bags at the request of Friends (of "PA"). The survival bags were packed at the navy base in Bangkok and Chonburi province. Friends (of "PA") persuaded the Thammaratsamee foundation from Chonburi to survey and deliver some survival bags. In terms of the Por Teck Tung foundation, it operated for packing and delivering survival bags using the foundation's volunteers.

Other organizations who supported the warehouse of relief items was the Department of Disaster Prevention and Mitigation (DDPM). DDPM received relief devices from the private sector and donations through the Ministry of Foreign Affairs such as life jackets, boats, solar flashlights, flashlights, generator, water pump, plastic booths, and so on. DDPM made lists of the relief devices before distribution to affected people or affected organizations. The Ministry of Foreign Affairs was a coordinator of the Thai government with government-to-government assistance efforts internationally and a central gathering data organization for foreign donations.

The functions of humanitarian assistance were, as a main principle, to provide a rapid response and the basic needs of affected people. Therefore, food and relief items were realized by the general public and donors. When a disaster has occurred, the general public and donors think of organizations that were the main responsibility for relief at first. In the case of relief items activities, we found that outside assistance which came from international organizations, foreign governments, INGOs, and the private sector was always support finance, food, dried food, relief items. Three organizations have key roles: the Thai Red Cross, Friends (of "PA"), and the Por Teck Tung foundation who had routine relief items responsibilities. Others joined in the operation because of informal persuasion and the cooperation of responsible actors. On the other hand, some attempted to seek relief items sources to take to affected people. Therefore, there is the highest number of people and organizations involved in relief activities.

Network in medical service activities

Figure 4 describes the mode of networked governance within medical service activities. Within these activities, we found seven key actors: the emergency medical network of NIEM, the hospital network under the Ministry of Public Health, the head/representative of communities, NIEM, the Por Teck Tung Foundation, the Thai Red Cross, and volunteers. There were three clusters in the network: five actors representing state organizations, two actors from NGOs, and two actors from social sectors.

Figure 4: **Mode of networked governance within medical service activities in Bangkok flood relief 2011, Thailand**
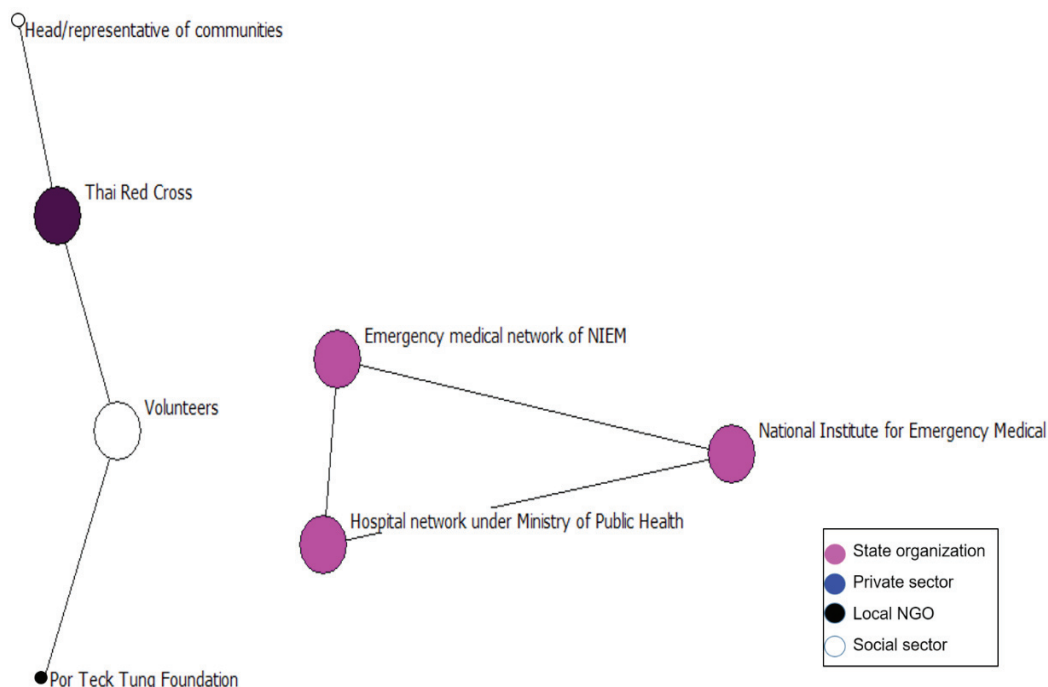
Thai Red Cross provides medical services both in normal and crisis situations. In a crisis, medical teams consisted of two or one doctors with nurses, or nursing assistants. There were two or three medical service teams for the Bangkok area. They went by trucks or boats and served affected people at homes, schools, temples, and temporary shelters. The service provided first aid, medical checkups, and offered advice on how people should take care of themselves during the flood. The trucks or pontoons contained survival bags and medicine kits. In some places the trucks could not reach so far into the flood area. Therefore, the medical staff had to use boats with engines. In terms of a home medical service, the medical teams providing basic checkups gave general medicine as well as medicine for patients with chronic diseases.

Besides this, the medical teams offered healthcare advice for both during the flood, for example, for Hong Kong foot and Leptospirosis, and how to avoid accidents. In terms of a mental health service, this was of importance to the medical services because of stress to people in a prolonged period of flooding. Therefore, the medical team motivated those people to go out and get refreshments and to participate in activities at temporary shelters such as singing, dancing, playing games, and talking with others. In terms of packing medicine kits, this was operated by Thai Red Cross staff and volunteers.

The head/representative of communities would inform the number of patients in communities later after the first call, then the Thai Red Cross would arrange a schedule and made an appointment with the head/representative of com-

munities. The Por Teck Tung Foundation provided a medical service as one of its routine jobs. In a crisis, they still served the same for basic medical checkups and gave out medicine kits. The head of the medical community department mentioned that the medical service department provided general checkups: for blood pressure and classified diseases. They also provided the dental unit for children between 2 and 7 years old. In addition the measured blood pressure and glucose level using fingertip samples. Then the medical team gave recommendations and healthcare/diseases brochures. Sometimes they gave free glasses for both short- and long-sighted. The Por Teck Tung foundation was an affiliation of Hua Chiew hospital where it could produce traditional medicine of good quality cheaply.

NIEM operated a medical service along with its other responsibilities by cooperating with the emergency medical network of NIEM and the hospital network under the Ministry of Public Health. When NIEM got a call from affected people or other organizations, then NIEM cooperated with two others. The emergency medical network of NIEM took patients to the hospital network under the Ministry of Public Health which in turn responded with cures and/ or treatment.

The medical activities network showed that it provided basic medical services such as blood pressure checks, gave general medicine and some medicines for chronic disease patients, and gave advice for healthcare during the flood for both, for example, Hong Kong foot and Leptospirosis, how to avoid accidents and mental healthcare guidance. The medical team motivated people to go out and get refreshments and participate in activities at temporary shelters. Basic medical operation worked separately from the emergency medical service network. The small network presented that all actors served emergency medical duties as routine but also gave some assistance to medical services as support staff within survey teams. This means that the emergency medical service actors did not operate fully in medical service activities.

Network in rescue activities

Figure 5 describes the mode of networked governance within rescue activities. Within these activities we found eight key actors: the emergency medical network of NIEM, the Thammaratsamee Foundation, the head/representative of communities, the hospital network under the Ministry of Public Health, the military, NIEM, the Por Teck Tung Foundation, and the Thai Public Broadcasting Service. There were three clusters in the network: five actors representing state organizations, two actors from NGOs, and one actor from social sectors. The National Institute for Emergency Medical and the military were the key actors in these activities.

The main responsibility of NIEM was moving patients or those who were bedridden to the hospital by cooperating with other organizations, and, at a meeting of the support administration and accident command for flood and landslide center, it was assigned to be the commander of emergency medical service. NIEM could mobilize the emergency medical service network through Thailand. Operationally, NIEM was the main point of contact for rescue through

hotline 1669. A statement by the Director of the Bureau of Emergency Medical Prevention Support stated that, in terms of emergency medical service, the commander was NIEM, and it operated with their network and hospital network. The NIEM network brought ambulances with complete communication devices and staff on standby at NIEM's office, then once it received emergency information NIEM would cooperate with the NIEM network and the hospital for delivery of emergency or bedridden patients.

Figure 5: **Mode of networked governance within rescue activities in Bangkok flood relief 2011, Thailand**
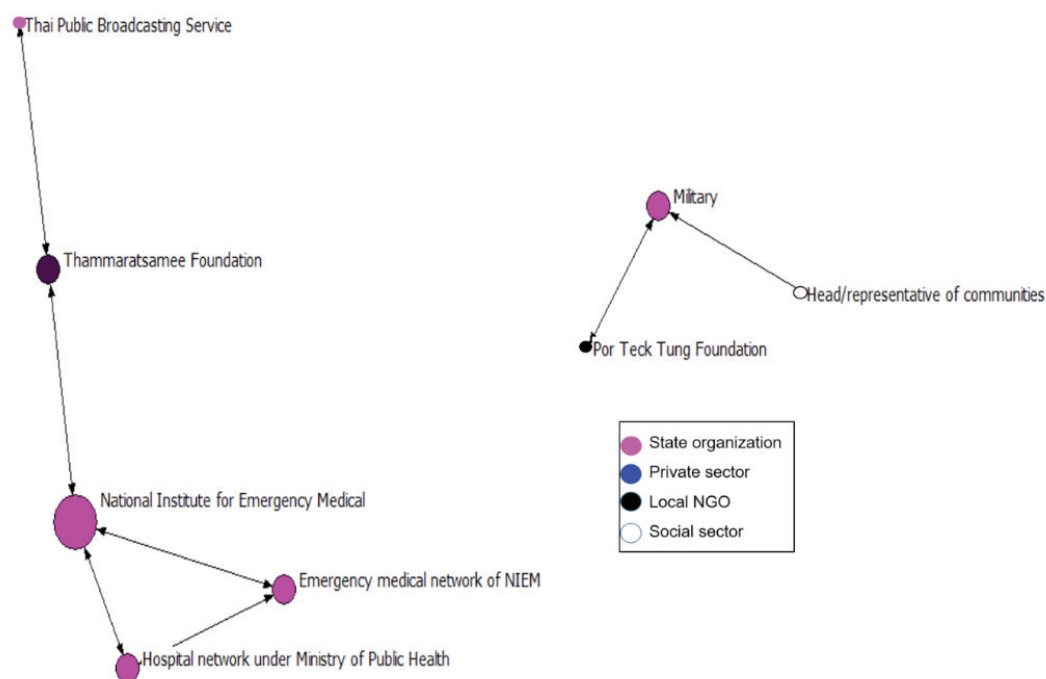
The Directorate of joint civil affairs was cooperator when military worked in the field or got calls from affected people about rescues or moving people to safe places. The military would cooperate with rescue organizations such as the Por Teck Tung foundation. Also, the military moved patients from a flooded hospital to a new hospital and provided transportation for affected people. The military sourced information from the head/representative of communities.

The rescue activities network showed that there are two subnetworks; the big network presented actors who had rescue activities as routine and actors who had no experience before such as Thai PBS, even though it was not a rescue organization. It evidenced the working together of state actors with an NGO. The small network presented that the majority operation of the NGO was after contact came from the military. The NGO operated in the field only; it did not contact the head/representative of communities directly.

Discussion and conclusion

The main purpose of this study is to map and explore network governance in four disaster relief activities; food activities, relief items activities, medical service activities, and rescue activities in the Bangkok Flood of 2011. We found a contrast mode of network governance in those four disaster relief activities. The local NGO had the key actors for food activities and relief items activities, while state organizations were the key actors for medical service activities and rescue activities. From our findings, the cluster network showed local NGOs to be key sources in food activities and relief items activities. In contrast, the segregated network showed that medical service activities and rescue activities represent specific and specialized functions of key actors. This study is one case which shows that humanitarian aid actors and non-humanitarian actors can operate in harmony as a network (Pettit & Beresford, 2009; Taylor et al., 2012).

Taylor et al. (2012) explain that the humanitarian aid and disaster relief operation networks can be divided into two groups; key actors and support actors. In the context of Bangkok flood relief in 2011, we found some key roles of key actors, i.e., to provide a quick response to sudden-onset disasters that over-capacitate national agencies, and to respond to the basic needs of affected people in the case of a failure of national agencies to respond. These functions seem to relate to the operation of outside country organizations. This was quite different from the Bangkok flood relief in that that was not a sudden-onset disaster, and the Thai government could handle the situation.

The supportive actors play an important role in the humanitarian response by cooperating with other key actors regarding humanitarian aid and for building capacity of disaster preparedness, recovery and resilience at the local level, and distributing affected people to humanitarian aid actors. Our findings show that the private sector has supportive actors for existing support devices, human resources, and for donating money or items. Social sectors refer to the head/representative of affected communities and the general public who were volunteers in the various operational organizations. Some operational actors of the Bangkok flood relief in 2011 show similarities with literature reviews about the humanitarian aid network and which shows the key actors in disaster management; mitigation, preparedness, response, and recovery, including international NGOs, The International Red Cross and Red Crescent Movement (ICRC), UN agencies in humanitarian terms, local NGOs, humanitarian organizations in regional, affected government, and donors. However, there were some different points with the Bangkok flood relief 2011 case; this case included social sectors. Besides, there was no ICRC involvement in the Bangkok flood case nor other international organizations for relief operations because the Thai Government has limited support from international organizations. It conformed to the fundamental humanitarian aid principle, the UN Resolution (strengthening or the coordination of humanitarian emergency assistance or the United Nations, approved in 1991), and other standards defined whereby international assistance needed acceptance or request from the affected government (Harvey, 2009; Taylor et al., 2012).

The characteristic of collaborative management in the Bangkok flood 2011 case showed the direction in food activities and relief items activities went toward to main resource actor. The centrality actor in both activities was the humanitarian actor, while the second centrality actor in food activities was not a humanitarian aid actor. In terms of relief items activities, the second centrality was a cooperator. The structure of the medical service activities network was divided into two networks; the big network showed the working together of humanitarian aid actors such as an NGO with the social sector such as volunteers for providing basic medical services. The small network showed the working together of an emergency medical service network that served some basic medical services. The size three actors were similar, which means that the three of them coordinate with each other. The structure of rescue activities was also divided into two networks; the big network showed key function organization operated with a state organization network and an NGO that had a key function regarding rescue. The small network showed a key actor who cooperated with the NGO and the social sector. In brief, various actors could operate well even though they did not have any contracts with or obligation to each other.

From previous cases of emergency disaster networks, one such network, for Hurricane Katrina, operated throughout the emergency period as a centralized administration. It could not deal with the emergency operation (Kettl, 2006). Kettl (2006) argued that a decentralized structure can deal with a case of emergency management such as with Hurricane Katrina. Organizations can run decentralized administration in a normal situation, however, organizations should adopt decentralization administration in emergency situations. The network governance during the Bangkok flood relief in 2011 showed the centrality of structure, but this did not mean the centralization of power, on the other hand, it means it was an operation in decentralized form because there was no hierarchy command, and the centrality actors attracted other actors because they were the main resources or specialized in each activity.

In some cases of emergency management the government sought assistance from others such as private sectors, as in the case of the U.S. flood in 1927, while in some cases around the world international NGOs were the key participants during the emergency period (Eikenberry, Arroyave & Cooper, 2007); this occurred during the Bangkok flood relief in 2011 too. When various actors operate in the same activity, they can share experience and information that leads them to decide the operation plan and future together. Some actors decide to build formal cooperation for the long-term. Taylor et al. (2012) summarized that communication is one of the most important factors before, during, and after a disaster, such as sharing warnings and information about the alert and broadcasting on television, radio, internet, mobile phone, and so on. The information can flow from higher authorities to the public, among agencies, and across agencies. Sharing information during the Bangkok flood relief 2011 took place in four types of activity and was one of the key enabling factors. One important actor who gathered and broadcast to the public was Chulalongkorn University (CU), which broadcast information about the flood situation and necessary information during the flood via the official CU website, short messaging services,

radio, and information boards to CU members and the public. Working together can eliminate redundancies in disaster management. Network formation is necessary to reduce constraint factors and increase sharing resources (Agranoff, 2007). The network governance during the Bangkok flood is one case which highlights the importance of working as a network. A network can enhance the effectiveness of the relief operation by non-experienced or non-humanitarian actors, and actors can share resources through a network (Ahrens & Rudolph, 2006; Pettit & Beresford, 2009).

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INDIGENOUS VILLAGE GOVERNANCE: LESSONS FROM INDONESIA

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Abstract

This article explores the model of indigenous village governance as an approach to determine locality value adopted. This approach was chosen in order to criticize the concept of governance which has so far neglected the value of locality that exists in society. This research uses the qualitative method while analyzing the individual and social relationships of people living in Tanah Toa, Indonesia. The research focus is on indigenous governance actors, processes, and regulations. The result shows that Tanah Toa runs the governance with locality value based on three aspects. The first consists of civil society groups while neglecting partners such as market and state. The second focuses on determining whether service delivery to the community is more inclusive, isolated and not integrated with the modern government system. Thirdly, it is self-regulatory, with the rule that runs in government initiated by the community.

Keywords: indigenous governance; indigenous village; rural politics; Indonesia.

Introduction

This article discusses the current practice of indigenous governance in a decentralized village autonomy in Indonesia. We explore how relationships are developed between government actors using its processes and arrangements. The argument is to determine if decentralization has an impact on people living in rural areas. Our primary goal is to find a model that can reconcile local values with modernity of government and which is oriented towards the service and welfare of indigenous people. Village autonomy through Law no. 6/2014 (village law) has led to a new mechanism for governance at the rural level. This law became the legal protection for financial assistance for villages, which, on an individual level, provides space for more autonomous governance of village administrations (Antlöv et al., 2016; Salim et al., 2017; Susan & Budirahayu, 2018).

However, at the same time, the autonomy triggered a surge in the emergence of indigenous peoples. The demand for immediate recognition is one of the reasons for continuous movement along with the extended autonomy gained by the village. This is not only at the formal level, but an acknowledgment proved by granting rural village rights, including the provision of free spaces to manage assets based on customary rules or *adat* (Djaha and Lake, 2018; Steenbergen, 2016; Tyson, 2011). This is as the antithesis of the situation controlled by the centralized government system. During this period, indigenous people tend to be tamed by the tight enforcement of political control (Benda-Beckmann and Benda-Beckmann, 2010). The community's rights are insufficient. Therefore it is rare for any kind of protest to come from these sets of people aside from demands which happen to be very sporadic in practice and initiated by the village government. This problem became more complicated after 1998; the wave of democratization influenced rural administration. The governance that emerged as a multi-stakeholder was believed to have been able to negotiate many interests, including those of the indigenous people. However, the reverse was the case. Instead of creating a platform for negotiation, governance closes it, making it an element that should be considered in multi-stakeholder schemes.

Unfortunately, the phenomenon of *adat* government disparity in dealing with village decentralization has not attracted the attention of scholars, with research limited to looking at aspects of local wisdom (Sukmawati et al., 2015; Syarif et al., 2016). Scholars are more focused on issues relating to local wisdom and today indigenous people are one of the social communities with strong local wisdom. This conclusion comes from the analysis building which positioned local wisdom as a domain that became the distinction between indigenous people and others.

Meanwhile, other scholars have also explained rural cultural issues concerning strengthening the existence of indigenous people by presenting local culture as an identity faced with modernization (Kurniawan, 2017; Sastrawati, 2017). These sets of people are scared that someday the local culture will go extinct, and this is one of the major concerns of researchers in this study. Therefore, the ongoing narrative is the matter of how local culture can co-exist with the dynamics of modern society.

Traditional knowledge of local wisdom is also a theme often used as the focus of research by scholars. Some researchers argue that indigenous people are those with sufficient traditional knowledge compared to the general population (Akifah & Mukrimin, 2012; Surtikanti et al., 2017). For this reason, traditional knowledge becomes an inherent feature of these sets of people, which in some not only characterizes them but in their daily life, it becomes precious capital, especially in the utilization and processing of forests.

The last focus observed by many researchers on indigenous people is institutionalization. The central question that sets the stage for this issue is how institutional relationships take place in rural areas. Research in this camp includes that conducted by Hidayat, Febriyanto and Nadzir (2017), which focuses on the idea of the institutional strengthening of indigenous people. According to them, today's context requires institutionalization because one of the problems that has been faced by these sets of people is institutional dualism which has the potential to spark conflicts.

In general, previous researchers have agreed that indigenous people are those with characteristics which are different from the general public. Consequently, more studies have focused on their uniqueness but are still lacking in constructing a theoretical argument, thereby creating a gap owing to the limited scope of previous research. Furthermore, no further investigation has been carried out on the uniqueness of rural people and its transformation into the governance system in Indonesia. This is the primary purpose of our research, as will be explained in subsequent sections.

Materials and Methods

This research was conducted in Ammatoa, Tanah Toa village in Bulukumba district, located approximately 200 km from the capital of South Sulawesi Province, Indonesia. This village was chosen because it is the only remaining indigenous village in South Sulawesi Province. Certainly, the durability of an indigenous village in Indonesia is very interesting to study, particularly amid the onslaught of development in third world countries. In addition to this, up until 2017, 133 indigenous villages had been established through regional legal products in Indonesia.

By using the descriptive qualitative method, data collection was conducted by observation and by interviewing community leaders in Ammatoa, with field research carried out between March and September 2018. Among those interviewed were the head of Tanah Toa village, the priest (imam) and several community leaders who live within the Ammatoa community, and 43 people of various social statuses were successfully interviewed with several key questions asked based on the research components method. The main question was to determine the system and model of Ammatoa indigenous governance, followed by questions on the indigenous services that take place in the village. The aim is to unravel various case studies of community service and their implications for rural governance. The final question was on factors that support and hinder the governance of services. This question helps to explain the challenges faced in serving the community, as well as the opportunities they pos-

sess. In this study, two units of analysis were used, namely the individual and the event analysis units. The main unit of analysis in terms of research informants was in three parts: the first was on the lowest, the second the intermediates, namely the village government apparatus, and lastly the top informants, such as indigenous community leaders, academics and historians. To maintain information competitiveness, the informants were chosen based on adequate political, cultural and historical knowledge of the cases studied, as well as emotional and social closeness.

Furthermore, events, such as the results of village elections, government services, networks of organizations, and a wide variety of events that occur in indigenous communities were examined. The data obtained from interviews and explorations of literature were also studied through direct and field observations. This is one way of connecting the relationship between information and the apparent socio-political reality by seeing, listening and feeling what is happening; where, when, who is involved; and how it takes place.

Indigenous village governance in Indonesia has yet to familiarize itself with the concept of indigenous village governance as a technique that focuses on social capital. Scholars trace the concept of social capital as linking the character of various local communities in implementing empowerment and development activities (Field, 2017). The argument built is the value of trust in society about social relations (Carroll, 2009), although it must deal with a pattern of clientelism that is rooted in village communities (Haryanto, 2017). In the case of Sumatra, for example, the indigenous village is more meaningful as a cross-linkage of religious leaders who coincidentally share the same profession (Asrinaldi, 2017, p. 57). Traditional authorities establish this relationship in the form of an unwritten law as a traditional institution that legalizes community faith, which is then strengthened by the legitimacy of the local government in the form of regulations. The three components are community faith, traditional authority, and the legitimacy of the local government, which in turn sustains the Minangkabau community, West Sumatra. Asrinaldi (2017) affirms that the ties between professions rooted for decades do not simply stop at beliefs. Moreover, this association of professions as a bridge is believed to unite the community, including political attitudes. Asrinaldi's credibility is based on reading the value of locality as a more straightforward discipline of political attitudes while ignoring the potential for conflict in the community.

Likewise in some other areas such as in Yogyakarta, social capital is believed to be in the rural village (Humaeni, 2014). These researchers see it as rooted in society as a unity of belief that has grown and embedded for a long time. Furthermore, this belief will become a binding norm in a society that embodies the form of informal institutions and non-governmental organizations. In an informal institution, the only thing that makes people survive is trust. This relationship will last long enough to then create a social network for the community. In Yogyakarta, social capital is used to support development at the village level.

Meanwhile, in Papua social capital is a hallmark of the locality which in practice is more widely used for networking by local actors to minimize conflict amongst communities during elections (Pamungkas, 2017, p. 147). Unfortunately,

conflict cannot be stopped by local governments, even when using state authority. However, among the friction that occurs, there is a gap capable of minimizing conflict which the people of Papua still believe comes from the customary land. However, community pluralism has become the entrance to social capital as an effort to reduce conflict. The trick is that people are gathered based on the categorization of *adat*. With customary background similarities, communities will be more easily assembled within a traditional institution. Moreover, the conflict is then mitigated by utilizing key actors in each traditional indigenous institution to discipline the community.

In subsequent developments, social capital gained greater space in governance, especially when the concept opened up space for the involvement of many actors, including civil society. However, regarding the next question on "ways to unite the clashing interests of civil society", social capital is used as a representation of a plural civil society. In short, social capital and indigenous villages have far-reaching gaps in talks about the similarities of characters used as social binders which are then capitalized on to create a new system. Indigenous village refers to the similarity of values embedded for a long time in society in specific social environments, thus, it refers to a concept of governance that internalizes the value of locality into the system. The basis of the analysis used in rural areas is the value of locality believed in an indigenous community which then becomes the norm of a governance system.

Findings

Distortion of Governance: The Single Power of Ammatoa

The Ammatoa is one of the indigenous communities that still exist in Indonesia. It is located in Tanah Toa village, Bulukumba Regency in South Sulawesi province. This community consists of approximately 4000 people with a leader called Ammatoa. In carrying out their daily activities, this community always upholds the principle of Pasang Ri Kajang which is the life philosophy of society (Akifah & Mukrimin, 2012, p. 117). This rule contains philosophical values that characterize a society living in modesty (*kamase-mase*). The *kamase-mase* practice is reflected in the shape of a house made with similar models, size, and dressed in black. This belief was preserved for years to avoid any social jealousy between the people.

Tanah Toa village has a very exclusive system of government. The holder of supreme power is Ammatoa, who is believed to be the guardian of the universe and selected based on descendants. Under that belief, all the ethical issues relating to community affairs in Tanah Toa are fully submitted to Ammatoa. Meanwhile, to optimize the governance that takes place in this community, 24 Galla are inaugurated, each in charge of some issues, including Head of Kajang Sub-district.

Theoretically, governance is considered one of the prescriptions which firmly believe in the involvement of many actors. The assumption that chaos may occur in the internal government owing to development and community empowerment occurs because of limited resources, while on other aspects considerable demands

continue to be made to the government. Therefore, the above issues should be immediately acted upon by distributing it to another party or to a sole executive for development affairs and community empowerment. This logic is believed to break down chaos for other parties' involvement which begins to open, and can contribute to problem-solving.

However, while maintaining a single authority, the role of the regulation remains under the control of the government. Conflicts in Tanah Toa however are usually in line with the prescription beliefs offered by critical thinking. In many cases, Ammatoa, as the highest indigenous leader, was shut down in order to involve many actors. In the field, the development and service activities are only conducted independently, without involving many parties to accommodate the private sector. The state is only present within certain limits in the field of fulfilling the administrative rights of indigenous people and some in the form of empowerment which is more for social assistance.

In the field, its presence was limited to complete the authority attached to Ammatoa as the sole power holder in Tanah Toa. The role of the state will be present in the community when the problems faced are genuinely beyond the means of completion, for instance in health. When its traditional ingredients can no longer cure the sufferer, then the country provides health services. This is carried out by first submitting a completed application with administrative files obtained by the state through its apparatus. During the study, a grandfather of over 50 years old suffering from acute mag illness for months was identified. The beliefs of most rural peoples is that such diseases must be cured locally through medication performed by a *dukun* (indigenous medical practitioner). However, for three months, the patient did not heal but became worse. When it became critical, they employed the services of the state government.

Another example is with the market (private sector) as the third actor of governance. In practice, the involvement of the private sector is limited and almost impossible, unlike the general public who depend solely on the produce of the market for their daily needs. The black cloth is preferred in dressing because bright colors are prohibited. Researchers and other visitors must wear black clothes. It turns out that the fabrics used are not imported or purchased from the market but are self-produced.

Meanwhile, for domestic affairs, all materials and tools used to build houses are sourced from nature. The bases and walls use wood from the forest while the roofs are *lontar (*dried palm leaves). This is a manifestation of the belief that nature is their source of life, while maintaining the excitement of the value of locality rejected by modernity. Similarly, electricity as one of the most critical needs was rejected because it is considered a product of modernization capable of ruining lives.

Indigenous Governance Services of Ammatoa

Like the general public, indigenes of Ammatoa communities also obtain the same services in terms of health insurance and primary education, the difference being the administrative requirements. The names listed in the healthcare unit differ from the identities used with the majority utilizing common names used in customary areas when submitting as beneficiaries of health insurance aid,

and with differing ID cards. This issue is small but has a huge impact because the databases referring to recipients of healthcare from this community will be limited. However, healthcare workers tolerate the situation and also provide services. Almost all health care units face the same constraints, for instance in Kajang where two units also experienced similar inconsistencies when identifying people. In many places immunization services are always conducted in villages or hamlets, but in Ammatoa community it is carried out in early childhood and door to door by health workers. This is because some parents are too lazy to take their children out of customary areas.

Also, education services are treated differently in regards to people living in rural areas. In Bulukumba, there is a local regulation (Perda) that pays extraordinary attention to the sustainability of education. This regulation is then realized by providing special academic services to the villages of Tanah Toa. One of these was the establishment of 351 Ammatoa Primary School (SD 351) located at the entrance to the community.

In contrast to schools in most places, SD 351 is clear in its keeping with the value of Ammatoa's local customs. Students are generally prohibited from wearing red and white uniforms as in other schools. This is in harmony with their belief of not allowing the use of striking colors for every community in Tanah Toa. Instead, both students and teachers are expected to wear black, which is the hallmark of its customs.

Another aspect that differentiates is the type of lessons in SD 351. In addition to serving primary education with formal lessons, it also provides informal education. Schools provide informal classes for the Ammatoa indigenous people who have dropped out or have not been educated, with lessons geared more towards strengthening skills. In the community, the dropout rate is quite high with a yearly number of 30 people of between 10 and 12 years (fourth to sixth grade). This data does not include those over 12 years old, whose numbers are also not small. This rate cannot be separated from the conflicts and activities of these rural communities because to them, caring for nature is more important than anything else. This activity is realized from the activities of agriculture and gardening in primary and secondary school. Therefore, the majority of parents are more interested in agricultural products than having to send their children to school. Thus, there are times SD 351 loses dozens of learners and in one instance it was closed for two weeks. Long holidays also lower the motivation to learn, with some returning to school while others drop out.

Meanwhile, the schools do not have the power to prohibit learners from going on holiday. Many parents demanded their children be allowed to skip classes during the harvest period, but the school objected. This is linked to the increasing number of dropouts which has totaled about 200 learners with ages ranging from 12 to 19 by the end of 2017.

Special treatment about the provision of indigenous governance services is also encountered on the given course content. As such, 351 students are required to optimize the potential of the customary forest. So the material is taught more as the provision of skills. One of these is embroidering threads into cloth. Teaching and learning processes are also increasingly thick with

the nuances of custom by using the local language for communication. Its use facilitates the transfer of knowledge to learners compared to the Indonesian language. This is because most of the indigenous communities living in the Ammatoa area are isolated from the broader environment which creates limited interaction patterns.

The above case does not include the school initiated by one of the teachers of Islamic religious education in SD 351. According to this teacher, the basic knowledge of religion taught in the school has always clashed with the indigenous tradition of Ammatoa. For this set of people, religious learning has its rituals that must be passed on by cultural means. This is because according to *adat* belief, acquiring its knowledge can lead to insanity. Often students are rejected by parents who still hold firm *adat* beliefs from acquiring Islamic education owing to the fear of being cursed. The series of *adat* is meant as a form of ritual performed customarily in children who want to study religion such as the Koran, and even then they must pay attention to age.

Discussion

One way to establish a position in winning an indigenous village conflict is to create its own rule of law or, by another term, self-regulation. With this, all interests can be translated through legal rules that can be widely applicable to an indigenous community. In the concept of governance, self-regulation is one of three other analyses that make this concept unrelentingly criticized (De Angelis, 2005). Criticism of governance is the existence of space that can create self-regulation in the form of rules which go along with motives and encouragement for self-interest or class. Even so, it is applicable to all, even if limited by the involvement of a few people.

In the context of the Ammatoa indigenous community, much of the current regulations continue to make it highly vulnerable to self-regulatory practice. This stems from cultural beliefs that all issues are based on *adat* rules. Although in the three rules are applied to the daily lives, the first comes from God, which is believed to be a value that should not be violated by anyone – god-sourced rules such as the prohibition of lies and to put forward honesty. The next is sourced from the state, regulating the way of life of a society which is mainly on the provisions of the government. Finally, the last comes from *adat*, which is a rule believed to live and grow in social life.

The practice of indigenous village governance in Tanah Toa village puts all the problems on *adat,* especially in disputes relating to customary forests. This can be seen from the legal framework believed by the people and comprising of three levels of law namely *pokok bakbalak*, *tangnga bakbalak* and *cappa bakbalak* which reflect the level of crime committed by the perpetrator. The first is a significant offence, for example, grabbing the land and cutting down trees in areas of customs. Sanctions are in the form of a fine of 12 million rupiah plus a roll of white cloth. The second punishes people for mediocre offences. This violation consists of undermining indigenous women, or when men and women are dating in the *adat* area. The penalty is a fine of eight *real* (traditional currency) or eight mil-

lion rupiahs in addition to a buffalo. The last level also known as *cappa bakbalak,* a mild violation for example, being rude in a customary area. Violators are subject to a penalty of 6 million rupiahs.

These rules have been applied for generations where Ammatoa is a sacred person guarding the rule. This is included in determining Galla or Ammatoa's maid which is also based on customary law provisions, referring to the genealogical lineage reinforced by very religious instructions. However, in practice, again this was all decided by Ammatoa as part of the self-regulation of customs and which decisions cannot be rejected, including when lifting or lowering Galla. All decisions at the will of Ammatoa, no one dares to refuse let alone questions it because dialectical space is not allowed. Whenever questions arose, reasonable answers were provided by making customary rules as a shield over every decision. This narrative further reinforces Ammatoa's position as an indigenous leader by continuously reproducing the law as a part of self-regulation.

As self-regulation, it runs two functions at once which are a source and embodiment of the law itself. The position as a source of law is run when society is faced with a case that requires a decision such as a land dispute. Even as per the village head's confession, the community is more confident of Ammatoa's decision than the state law or the police, and this is applicable to other disputes. Generally, in Indonesia, theft cases are handled by the police with formal legal provision, however, the reverse is the case in this region.

For indigenous communities, incendiary events such as theft should be resolved through customary rules. In the village of Tanah Toa, this way is known as *attunu panroli* and it is a ceremony led by Ammatoa in an open field in the middle of the forest. All residents who live in the customs area must attend the ceremony which seeks justice and punishes through the holding of a hot iron that has been burning for hours. All the people in turn are invited to hold the hot iron while Ammatoa and all the indigenous people witness who are the perpetrators. The guilty feel the burning heat when they touch the iron whereas the innocent do not. This is just one of the self-regulatory portraits found in indigenous communities through Ammatoa becoming a legal source that survives to this day. Interestingly, self-regulation which, according to common sense, is out of control, is one way that continues to be preserved as a source of customary law that has not shifted from any other formal legal source. This set of people still uphold the source of the law that has been a tradition for many years.

While the position as the embodiment of the law itself is a consequence of the customary rule, the determination of this fate according to beliefs is final and can no longer be debated (Akifah & Mukrimin, 2012, p. 117). The position of Ammatoa as a traditional leader derived from heredity due to the will of customary rules also makes it a form of customary law itself. However, subsequent rumors to the public from the self-regulation practice that took place about the motive of interest are implied by *adat* rules. This is because the separation of interests is getting thinner and robust. Moreover, custom law products are only decided on a limited basis by Ammatoa and the Galla with the provisions that apply to the customary law. Generally, there is limited space, only the socialization of customary law.

Conclusion

The results showed that the village of Tanah Toa run the governance with the value of locality, especially on three aspects. Firstly, indigenous government actors involved only in civil society groups while at the same time neglecting partners such as markets and countries. Secondly, the process in providing services to the community is more exclusive, isolated and not integrated with modern governance systems. Third, the rule in the village is a regulation that comes from the community's belief.

This case can more broadly conclude that the sustainability of indigenous village governance is a matter of the existence of customary law including all values of indigenous locality, which in some contexts characterizes the existence of indigenous people. In many places in Indonesia such as Tanah Toa, it is not merely a matter of social identity. Moreover, indigenous law is the driving force of the governance system that takes place in indigenous people.

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RUSSIAN FEDERATION CROSS-BORDER INVESTMENTS AND BANK EXPANSION

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Abstract

The paper looks into the specifics of cross-border investments related to changes in the direction of capital flow. The growth factors regarding the export of capital have been identified from the point of view of the Neo-Keynesian theory of investment, which describes a situation when the economy of a country demonstrates a stable excess of the gross saving rate (gross saving to GDP ratio) over the gross accumulation rate (gross accumulation to GDP ratio), which can be the result of forcing exports and/or rapidly growing prices for the main export commodities. The paper presents the results of the evaluated international investment activity of the Russian Federation in 2018–2019, formed with standard components. The main indicators, characterizing financial stability and positions of the Russian banking system given the sectoral limitations, have been reported.

The key trade and investment positions of the Russian Federation and the EU countries have been analyzed. Calculations have been made to demonstrate the volume of direct Russian investments in the EU countries within 2010–2017. Some peculiarities have been identified and the presence of asymmetry in the investment cooperation between the EU and the RF has been confirmed. Specific features of the Russian export of capital have been revealed. A range of factors, preconditioning a growth of flow of Russian bank capital to the countries of the EU, has been formed. The main parameters of the international investment activity of Russian banking institutions have been presented and some data have been given on the geographical distribution of foreign assets and liabilities of the Russian bank sector by groups of countries and individual (most attractive for Russian investment) countries of the world. It has been concluded that supporting European expansion of the national banking institutions could be one of the prioritized directions of the state policy of the Russian Federation in the banking sector.

Global processes in the world's financial system triggered the process of transnationalization of bank capital. The flow of national bank capital within international investment initiatives has been the effect of financial globalization. At the same time, investment activity in economically developed countries has reduced over recent years, which has caused radical changes in the movement of cross-border flows of capital. Herein, the issues related to the sustainability of national economies are becoming very important, because the latter are affected by a turn in cross-border flows of capital and shocks related to it.

The paper is aimed at evaluating the investment prospects of the Russian Federation and identifying a range of factors which contribute to more active and intense exports of Russian bank capital at a time when the regime of economic and financial sanctions continues to operate.

Factors affecting cross-border flows of capital in the world economy

The problems of various aspects of cross-border flows of capital and related risks and shocks, caused by instability of capital flow have been actively studied and analyzed by such authors as Aghion P., Howitt P. (2009), Aizenman J., Pasricha G.K. (2012), Chinn M.D., Ito H. (2008), Alberola E., Erne A., Serena J.M. (2012), Calvo G., Reinhart C. (2000), Glick R., Hutchison M. (2008), Kamin S.B. (2010), Ocampo J.A., Stiglitz J.E. (2008), Lankes H.P., Venables A.J. (2006), Ohanian L.E., Restrepo-Echavarria P., Wright M.L.J. (2016), Pelto E., Peeter V., Liuhto K. (2004).

According to the experts, the main factor of the growing export of capital is a stable excess of the gross savings rate (gross savings to GDP ratio) over the gross accumulation rate (gross accumulation to GDP ratio), which occurs both due to a high gross savings rate and, primarily due to a positive current account balance (being the result of forced export and/or rapidly growing prices for the main products of this export), and due to a lack of a quite high accumulation rate in the country (Calvo, 1998; Lankes & Venables, 2006).

Since 2014, countries with emerging markets have been playing an increasingly important role in these processes, mainly due to higher rates of economic growth and their bigger share in the structure of the world economy (Ohanian, Restrepo-Echavarria & Wright, 2016, p. 25). However, it has to be said that Asian countries have a significant position in the international flow of capital. Their share in the import of direct investments grew a lot within the period of 2014–2018 (from 53% to 76%).

As for the export of direct investments, this indicator demonstrated a growth from 24% to 47%. A leading position in the group of Asian countries is taken, without a doubt, by China. Thus, the flow of investment import and export in 2017 comprised

a third of the investment activity of this group of countries (*Global Financial Stability Reports*, p. 18). The Russian Federation is no exception; among the countries with an emerging market (for example, its BRICS partners), it gives way only to China.

The BRICS countries take an active part in the international flow of capital, both as net exporters of capital (China, Russia and the Republic of South Africa) and as net importers (Brazil and India). In 2017 the import of direct investments into the BRICS countries comprised $266 bln (Pelto, Peeter & Liuhto, 2004, p. 5), while the share of the BRICS in the world flow dropped to 15%, falling four positions since 2016. This caused a subsequent reduction in the volume of accumulated direct foreign investment in the BRICS countries. The picture is different in terms of direct investments the BRICS countries accumulated abroad, which increased in 2017 to 8.5% higher than the rest of the world, despite a sharp fall in the flows of direct investments from China due to legal restrictions on the export of capital from the country (Ocampo & Stiglitz, 2008, p. 79).

By and large, within 2000–2018, the share of the RF in the world export of capital was 1.7%, while this indicator in China was equal to 2.6%, in Brazil – 0.5%, in India – 0.2%, and in the Republic of South Africa – 0.1%. In the current (2019) year, the net export of capital by the private sector from Russia increased by 2.1 times in January-February in comparison to the indicator for the same period last year and comprises $18.6 bln.

In accordance with the Neo-Keynesian theory of investments, this situation is characterized by the equation $S – I = B$, where S is savings, I is investments in real capital (investments in non-financial assets, gross accumulation), and B is a positive account balance of current transactions of the balance of payments (Ito, 2010, p. 15).

According to the equation, the positive account balance of current transactions is defined by the difference between saving and gross accumulation. Neo-Keynesian theory explains this situation in the following way: If a country systematically generates more savings in comparison with investments in real capital inside the country, the surplus of savings leaves the country – in the capital transactions and financial instruments account. It takes a form of the export of capital exceeding its import, and forex reserves increase (Pelto, Peeter & Liuhto, 2004, p. 8).

These conclusions are supported by the position of the Central Bank of the Russian Federation, according to which the balance of financial transactions (capital flight) of the private sector within the reporting period was formed mainly at the expense of growing net financial assets. This trend can be accounted by a considerable strengthening of the trade balance affected by an increase in the volume of export operations, which grows faster than the recovery rates of import.

According to the evaluation of the Bank of Russia, the positive account balance of current transactions of the trade balance of the Russian Federation in the first six months of 2019 was $45.8 bln facing $47.7 bln in January-June 2018, which was the result of an insignificant reduction in the surplus of foreign trade of commodities due to a more considerable decrease in the value indicator of the export of goods in comparison with their import. Moreover, the noted reduction in the surplus of the trade balance was partially compensated by a reduced negative balance of the balance of services, which was caused not only by falling imports, but also by a slight growth in the volume of exports in the external trade of services.

The balance of financial operations of the private sector in January-June 2019, according to the Bank of Russia, increased to $27.3 bln (this indicator for the same period – January-June 2018 – was $110 bln). This indicator was affected by an increase in the volume of bank transactions related to depositing money abroad and covering liabilities to non-residents. The operations of other sectors had a neutral effect on the dynamics of the indicator. The international reserves of Russia, as a result, grew by $35.2 bln, mainly due to purchasing foreign currencies on the domestic market according to the budgetary rules and receiving money from placement of sovereign securities.

Evaluating the International Investment Position of the Russian Federation

The importance of analyzing the Net International Investment Position (NIIP) is defined by the fact that this indicator together with the value of non-financial assets makes it possible to assess the net cost of capital in the economy of the country (balancing item of the national balance of assets and liabilities) (*Balance of Payments and International…*, p. 3). The NIIP can be used as a "barometer" of the financial position and credibility of the country. The results of evaluating the NIIP of the Russian Federation by standard components are presented in Table 1.

Table 1

**International Investment Position (NIIP)
of the Russian Federation in 2018 *(standard components)*** *

$ mil.

	Balance as of 1.01.2018	Change as a result of transactions	Change as a result of reevaluation	Other changes	Balance as of 01.01.2019
Net International Investment Position (NIIP)	*272 632*	*115 261*	*- 26 885*	*9 932*	*370 940*
ASSETS	1 339 011	78 843	- 79 067	1 428	1 340 216
Direct investments	468 567	31 929	- 62 621	- 4 535	433 341
Portfolio investments	73 946	- 1 827	- 2 575	- 992	68 551
Derivatives	4 853	- 11 708	14 677	- 1 415	6 407
Other investments	358 903	22 249	- 12 691	- 5 038	363 422
LIABILITIES	1 066 379	- 36 418	- 52 182	- 8 504	969 276
Direct investments	529 644	8 816	- 39 957	- 1890	496 613
Portfolio investments	230 155	- 9 421	-11 743	- 762	208 229
Derivatives	4 505	- 10 975	11 761	- 358	4 933
Other investments	302 076	- 24 839	- 12 242	- 5 495	259 501

* Compiled on the basis of materials of the Central Bank of the Russian Federation.

Available at: https://www.cbr.ru

The structure of the International Investment Position of the RF as of 01.01.2019 is presented in Fig. 1.

Figure 1: **Structure of the International Investment Position of the Russian Federation as of 01.01.2019***
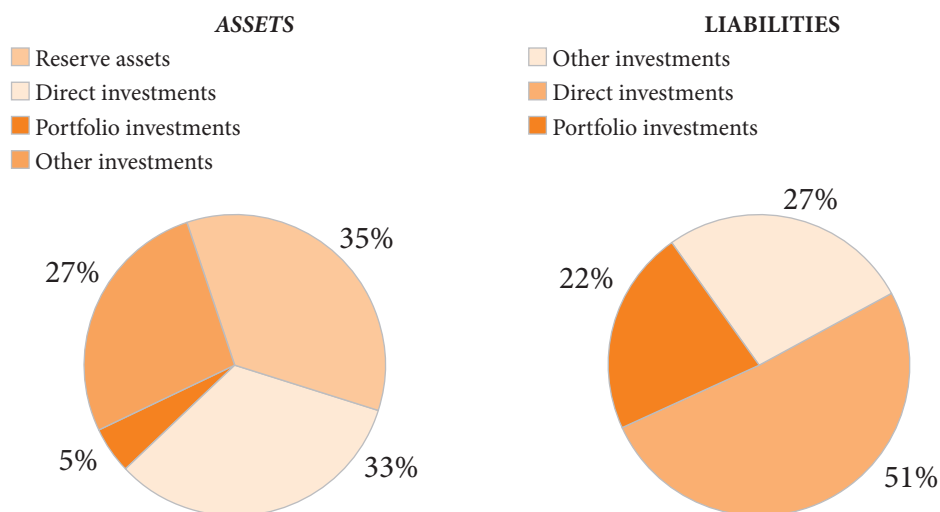
ASSETS

☐ Reserve assets
☐ Direct investments
☐ Portfolio investments
☐ Other investments

LIABILITIES

☐ Other investments
☐ Direct investments
☐ Portfolio investments

* Compiled on the basis of materials of the Central Bank of the Russian Federation.

Available at: /https://www.cbr.ru

According to the data as of mid-July 2019, the International Investment Position of the Russian Federation was $482.4 bln. The time history of this indicator within the period of October 2017 – July 2019 is presented in Fig. 2.

Figure 2: **Time history of the indicator of the International Investment Position of the Russian Federation *(October 2017 – July 2019)****
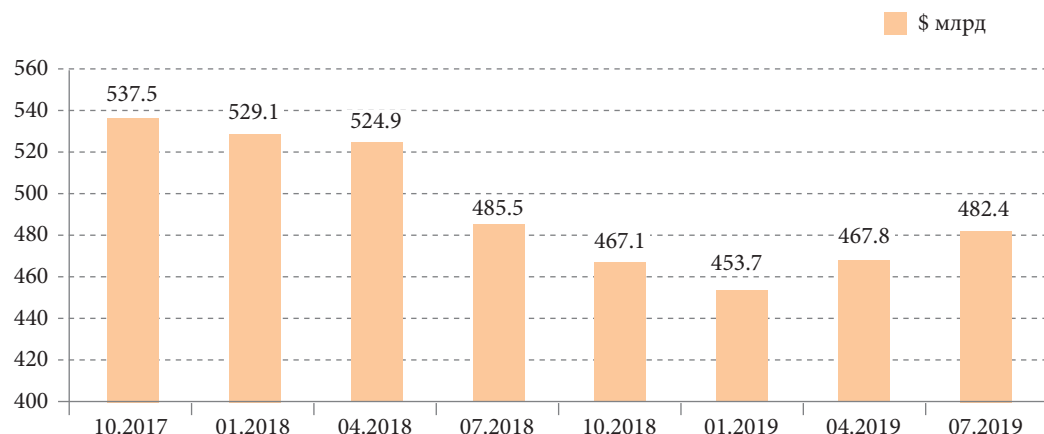
* Compiled on the basis of materials of the Central Bank of the Russian Federation.

Available at: https://www.cbr.ru

Despite the general downward trend, the positive values of the indicator of the International Investment Position of the RF within the analyzed period show the status of the country as a "net lender", which demonstrates stability of export capabilities of the domestic bank capital.

Positions of the banking sector of the Russian Federation considering sectoral limitations

Russia belongs to a group of countries (Germany, France, Japan) whose financial industry is developing based on a bank-centric model (Astrauskaite & Paskevicius, 2014, p. 114), when the financial system is oriented on bank financing. Furthermore, over the past decade the macroeconomic significance of the banking sector has increased considerably. In the total volume of assets of the financial sector, the specific weight of banks exceeds 80%. Thus, the banking sector plays a key role in the trend data of financial flows in the economy of the country.

Despite the sanction regime and some slowing down of economic growth, the financial result of the Russian banking sector within 2016–2018 demonstrates a stable positive trend. At the end of 2018, the profit of credit organizations exceeded $20 bln, which is 1.7 times bigger than the value of this indicator in 2017.

A growing credit cycle has been one of the main development factors of the Russian banking business, while crediting has been the main source generating financial flows, which accounts for 69% of total assets of the banking system of the country.

Almost all operational indicators have improved. Profit growth rates have exceeded the dynamics of capital and assets, which led to a substantial increase of their profitability in the banking sector as a whole. The profitability of bank assets increased (from 0.97% to 1.54%), the same as that of bank capital (from 8.3% to 13.8%).

Moreover, according to expert evaluations, in 2019 banking organizations are expected to get a profit in the amount of $27.7–29.2 bln, while the growth of assets will amount to 6–8%, and the level of profitability will reach the pre-crisis level. However, the projected rise in competitive pressure in the banking sector, most probably, will not make it possible to increase the growth rates of last year (2018).

The total capital of the Russian banking system in 2018 grew by 9.3% and as of 1 January 2019 reached the value of $158.5 bln (Fig. 3). This indicator is noticeably higher than the values of 2017, when its growth rates were identified as zero. At the same time the growth rates were registered lower that the average annual rates in 2013–2016, when they reached 11.4%. It should be noted than this increment, to a certain point, was provided by the monetary authorities within the programs of financial recovery and capitalization support of some Russian banks with public ownership. In addition, the trends of the analyzed indicators are noticeably different within various groups of banking organizations.

Figure 3: **Trends of the RF banking sector's own funds and capital adequacy ratio *(H 1.0)****
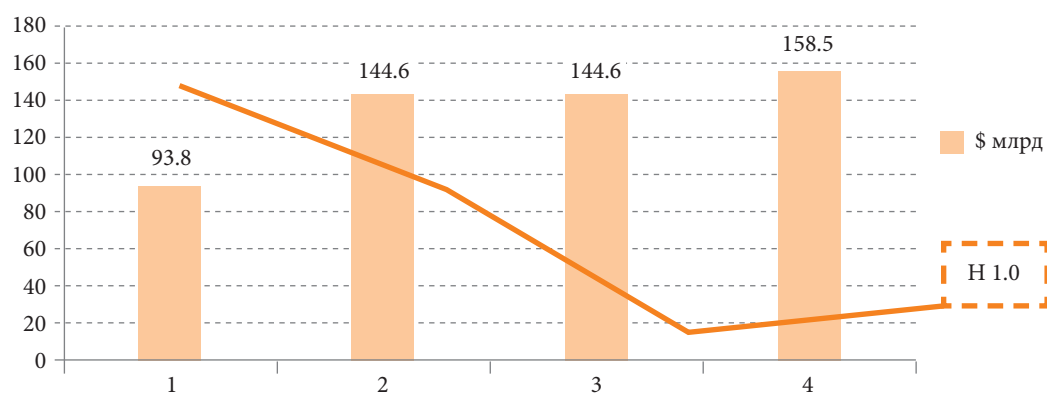
* The values of H 1.0 (indicator of one's own bank capital adequacy ratio) by years are presented for the entire banking system based on the data of the Bank of Russia. Available at: https://www.cbr.ru

As can be seen from Figure 3, since 2017 the indicators of the Russian banking sector's capital adequacy ratio (Basel III) for the banking system as a whole have been met with a certain "margin of safety". This helped the Russian banking system to reach a level close to the average world values by these important coefficients.

However, since 2016 the values of macroprudential indicators, characterizing the sustainability of the banking system, have demonstrated a certain downward trend (Table 2).

Table 2

Trends of macroprudential indicators, characterizing the sustainability of the banking sector of the Russian Federation over a seven year period *(%)*

Indicator name	1.01.2013	1.01.2014	1.01.2015	1.01.2016	01.01.17	01.01.18	01.01.19
Capital / GDP	40.6	44.4	51.6	52.7	47.5	46.0	46.6
Assets / GDP	72.6	78.5	98.0	99.5	92.9	92.6	90.8
Credits to the economy / GDP	20.9	23.2	23.4	27.8	28.1	28.2	27.5
Deposits of private customers / GDP	9.0	9.7	10.0	10.8	10.9	10.2	9.9

Source: Based on data of the Bank of Russia. Available at: https://www.cbr.ru

Given the role of the banking sector in the financial system and the economy of the country as a whole, it seems reasonable to analyze the trends of the indicator of the Net International Investment Position of the Russian banking sector by standard components (Table 3).

Table 3

**International Investment Position of the banking sector
of the Russian Federation as of the period January-April 2019***

$ mil.

	Balance as of 01.01.2019	Change as a result of transactions	Reevaluation as a result of change in the exchange rate and market prices	Other changes	Total changes	Balance as of 01.04.2019
ASSETS	*193 409*	*9 149*	*2 764*	*-3 536*	*8 377*	*201 786*
Direct investments	12 388	635	-105	-15	516	12 904
Portfolio investments	33 553	-422	696	-358	-84	33 469
Derivatives	6 387	-2 267	1 432	-61	-897	5 490
Other investments	141 081	11 203	741	-3 102	8 842	149 923
LIABILITIES	*124 605*	*-3 159*	*8 767*	*-51*	*5 557*	*130 162*
Direct investments	20 744	587	1 067	-15	1 639	22 383
Portfolio investments	23 141	- 16	4 366	-24	4 326	27 467
Derivatives	4 931	-2 804	2 607	-7	-204	4 727
Other investments	75 790	-926	727	-6	-205	75 585
NET INTERNATIONAL INVESTMENT POSITION (NIIP)	*68 804*	*12 308*	*-6 003*	*-3 484*	*2 820*	*71 624*

* The International Investment Position of the RF has been calculated according to the data of credit organizations, including the state development corporation VEB.RF without considering non-banking credit organizations according to the guidelines suggested by the IMF (sixth edition of the IMF manual).

Available at: https://www.imf.org

Developing financial technologies and the need to apply promising approaches to regulating cross-border financial services provide new opportunities and form a set of limitations in the financial sector.

Specifics and asymmetry of investment cooperation between the EU and the Russian Federation

The basis for the development of trade and investment cooperation between the EU and Russia is the Partnership and Cooperation Agreement (PCA) concluded in 1997 and suspended by the EU in 2014 due to the events in Ukraine. However, despite the previously introduced sanctions regime, the EU is the biggest partner for the Russian Federation, while Russia is the fourth largest trade partner for the EU (Gros & Di Salvo, 2017, p. 134).

In terms of the structure of foreign trade of Russia, the EU holds the leading position as the largest economic partner of the country. The EU's share of Rus-
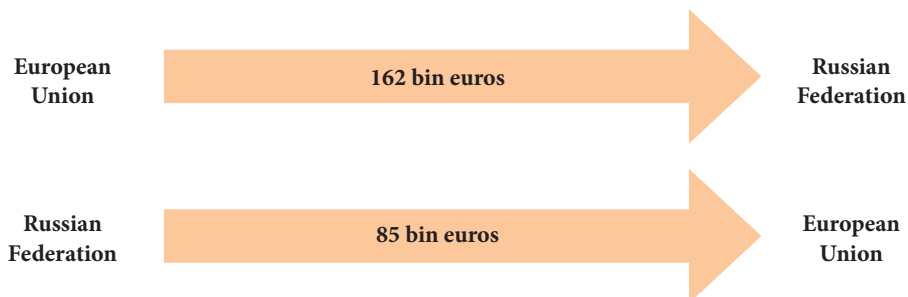
sian commodity circulation fell to 43.1% in January-October 2018 (from 42.7% in January-October 2017), while the share of the CIS countries amounted to 11.8% (12.5%), that of the EAEU countries was 8.2% (8.9%), and that of the APEC countries was 31.0% (30.4%).

In addition, according to the statistics, commodity circulation between the EU and the RF demonstrates a gradual fall. Thus, the volume of trade operations reduced from 339 bln euros in 2012 down to 191 bln euros in 2018, i.e. the fall amounted to 44%. The EU primarily exports tools and equipment (industrial, transport, medical etc.) to Russia, whereas Russia supplies mostly mineral raw materials (oil, gas) to Europe.

In analyzing the investment positions, it can be concluded that the EU is the largest investor into the Russian economy (industrial and banking sectors). Thus, for example, ¾ of direct investment into Russia fell for the EU. In addition, we should not ignore the fact that 30% of this value is (re)investment from the Republic of Cyprus. The RF invested only about 1% of the total volume of direct investments into EU countries.

Moreover, if we track the investment flows between the EU and the Russian Federation, we can see that the volume of European investments exceeds the investment activity of Russia in the EU countries almost by two times (Fig.4).

Figure 4: **Investment flows between EU countries and Russian Federation in 2018**

| European Union | 162 bin euros | Russian Federation |
| Russian Federation | 85 bin euros | European Union |

Source: http://economy.gov.ru

Investment cooperation has traditionally been important for international economic relationships despite the widespread practice of introducing sanction limitations. In order to find out about the main regularities and problems in investment cooperation between the EU and the Russian Federation, the structure of financial investments should be analyzed (Nelson, 2017, p. 311).

The average structure of investments from the EU to Russia over 10 years:
– direct investments – about 40%;
– portfolio investments – about 3%;
– miscellaneous (bank loans, trade financing) – about 57%.
The average structure of investments from Russia to EU countries over 10 years:
– direct investments – about 75%;
– portfolio investments – about 3%;
– miscellaneous (bank loans, trade financing) – about 22%.

In terms of individual EU countries, the volume of direct investments in the economies of the EU member countries over the period of 2010–2017 is presented in Table 4.

Table 4

Direct investments from the Russian Federation to the economies of the EU member countries in 2010–2017, *million Euros*

	2010	2011	2012	2013	2014	2015	2016	2017
Austria	253	847	512	1035	5265	1135	746	258
Belgium	49	36	61	536	- 450	302	32	- 44
Bulgaria	441	319	522	716	554	308	48	41
Hungary	542	48	- 2724	67	155	67	12	13
Germany	1860	1880	971	1118	1334	1016	738	393
Greece	58	318	88	63	98	185	12	15
Denmark	16	- 4	389	215	752	-	401	307
Ireland	299	1185	527	512	264	91	479	1139
Spain	458	490	812	980	1356	1879	152	125
Italy	295	315	387	403	538	587	117	165
Cyprus	15524	18309	22930	20930	7671	23546	4249	9827
Latvia	166	147	328	348	568	513	- 22	- 62
Lithuania	57	49	66	28	46	- 66	3	8
Luxembourg	2633	2483	2005	-504	1314	639	786	- 1633
Malta	32	8	-1	- 10	2	40	4	- 14
Netherlands	4684	7035	9901	2599	-3022	2132	461	841
Poland	- 50	- 2	30	- 2	73	31	67	55
Portugal	25	25	24	30	45	103	3	9
Romania	25	196	- 96	- 1	- 101	- 1	1	-
Slovakia	29	11	19	49	32	28	12	5
Slovenia	9	3	10	18	29	101	7	30
UK	3886	1232	1474	632	1294	1936	- 439	755
Finland	154	236	63	271	91	146	1454	104
France	217	334	656	1430	449	523	74	121
Croatia	75	23	103	31	71	111	19	23
Czech Republic	319	360	337	265	340	277	24	43
Sweden	177	203	489	390	-720	57	- 1	34
Estonia	29	21	30	85	120	149	63	- 5

Source: based on data of the Bank of Russia. Available: https://www.cbr.ru

As can be seen from the data in Table 4, in general there is a slow, but stable reduction in the shares of Cyprus, the Netherlands and Luxembourg in the incoming and outgoing foreign investments in the capital turnover of Russia and the EU. At the same time in 2017 the volume of direct investments into Ireland grew considerably. By and large, as can be seen from Table 4, these dynamics are unstable and inconsistent.

Parameters of investment activity of Russian banking institutions

In the early 2000s, the investment activity of the Russian banking sector was rather low (Christen, Fritz & Streicher, 2015, p. 42). There were individual (though sometimes quite big) deals. Thus in 2001, Alfa-Bank purchased 100% of the shares in the Amsterdam Trade Bank (Netherlands) and thus became the first Russian bank institution to own a subsidiary bank in the EU.

However, in 2004–2005 the export of Russian capital in the EU countries grew significantly because at that time Russian banks began more and more actively to increase their presence in the banking sectors of the EU countries either through acquiring existing banking institutions or through setting up bank subsidiaries and branches (Dreger, Fidrmuc, Kholodilin, & Ulbricht, 2016, p. 298).

Thus, in early 2014, a majority of the large Russian banks already had subsidiaries in the EU countries. Currently the most active exporters of banking capital are Sberbank, Alfa-Bank, VTB, and Gazprombank[1]. All these banking institutions are presented in a different way in countries around the world, both through representative offices and branches, and through subsidiary banks (Fig.5).

Figure 5: **Expansion of the Russian banking sector in the countries of the EU**

PRESENCE OF RUSSIAN BANKING INSTITUTIONS IN EU COUNTRIES				
Sberbank	**VEB**	**VTB Bank**	**Gazprombank**	**Alfa-Bank**
– Austria – Germany – Switzerland – Hungary – Slovenia – Croatia – Czech Republic	– UK – Switzerland – France – Italy – Germany	– Austria – Germany – France – UK	– Switzerland – Luxembourg	– UK – Netherlands – Cyprus

The analysis shows that virtually all banking organizations acquired by Russian owners are part of a chain of branches of Russian banks. The growth of long-term investments is, to a large extent, preconditioned by fast develop-

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[1]   Alfa-Bank today is the largest private Russian bank.

ment of the chain of foreign structural divisions of Russian banking institutions, whose operations are usually financed by parent organizations through making deposits and loans.

These institutions have the maximum possible freedom in terms of taking investment decisions. It is obvious that implementing these strategies in the banking sector is traditionally oriented on the active growth of business. It should also be noted that the operations of subsidiaries and branches of Russian banking organizations are complicated due to the high level of costs related to setting up and maintaining banking business (Harrell, Keatinge, Lain & Rosenberg, 2017, p. 24).

Even under the conditions of sanction limitations, the banks continue to export capital in the EU countries. According to the report of the Central Bank of the Russian Federation, the export of capital grew significantly (up to $27.3 bln) in the private sector, primarily in the banking system. This trend is explained by the existing instability on the markets of financial assets in a number of countries, such as, for example, Russia. Moreover, a certain role is played by the consequences of the sanction limitations, also sectoral ones.

Table 5–7 shows the data on the geographical distribution of foreign assets and liabilities of the Russian banking sector by groups of countries and individual (most attractive for Russian investments) countries of the world.

Table 5

Geographical distribution of foreign assets and liabilities of the banking sector of the Russian Federation in individual countries of the EU as of 1 April 2019*

$ mil.

COUNTRIES	Foreign assets	Foreign liabilities	Balance of foreign assets and liabilities
TOTAL	*121 383*	*66 082*	*55 301*
AUSTRIA	7 450	3 679	3 771
BELGIUM	1 179	274	905
GERMANY	11 224	3 127	8 097
GREECE	178	126	52
IRELAND	16 519	15 621	898
SPAIN	1 796	56	1 740
CYPRUS	37 602	8 841	28 761
LUXEMBOURG	10 385	15 461	-5 077
NETHERLANDS	14 224	7 675	6 549
UK	18 498	6 984	11 514
FRANCE	2 328	4 236	-1 909

Source: Compiled on the basis of materials of the Central Bank of the Russian Federation.

Available at: https://www.cbr.ru

Geographical distribution of foreign assets and liabilities of the banking sector of the Russian Federation in some countries of the world, including international organizations and institutions as of 1 April 2019

$ mil.

COUNTRIES	Foreign assets	Foreign liabilities	Balance of foreign assets and liabilities
TOTAL	*36 850*	*29 045*	*7 805*
VIRGIN ISLANDS, BRITISH	108	1 871	-1 763
HONGKONG	415	119	297
JERSEY	6 345	45	6 299
INDIA	189	163	26
CANADA	407	214	193
CHINA	379	4 599	-4 220
CUBA	358	52	305
SINGAPORE	684	816	-132
USA	17 227	13 576	3 651
SWITZERLAND	10 027	2 545	7 482
JAPAN	147	3 745	-3 598
International organizations and institutions	564	1 299	-735

Source: Compiled on the basis of materials of the Central Bank of the Russian Federation.

Available at: https://www.cbr.ru

Geographical distribution of foreign assets and liabilities of the banking sector of the Russian Federation by individual groups of countries as of 1 April 2019

$ mil.

	FOREIGN ASSETS			FOREIGN LIABILITIES			BALANCE
	Short-term	Long-term	TOTAL	Short-term	Long-term	TOTAL	
BRICS COUNTRIES	322	249	571	770	4 006	4 776	-4 205
OECD COUNTRIES	55 914	67 374	123 288	15 811	72 402	88 212	35 076
APEC COUNTRIES	17 399	1 972	19 371	4 180	19 821	24 001	-4 630

Source: Compiled on the basis of materials of the Central Bank of the Russian Federation.

Available at: https://www.cbr.ru

The comparison of data presented in Tables 5 and 6 shows that the European Union is one of the most attractive directions for the flow of the Russian bank capital. In this respect, the different sanction limitations have not changed the vector of its flow (Crozet & Hinz, 2016, p. 27).

In addition, it is necessary to point out the factors which help Russian banking institutions to stimulate and maintain interest in the European direction:
1. history of Soviet foreign banks of the State Bank of the USSR;
2. change of the goals and objectives of the banking business in the European Union;
3. presence of excessive liquidity in the banking sector of the Russian Federation;
4. presence / prevalence of banks with state ownership in the Russian banking system;
5. specifics of sanction regimes in relation to parent companies and subsidiaries of Russian banks in the EU.

The largest proportion of the export of capital occurs through opposite active operations of Russian banking institutions, related to placing financial resources in those countries where investments seem attractive for banking capital. To a point, this can be explained by the lack of reliable investment opportunities inside the country. Thus, the growing flight of the Russian banking capital, which is now more than 2.5 times bigger than in the same period last year (2018) is directly caused by a threat of increasing sanction risks towards the financial sector and the rising activity of Russian banking organizations and investment institutions on the world financial markets, and, in addition, by the increasing volumes of foreign currency purchased by the Ministry of Finance of the Russian Federation and the Bank of Russia to comply with the budgetary rules. A certain role is played by the operations of Russian business structures in terms of the foreign currency liabilities they have. That being said, despite the rapid growth of foreign investment projects of Russian banking institutions, the scale of their presence in the EU countries still falls behind the needs of Russian business in financial support of foreign trade operations.

Finally, a number of conclusions can be made.
1. The changing vector of movement of cross border capital flows has opened additional investment opportunities to the countries with emerging markets (including the Russian Federation), which has led to a significant increase of their share in the world flight of capital.
2. The main factor contributing to stimulating and intensifying the process of export of Russian bank capital is the positive balance of financial operations due to an increase in net financial assets as a result of a stronger trade balance.
3. The dynamics of the indicator of the International Investment Position of the Russian Federation and analysis of the financial results of the banking sector show its capability to successfully adapt to the sanction regime.
4. The evaluation of investment activity of Russian banking institutions shows that supporting European expansion of the national banking institutions could be one of the prioritized directions of the state policy of the Russian Federation in the banking sector.

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THE INCOME BASE
OF DISTRICT TOWNS
IN THE SLOVAK REPUBLIC

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Abstract

The primary self-governing unit of the local self-governing body in the Slovak Republic is a municipality. Its fundamental role is to take care of the comprehensive development of the municipal territory and the needs of its inhabitants. Currently, there are 2,890 municipalities in Slovakia, of which 140 are towns. Since these towns/cities play an increasingly important role in the economic, social and cultural development of the state, we deal with the evaluation of the economic results of the district towns in our article. We define the assumption that the level of financial self-sufficiency is influenced by the level of economic maturity of the territory where the city is located. The research findings suggest that the indicator of financial independency achieves the highest values in those towns located within the territories of Western and Central Slovakia, thus, in the most economically advanced areas of the country. The towns located within these areas are more populated because of better employment opportunities and low unemployment rates. The fiscal decentralization assumed an increase of own tax revenues of local self-government, however, the goal has only partially been fulfilled. The most significant item of tax revenue is personal income tax, which is the only one with the character of a share tax. The redistribution amount and criteria of this tax are beyond the power of the towns, although the revenues from this tax are included in their own tax revenues. Since there are considerable differences in the eco-

nomic levels of parts of the country and there are changes in the demographic structure and natural conditions, there is a need to re-assess the redistribution criteria of this tax into the budgets of the towns in Slovakia. We assume that this will result in a reduction of the differences in the scope and quality of provision of public services provided by these towns.

Introduction

The formation of territorial self-government in the Slovak Republic has undergone a lengthy development which has been influenced by many political and social events. The processes and reforms that have led to the greater autonomy of municipalities and regions have been part of the process of political, economic, social and cultural renewal of territorial communities. As with several other European countries, the principle of self-government is also constitutionally enshrined in Slovakia.

In the SR, a decentralised model of state organisation with the existence of territorial self-government is applied. The division of powers between the central government and lower levels increases the quality of services provided. Several analyses (Bird, 2003; Youngman, 2016; Ermini, 2009; Sungurov & Tiniakov, 2018) confirm that if citizens have sufficient influence on the quality, structure and scope of the services provided by the public sector, they are more willing to contribute to the financial and material resources in favour of their provision. This willingness is mainly due to the fact that they can directly monitor their use. According to Johnson and Minis (1996, p. 5), decentralisation is a primary strategy for transferring central government competence to lower-level governments. This is a fundamental change in the institutional framework in which political, social and economic decisions are made.

Decentralisation also has many critics. One important argument against decentralisation is that there is not enough empirical evidence of a positive relationship between decentralisation and poverty eradication. Decentralised structures claim that the negative can be neutralised by a fair financial compensation system. The argument that is also used against decentralisation is that it reduces the efficiency of public spending, especially in small municipalities, by increasing the number of management levels, elected bodies and officials. As a counterargument, it can be stated that decentralisation can lead to better use of the local potential as well as to democratic benefits (better response to the needs and

requirements of local people). However, there are many more arguments against as well as for decentralisation.

As a consequence of decentralisation efforts, local government undoubtedly deserves to be labelled as one of the most important foundations and an integral part of a democratic society. Self-government cannot be seen only as a legal term. Its social, cultural and economic dimension is also important (Daňková et al., 2017). In a broader context, territorial self-government forms a democratic basis for organising and managing public affairs under the conditions of modern democracies, where particular emphasis is placed on the application of the principles of decentralisation and subsidiarity (Nižňanský & Hamalová, 2013).

Public sector financial theory emphasises that decision-making processes should be carried out at the lowest possible level of the community (if these are the roles of the public sector then at the lowest level of the public administration). The reason for this is that the important private-public relations take place at the local level.

Many factors influence the role and possibilities of public administration to support development at local and regional levels. These are economic, legal, social, cultural and political factors. An important factor is the possibility of financing activities in the territory. Regional development at the level of local self-government is focused primarily on development activities that can be performed in terms of their competences.

The Aim, the Material and the Methods

The development of towns and cities is related to the possibilities, focus and abilities of individual persons involved at the local, regional, but also central level of public administration. The development potential of the respective territories is largely influenced by the structure and character of the settlement structure (Kadeřábková & Peková, 2012). In terms of the efficiency of meeting the needs and spending of public resources, the structure and level of population concentration in individual settlements plays an important role. The thriving and dynamic small and medium-sized cities (within the European understanding) can play an important role, not only in terms of the welfare of their own populations but also that of the inhabitants of the surrounding countryside. Major production and consumption activities are concentrated in cities. They are considered to be critically important in generating and applying innovations used in a variety of ways in social and economic life.

The crucial challenge is therefore to create the conditions for a sustainable local economy. The vast majority of Slovakia's population live in small or medium-sized settlements, which is a consequence of the specific development of Slovakia's settlement structure. Currently, more than 50% of the Slovakian population live in towns and in 2050 this figure is likely to increase to 65%. Slovakia, therefore, needs a strong local government, flexibly responding to changing conditions. We evaluated district towns because district cities are the economic, political and cultural centres of the region.

According to the administrative-management division, the SR is divided into 8 regions and 79 districts. The subject of our research is 68 district cities. Due to the lack of published information regarding financial management and the unavailability of final accounts and annual financial reports, three district towns were excluded from the sample material. In addition, the two largest Slovak cities, Košice and Bratislava, are officially divided into several districts, Košice I-IV, Košice surroundings and Bratislava I-V. The three districts were listed together under the one for improved transparency. Subsequently, district cities were divided into three areas (Western, Central and Eastern Slovakia). The reference period was 2013–2017.

The aim of the paper is to evaluate the results of financial management in the conditions of district towns of the Slovak Republic. The main focus was on the income of these cities, with an emphasis on tax sharing, which in the Slovak Republic is personal income tax. Based on the content analysis of final accounts and annual financial reports of selected district towns, data were collected for individual items of the income part of their budgets in the initial phase, then ratio indicators were selected and calculated, and finally the average values of selected income items for all monitored districts together and for the three selected areas as well. For evaluation, we used the indicator of the tax sharing yield per capita, the share of the tax sharing revenues on the tax revenues of the cities, and the indicator of financial self-sufficiency. Financial self-sufficiency is an indicator expressing the degree of autonomy and stability of local government management.

We have focused our attention on financial self-sufficiency for several reasons. The first reason is that the local government has considerable public resources. It collects 70% of the personal income tax and also has the ability to determine its own local taxes.

The second reason is that the local priorities are financed from the local budgets. Into the local budgets are also reflected opportunities, threats and risks to which these are exposed. Their analysis enables an assessment and comparison of the real degree of the local government position within the country and on an international level. Another reason for focusing on financial self-sufficiency is that there is a close relationship between the financial possibilities of self-government and their impact on the quality of life, living standards and local development. By exploring financial self-sufficiency, we can identify and understand specific local issues.

The ways of measuring financial self-sufficiency are different and take into account different approaches to defining financial self-sufficiency. In terms of research, we can choose a narrower or very broad approach. In the presented study, we chose a relatively narrow approach. We evaluated the financial self-sufficiency of this group of cities by comparing a share of their own income to the total income.

When creating maps, showing the development of selected indicators, the method of cartography was chosen, the size of which depicts the resulting values of district towns for individually selected ratio indicators. The results represent averaged values over the entire five-year review period.

The tax base of the cities

There are two levels in Slovakia's local government: local and regional level. Each of these levels has their own degree of reach, competence, responsibility, and the powers they have acquired in the process of decentralisation. There is a compensatory relationship between the expected benefits of decentralisation and its costs. Boadway (2001) states that the benefits of decentralisation can only be realised when at the same time potentially sacrificing some efficiency and equity. The extent to which these sacrifices will be implemented depends heavily on further steps that go along with decentralisation.

Financial decentralisation, implemented in 2005, enabled territorial self-government units to better influence the revenue side of their budgets. The distribution of funds between the different levels of government can be characterised by transparency in resource allocation, predictability of its volume for decentralised levels of government and some autonomy of decentralised government levels in the acquisition and use of funds. Jílek (2008, p. 15) states that if local and regional authorities are to carry out decentralised functions effectively, they must have the power to:

a) collect adequate revenue, whether locally collected or provided by a higher level of government,
b) make decisions on expenditures.

Every governmental level, each self-government body has its own budget and is responsible for the management of it. Part of the financial decentralisation was through the Act on Budgetary Determination of Revenue from the Income Tax for Local Government. In accordance with this Act, the income of the municipal budget became a share of the individual income tax. The use of tax sharing is a result of applying a general principle – the principle of solidarity. The second regulation was the Local Tax Act itself, which allowed municipalities to collect local taxes as their own source of revenue. Municipalities in Slovakia have very limited tax jurisdiction. The individual municipalities have the most power within the defined legal rules only in their own local taxes. Municipalities can collect specific taxes from the enacted system of local taxes that they impose as a tax burden on their citizens, or even on other entities that reside in the territory of a given municipality or do business within this territory.

The prerequisite for creating a sufficient revenue base is that the revenue of the municipalities is designed to be profitable, to some extent dependent on the activity of the municipality and so that the municipality has the possibility to influence certain resources itself. At the same time, it is appropriate for the revenue to be evenly distributed over time in order to provide public goods of approximately the same quality and quantitatively in a certain timeframe, it should be relatively well-planned and from the choice point of view not demanding on the administration.

District cities in Slovakia provide financing for self-government competences mainly from their own tax and non-tax revenues. From the state budget subsidies, from the relevant chapters of the state budget, the competences of the transferred state administration performance and other tasks related to regional development, environmental protection and the implementation of projects co-funded by the European Union are financed.

Income base of district towns in Slovakia

	AVERAGE VALUES FOR YEARS 2013–2017			Average values for all monitored districts
	Western Slovakia	Central Slovakia	Eastern Slovakia	
Number of Districts	26	Slovakia	19	
Average no. of Inhabitants	43 998	24 585	37 352	
Tax revenue	17 739 488	9 900 331	14 381 233	*13 817 710*
Revenue from Tax Sharing	11 809 772	7 240 386	10 955 863	*9 923 979*
Real Estate Tax	3 526 432	1 560 012	2 327 559	*2 509 763*
Goods and Services Tax	2 370 729	906 461	1 560 116	*1 637 760*
Non-Tax Revenue	3 416 360	1 651 353	2 988 661	*1 048 947*
Grants and transfers	6 881 606	3 856 179	7 224 687	*1 957 810*

Source: Authors' own processing of data based on the Final Accounts of the Public Sector in 2013–2017.

Based on the content analysis and recalculation of data from the final accounts and the annual reports of selected district towns in Slovakia, the average values of individual tax revenue items for all monitored districts as well as individual areas were quantified. The above table shows that the districts located in Western Slovakia achieved the highest tax revenues, non-tax revenues and grants and transfers. The lowest tax and non-tax revenues and grants and transfers were achieved by district towns in Central Slovakia.

The most significant item of the tax revenue is the individual income tax, which is the only one with the character of tax sharing. At the same time, in accordance with Act no. 583/2004 it is considered to be the local government units' own income. The yield of this tax was increasing over the review period. Better performance achieved is mainly due to the change in the distribution of tax revenue for municipalities, as well as an improvement in the success of their collection and a faster-growing labour market in comparison with the official estimates. From 1st Jan 2016, with the amendment to the Act on Budgetary Determination of Revenue from the Income Tax for Local Government, the percentage of income on individual income tax for municipalities increased from 68.5% (2015) to 70%. Until that date, the State was also the recipient of the income tax. Since 2016, the yield has been redistributed to territorial self-governing units only (municipalities and self-governing regions).

The second most important item is the real estate tax, which is also a local tax, but in the final accounts this type of revenue is entered outside of this category. The real estate tax is regulated by Act no. 528/2004 Coll. on Local Taxes and the Fee for Municipal Waste and Small Construction Waste, as amended. The real estate tax consists of taxes on buildings, land and apartments and non-residential premises.

Local taxes are referred to in the summary tables as taxes on goods and services, or as the tax on specific services. In most districts, local taxes were levied, such as a dog tax, a tax on non-winning gaming machines, vending machines, and tax on public space use. An obligatory fee for municipal waste and small construction waste was collected in the territory of each monitored city, which was a significant item of the local taxes. It is also worth mentioning a new source of income for the local government, a development fee, which has also become a form of revenue for municipalities since 2016. It is, however, an optional financial instrument of the local government, so it is up to the municipality to decide whether to levy this charge in its territory or not. Predominantly the district towns of Western Slovakia decided to introduce this fee (Pezinok, Malacky, Senec). In particular, the amount of 353,560 EUR in financial resources in 2017 was taken in by Malacky through development tax.

Tax Sharing – the most significant source of revenue

Tax sharing represents a source of revenue for the municipal budget which is a result of the reform efforts to achieve greater efficiency within public administration. This type of revenue is intended to provide sufficient resources for territorial self-government. In doing so, the central government maintains control over the volume of funds. Tax sharing causes less autonomy of the local government in comparison with autonomous taxes. It can significantly influence the overall behaviour of the local governments by bringing tax revenues from the same sources as the income of all the public levels, which changes fiscal stimulus and financial policy outcomes. Their large yields are attractive to self-government, while the division itself avoids the many disadvantages of local taxation. Redistribution formulas are usually defined directly in tax sharing laws, fiscal balancing, etc.

The advantage of the redistribution of the shared tax, in our case the income tax of individual persons, is that it is a relatively inexpensive way of securing tax revenues for lower levels of self-government. On the other hand, a disadvantage is that local governments cannot set their own rates, i.e. it does not allow a link between decisions on revenue and expenditure, since the increase in expenditure in a particular municipality, the VÚC, does not have a direct impact on the tax amount in its territory. The disadvantage is that central governments tend to look at share taxes as their source of revenue and may try to regulate their use, just as with subsidies.

The method of distributing the revenue from individual income tax is governed by the Government Order no. 668/2004 Coll., On the Distribution of Income Tax Revenue of Territorial Self-Government. This regulation includes the following allocation criteria: population, village altitude, municipal size category, population over 62 years of age and number of pupils in school facilities. The criteria were created in relation to the original competences of the municipalities. Municipalities receive 1/12 of the total annual share tax each month. At present, the share of municipal governments in income tax revenues is 70%.

To date, municipalities' share of individual income tax revenue is determined as follows:

– 5% by the number of inhabitants within the municipality at the age of 62,
– 23% by the number of inhabitants with permanent residency in the municipality territory, out of which 57% is calculated by the coefficient of the village altitude,
– 32% by the number of inhabitants with permanent residency in the municipality territory adjusted by the size coefficient of the municipality,
– 40% by the number of pupils in primary art schools and school facilities.

The largest advantage of this tax category is the fact that municipalities are free to decide on their direction of use. Maruchnič and Čunderlík (2005) also define other benefits of municipal financing through individual income tax. These include, in particular, the transparency and accuracy of the funding system. Another argument in favour of the shared taxes is the fact that income tax is one of the most stable taxes and its collection is the most proportioned over the course of the year. Similarly, the growth rate of its revenue is linked to rising employment and real income. At the same time, a largely negative fact is that the municipalities learn about the amount of their share at the end of the calendar year when the state budget is approved for the following financial year. For this reason, local governments have greatly limited possibilities for the planning of their expenditure for the following year. Until 2016, the instability of the system of individual income tax distribution also caused a significant lack of participation by municipalities in central taxes. Constantly changing amounts of shares did not allow municipalities to predict the amount of shares in their budget.

Although each state territory has its own administrative structure, it is not a homogeneous environment. Individual territorial units have different economic, social and geographical characteristics. The criterion on the basis of which the income tax of individual persons is distributed among municipalities is the number of inhabitants of the municipality with permanent residence in the municipality as of 1st January of the previous calendar year. The criterion of the number of inhabitants represents the application of the principle of equality – individual municipalities receive the same amount of tax income per capita, regardless of the catchment area where they provide their original functions and without distinguishing the scope of provided services. At the same time, this has the character of income stability, while acting as a factor of financial balancing, and it supports the ability of municipalities to fund essential public services. A part of the yield (57%) is calculated by the altitude coefficient of the village centre. On the basis of the coefficient laid down in the regulation, municipalities whose centre elevation exceeds 373 m (i.e. a coefficient higher than 1.00) receive a higher share of the tax revenue at the expense of lower-situated municipalities. In formulating this criterion, the legislator took into account the fact that municipalities are located in different geographical zones and that any increased energy requirements must be compensated for. Specific coefficients for each municipality are defined by government regulations.

To differentiate "energy demand", a more comprehensive indicator, taking into account local climate differences (long-term average air temperature, rainfall, wind speed, etc.) would be more appropriate. Altitude affects the differentiation of climatic elements, but only indirectly through the relief of the landscape. The altitude criterion seems to be a simplified criterion.

Table 2

Share of income tax of individual persons on tax revenues of district cities of Slovakia

	AVERAGE VALUES FOR YEARS 2013–2017			Average values for all monitored districts
	Western Slovakia	Central Slovakia	Eastern Slovakia	
Number of Districts	26	23	19	
Average no. of Inhabitants	43 998	24 585	37 352	
Share of income tax of individual persons on tax revenues of districts	0,6761	0,8152	0,7636	*0,7462*

Source: Authors' own data processing.

In the district towns of Eastern Slovakia, shared taxes represent a significant share in tax revenues, in other words this tax constitutes the bulk of their tax revenues. Conversely, the smallest share (below 0.65) was achieved by the district towns of Western Slovakia (Bratislava (1), Senec (48), Senica (49), Galanta (12), Púchov (41)). Also, the calculated total average for all years and all monitored district towns reached a high final value of 0.75 (75%). Only 25% of the city's total tax revenues were gathered by collecting local taxes and fees. Although individual income tax under our current legislation is included in the income of local government units, it is essential that cities/municipalities pay more attention to the strengthening of local tax and fee collection. The content analysis of the final accounts of the monitored cities revealed that several of them experience a challenge to ensure their collection, which is often associated with a high backlog in these type of taxes.

The second criterion for the redistribution of individual income tax is the number of inhabitants recalculated by the coefficient depending on the inclusion of the municipality in the size category. This criterion has a weight of 32%. The coefficients for individual size categories of municipalities reach values from 0.89 (municipalities up to 1,000 inhabitants) up to 2.35 for the capital. The difference in the value of the coefficient between the smallest towns and the big cities, up to 50,000 places, is only 0.05. The number of inhabitants is determined by the number of inhabitants of the municipality with permanent residence in the municipality on 1 January of the previous calendar year.

Table 3

The yield of share tax per capita for district towns of SR

	AVERAGE VALUES FOR YEARS 2013–2017			Average values for all monitored districts
	Western Slovakia	Central Slovakia	Eastern Slovakia	
Number of Districts	26	23	19	
Average no. of Inhabitants	43 998	24 585	37 352	
The yield of share tax per capita for districts	275,38	235,62	296,97	*288,84*

Source: Authors' own data processing.

The average total value for all district cities was 289 EUR per capita. Approximately 30 district cities did not exceed the above average value. Significantly high performance in this indicator was achieved by Námestovo (30), with a total of 449 EUR of share tax per capita. Such a high proportion can be justified by the first criterion of the redistribution of income tax revenue according to which the altitude of the city is also taken into account. In the case of this city, the coefficient of altitude is 1.3960 (e.g. compared to the capital Bratislava (1), which is located on the lowland and with a coefficient set at 0.8179).

The third criterion is the number of pupils in schools and education centres. The number of pupils and school facilities is determined according to a special regulation and calculated by the relevant coefficient. It is a criterion with a maximum weight of 40%. As of 1 September 2017, municipal taxation on the activities of the school children's club has been divided on the basis of the number of children admitted, the criteria being those from zero to fifth grade of elementary school who represent the largest group attending the club. For this reason, the value of the coefficient was changed for children of the club, for which the financial funds are distributed from the original value of 1.6 to 6.0 (The Explanatory Memorandum, 2017). The amendment to the regulation brought an adjustment of the coefficients for a child in a childcare centre, in the founding competence of a municipality with no more than 25 children, so that with the decreasing number of children in the childcare centre, the amount of allocated financial funds per child also increases in a more even manner. Changing the coefficient values did not change the amount of funds for childcare centre criterion.

The fourth criterion is the number of inhabitants in the municipality who have reached the age of 62 and with permanent residence in the municipality as of 1 January of the previous year. This criterion has a weight of 5%. The introduction of this criterion takes into account the increased demands on municipalities to finance competences in the area of social services for pensioners, for whom municipalities provide nursing services or provide care in social service facilities established by the municipalities. Since no coefficient is used to redistribute revenue between municipalities, it is the application of the principle of equality – individual municipalities receive the same amount of tax income per capita. However, this coefficient does not take into account different service costs in the individual regions of the country. This favours the provision of services in economically weaker regions, another element of solidarity and financial balancing.

Financial self-sufficiency in self-government is one of the general indicators reflecting a degree of autonomy and stability of the local government management (Horváthová, 2009). It helps to monitor the level of financial autonomy and its development. Although this indicator cannot capture the complexity of financial autonomy, it provides an idea of the financial position of local territorial self-government.

The Act on Budgetary Rules of Territory (Section 5 (1) of Act No. 583/2004 Coll.) includes in this category items – tax revenues (sub-items: revenue from shared tax, taxes on goods and services, real estate tax, municipal waste fee and small construction waste and local development fee) and non-tax revenue (sub-

items: business income and property ownership, administrative and other fees, interest on deposits and loans, and other non-tax revenue). The shared tax is thus classified as their own income. However, this definition is quite inconsistent for various reasons. The aspect of the purpose of using one's own revenue to finance one's own original competences gives some entitlement to its inclusion in the category of their own income. On the other hand, municipalities cannot realistically influence the construction of their overall amount or the method of division.

Figure 1: **The measure of financial self-sufficiency of district cities in Slovakia**
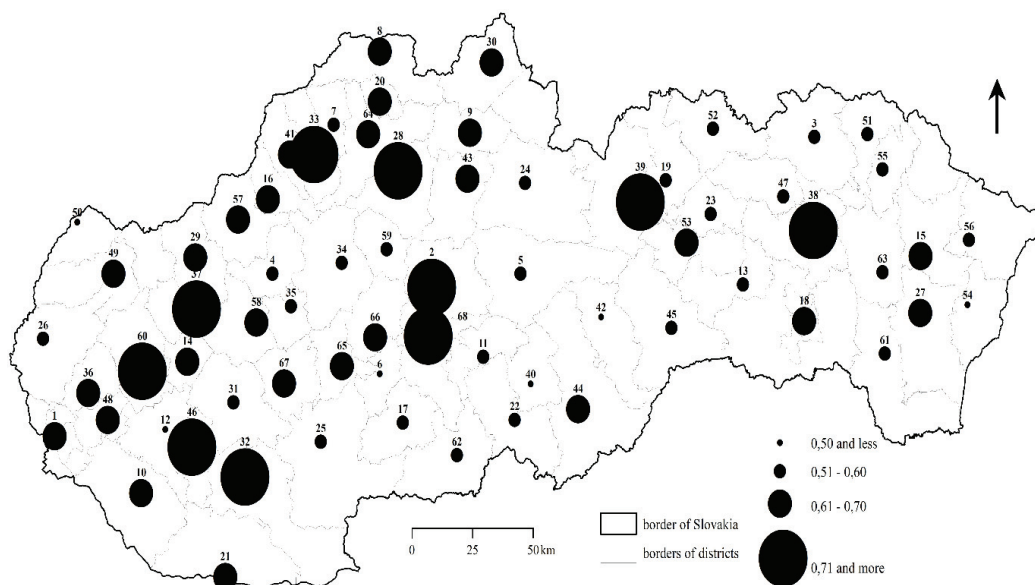
Source: Authors' own data processing.

Numbers of district cities: 1-Bratislava, 2- Banská Bystrica, 3- Bardejov, 4- Bánovce nad Bebravou, 5- Brezno, 6- Banská Štiavnica, 7- Bytča, 8- Čadca, 9- Dolný Kubín, 10- Dunajská Streda, 11- Detva, 12- Galanta, 13- Gelnica, 14- Hlohovec, 15- Humenné, 16- Ilava, 17- Krupina, 18- Košice, 19- Kežmarok, 20- Kysucké Nové Mesto, 21- Komárno, 22- Lučenec, 23- Levoča, 24-Liptovský Mikuláš, 25- Levice, 26- Malacky, 27- Michalovce, 28- Martin, 29- Nové Mesto nad Váhom, 30- Námestovo, 31- Nitra, 32- Nové Zámky, 33- Považská Bystrica, 34- Prievidza, 35- Partizánske, 36- Pezinok, 37- Piešťany, 38- Prešov, 39- Poprad, 40- Poltár, 41- Púchov, 42- Revúca, 43- Ružomberok, 44- Rimavská Sobota, 45- Rožňava, 46- Šaľa, 47- Sabinov, 48- Senec, 49- Senica, 50- Skalica, 51- Svidník, 52- Stará Ľubovňa, 53- Spišská Nová Ves, 54- Sobrance, 55- Stropkov, 56- Snina, 57- Trenčín, 58- Topoľčany, 59- Turčianske Teplice, 60- Trnava, 61- Trebišov, 62- Veľký Krtíš, 63- Vranov nad Topľou, 64- Žilina, 65- Žarnovica, 66- Žiar nad Hronom, 67- Zlaté Moravce, 68- Zvolen

The results of the analysis show that it is possible to evaluate positively that only five district cities achieved low results at 0.50 and below (Sobrance (54), Rožňava (45), Poltár (40), Galanta (12), Banská Štiavnica (6), Skalica (50)). The total average value for all cities surveyed and for all reference years was 0.61. This result shows that district cities in Slovakia are on average 61% able to secure their own income, while the remaining 39% are from foreign sources (mainly subsidies). Above-average values exceeded more than half of the district cities, especially Western and Central Slovakia. The lowest level of financial self-sufficiency is achieved by district towns in Eastern Slovakia. The greatest financial self-sufficiency was achieved mainly by the largest Slovak cities, such as Prešov (0.71), Banská Bystrica (0.73), Trnava (0.74), Martin (0.70), and Poprad (0.71), while Slovakia's two largest cities, Bratislava (0.69) and Košice (0.60), achieved surprisingly low financial self-sufficiency. A significance of this indicator lies in the expression of the independence of transfer points from the central government level even though the tax revenue is shared tax that is actually redistributed to the cities according to the applicable criteria. This indicator does not take into account the degree of tax jurisdiction beyond the powers of the cities. Its assessment over time reveals an uneven growth of GDP in individual regions of Slovakia and the related problems of municipal finances. Because economic conditions are subject to the process of change, the self-sufficiency of local governments needs to be reassessed.

Conclusion

A new system of financial compensation in the SR is based on the redistribution of individual income tax using a formula containing criteria corresponding to the type and volume of competences that the local government performs. In this paper, we tried to evaluate the impact of changes on tax revenues of municipalities. The analysis shows that the shared tax forms the highest proportion of the tax revenues of district towns in Eastern Slovakia. The financial self-sufficiency indicator reaches the highest values in the most economically advanced part of the country, where district cities have a larger population due to better employment opportunities and low unemployment rates. Therefore, it seems necessary to adjust the mechanism of financial equalisation due to changes in the demographic structure and due to the need to focus more on the tasks of supporting the development of cities and municipalities, thus reducing the differences in the scope and quality of public goods provision.

An ongoing process of globalisation, the transition from an industrial society to an information society, as well as the process of deepening European integration and the strengthening of its bodies' influence at the expense of national governments, are seeing permanent discussion on the position of central government vs. local governments. In different types of states, there are different approaches to dividing tasks between central and local governments. Urban development and its effective management has long been a very serious issue, from the regional as well as the national and international perspectives.

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GOVERNMENT EFFORTS IN MANAGING PLASTIC BAGS USAGE

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Abstract

Despite awareness of the importance of sustaining the environment plus regulations to deter the use of plastic bags when shopping, ceasing to use plastic bags is a behavior that does not come easily to Indonesian consumers. Our survey shows that government regulations alone do not have a direct effect in lessening the use of plastic bags. However, it turns out that guidance through the presence of eco-friendly awareness could be used by the government as a basis to manage consumer behavior in the market. Given this, the Indonesian government would be able to make better policies related to the use of plastic bags in Indonesia, for example, to create a policy where a percentage of goods sold have to be in the form of green products. Indonesian customers tend to reduce their plastic bag usage or purchase green products as a reaction to eco-friendly awareness. This study comes up with a law-like generalization model with regarding to the relationship among variables: government regulations, eco-friendly awareness, the intention to continue using plastic bags, and the intention to purchase green products. This study reveals that the government managing consumer behavior solely through campaigning on eco-friendly matters is not sufficient. They should emphasize more on providing good quality green products in addition to raising community awareness of environmental sustainability, since this research has found that green products are an alternative to using plastic bags.

Introduction

Indonesia is estimated to be the second largest contributor out of 129 countries in the world regarding ocean plastic pollution (Jambeck et al., 2015). One type of waste is plastic bags used while shopping at supermarkets or mini markets in Indonesia. Selke and Culter (2016) revealed that most products packaging is also made from plastics materials. Those researches have indicated that retail customers in Indonesia have a high potential or polluting the ocean with plastic trash. Plastic pollutant in the ocean can cause damage to the sea biota. The plastic nanoparticles can cause brain damage and behavioral disorders if digested by sea creatures (Mattsson, Johnson, Malmendal & Linse, 2017). Since people eat seafood, the nanoparticles can also be harmful; people who eat the seafood can also get a brain damage, although this would only happen over a long period. Nevertheless, Indonesian people have a bad habit, which is throwing plastic waste into the river, which then ends up in the ocean. The government and environmental community need to be alert regarding this matter.

Jambeck et al. (2015) also state that 80% of pollutants in the ocean are caused by waste mismanagement from the land into the ocean. The potential danger of plastic bags to the environment is also reflected in the statement from the Minister of Environment and Forestry Republic of Indonesia that plastic bag waste from 100 outlets of the members of the Indonesia Retail Association in one year could reach 10.95 million. This is the same as 67.5 ha of plastic bags, or approximately 60 football fields. Moreover, the Solid Waste Association of Indonesia as quoted by Antara (Indonesia News Agency) stated that plastic waste production in Indonesia could reach 5.4 tons per year. To reduce this, especially the plastic waste, the Minister of Environment and Forestry Republic of Indonesia, through the Director General of Management of Garbage, Waste and Hazardous and Toxic Materials published Circular Letter No.S.1230 / PSLB3-PS / 2016 regarding the use of plastic bags for shopping at supermarkets. In principle, the regulation required supermarkets to sell plastic bags – which were usually given free of charge – to their customers. This regulation was terminated in June 2016.

The regulation regarding plastic bags seems to be quite effective in managing consumer behavior in the market. The Minister of Environment and Forestry Republic of Indonesia, Nurbaya, stated that the regulation had reduced the consumption of plastic significantly from February to June 2016, even though the decreases vary from one region to another. The decreases would reach up to 30% in one location and slightly more or less in others. The Minister's statement showed that Indonesian consumers have started to realize the role of plastic bags on pollution

in Indonesia, or at least, it seems that it is possible to manage Indonesian consumers to respect the environment through regulations. The improved conditions are in line with finding from the Nielsen Survey Institution. The survey found that Indonesian consumers were willing to pay more for products and services provided by companies that produce goods committed to the environment and having a social impact. The behavior increased from 64% in 2014 to 78% in 2015. The increase shows that Indonesian consumers have positive attitudes toward environmentally friendly products, or what we know as green products.

However, Nurbaya's statement and Nielsen's survey are different from the observations of the Foundation of Indonesian Consumer Institutions (Yayasan Lembaga Konsumen Indonesia/YLKI) in 2016. YLKI conducted observations on the implementation of the regulation through observing 10 minute transactions of supermarket and minimarket cashiers. The highest transaction number was 21, with 10 of these involving consumers who still used plastic bags. This is in contrast to Nurbaya's statement and Nielsen's survey. It motivates this research, to verify whether Indonesian consumers do have environmental awareness. Furthermore, this research could suggest whether the implementation of the regulation should proceed or not. The impact of the discontinuance of the paid plastic bags regulation and the continuance of free plastic bags by retail businesses toward Indonesian retail consumers in the future will lead them to: 1) continue using plastic bags, or 2) terminate the use of plastic bags and buy green products (T. B. Chen & Chai, 2010).

This research could provide a basic description as references for the Ministry of Environment and Forestry Republic of Indonesia and retail businesses such as supermarkets and mini markets, to decide whether to continue or terminate the paid plastic bag policy. The basic idea is because those two entities have a responsibility to reduce pollution and contamination and preserve the environment, and more so because of the fact that shows Indonesia – among 129 countries – is the second biggest contributor to ocean contamination (Jambeck et al., 2015).

One expression of society towards the paid plastic bag regulation is displayed in the attitudes and behavior of retail consumers regarding the use of plastic bags, green products and environmental awareness. Based on that logic, in this research, Government efforts plus the conditions of Indonesian consumers' related to the use of plastic bags are described in the research model. The research model provides an overview of consumers' considerations regarding the use of plastic bags. Therefore, based on the investigated model, the Indonesian government would be able to analyze the behavior of supermarket consumers more effectively and more easily make strategies or policies to reduce the use of plastic bags in Indonesia.

Literature Review

A green product is an ecological product or environmentally friendly product (T. B. Chen & Chai, 2010). Based on the understanding of green product as stated by T. B. Chen and Chai (ibid.), in Indonesia there are several green products that companies offer to attract consumers, to an alternative to using plastic bags, and also related to reducing food waste in order to be environmentally friendly.

Which means the green product variable is also important in relation to the use of plastic bags. Examples of companies which have launched products committed to the environment are Starbucks with its coffee glass and Coca Cola with its environmentally friendly bottle. Based on research by the Union of Concerned Scientist (UCS), only 15 out of 40 companies investigated were committed to the environment. This commitment was shown by them using environmentally-friendly palm oil in their products. Those companies were: Dunkin Donut (fast food); Safeway (a shop); Nestle, DANONE, Kellog, Food Conagra, Unilever, PepsiCo, general manufacture (package products); Colgate Palmolive, Henkel, P & G, L'Oreal, Reckit Benckiser (Personal Care) (ecowatch.com, April 8th, April 2015). This shows that environmentally-friendly products or green products do not have enough support from business management or business owners in leading industries in the world. It also shows how important research regarding green products is. This research could enlighten the minds of those business managers regarding the importance of green products.

The green marketing concept from Jain and Kaur (Chen, Y.S. & Chang, 2012) stated that it is all of the activities developed to trigger and preserve attitudes and behavior towards the environment. Some of the countries which have gone through green marketing programs, such as reducing plastic bag waste, are Turkey (Arısal & Atalar, 2016), Canada, Denmark, Ireland, China, South Africa, Botswana, Victoria Australia, Washington DC, Wales, Montgomery County USA, England/Scotland (Rivers, Shenstone-harris & Young, 2017) and Sweden (J. Singh & Cooper, 2017). Maintaining the Integrity of the Specifications, (Rivers et al., 2017) found that the plastic bag retribution policy in Scotland increased consumer use of reusable bags. However, the effect of reusable bags only happened in rich families or high-social class, it did not effect on middle and lower class households.

J. Singh & Cooper, (2017) researched a plastic bag waste management program in Sweden through a consumer behavior model. They found that there are four important aspects to implementing a plastic bag reduction program. One is consumer' awareness of the environment. They also found that the system they proposed, which was to implement a take-back system where consumers returned the paid plastic bag to retailer, could reduce the use of plastic bags by up to 70%.

The Indonesian consumers' attitude and behavior model regarding the use of plastic bags and regarding government policy was developed by previous researchers, such as T. B. Chen and Chai (2010), Skippon and Garwood (2011), Barbarossa, Beckmann, Pelsmacker and Moons (2015), as shown in Figure 1. As for the theory used to describe the model, it is the emotion and rationale routes decision making process theory. This theory (Keller, 2009) is also used regarding the brand resonance pyramid, which is two routes in decision making leading to brand loyalty. The first route is the rationale and the second is emotion. The relation between environmental awareness and the intention to use plastic bags could be stated as the rationale route, whereas the relation between perception toward green product quality and the intention to buy green products is the emotion route (reflex). Based on those logics, the model for this research is as shown in Figure 1.

Shelby D. Hunt (1991) revealed that one way to develop knowledge is through the invention of a relation structure between variables, including a causal relation.

Based on Hunt's argument (Hunt, 1991) this research hypothesis is then developed to strengthen the pattern/structure of relations between variables from other previous research. The hypothesis in this research is developed by the association pattern between the awareness of eco-friendliness, the intention to use plastic bags, perceived government regulations, and the intention to purchase green products which have been investigated by previous researchers, such as (Skippon & Garwood, 2011), (Barbarossa et al., 2015), (Asmuni, Hussin, Khalili & Zain, 2015), (Abid & Latif, 2015), (Arısal & Atalar, 2016), (Rivers et al., 2017), (J. Singh & Cooper, 2017), (Guyader, Ottosson & Witell, 2017), (Prakash & Pathak, 2017), (Martinho, Balaia & Pires, 2017), and (Ajzen & Fishbein, 1980).

Figure 1: **Research Model**
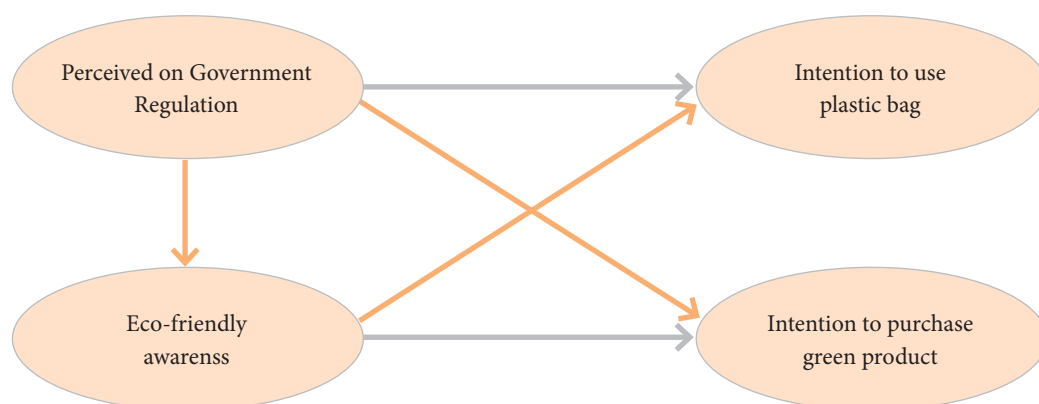
Perceived Indonesian Government Efforts to restrict the use of plastic bags

Industry's impact on the environment has been an ongoing discussion for a long time. It has been discussed for decades, which showed the high concern of society towards the environment. We can see this in the form of various studies regarding climate change and global warming, which started in the 60s.[1]

Formal studies on a global scale started in 1988 when the United Nation created a group of scientists known as the Intergovernmental Panel on Climate Change (IPCC). The institution reviewed climate change and the damage to the environment from a scientific point of view at a global level (Oreskes, 2005). The importance of environmental problems is also shown in the form of numerous research regarding impact of industry on the environment. It is obvious that the environment issue is still relevant in research discussions, such as that by Xanthos and Walker (2017), Steensgaard et al. (2017), Martinho, Balaia and Pires (2017), Boz (2016), Asmuni et al. (2015), Berghoef and Dodds (2013), Williams and Wikström (2011).

Xanthos and Walker (2017) stated that even though some countries had policies regarding restrictions or reduction in the use of plastics, pollution caused

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[1]   https: / /en.wikipedia.org/wiki/History_of_climate_change_science

by plastic bags is still increasing. In the last eleven years, the use of plastic bags had increased twice, especially related to food packaging, which turned out to be the largest type of plastic waste. The condition describes that government intervention through policy did not have a significant impact on consumer behavior regarding the use of or the littering with plastic garbage. On the other hand, studies by Martinho et al (2017), Boz (2016), Asmuni et al (2015), and Berghoef & Dodds (2013) revealed that government programs are effective in reducing the use of plastic bags for shopping in retail stores. Some of those researches described that retail consumers have relatively high awareness regarding the importance of sustaining the environment or environment friendly behavior.

In Portugal, Martinho et al. (2017) found that implementing tax on plastic bag effectively reduced plastic bag consumption. They also found that hypermarkets and supermarkets played an important role in changing consumer behavior around using plastic bags while shopping. In Turkey, there is a program called Sustainable Environment Land Protection (EFALP), the goal of which is to protect the quality of water, soil, and indigenous vegetation, and to prevent land erosion caused by wind. The farmers' incomes indicate that the program is succeeding (Boz, 2016).

The program 'No Plastic Bag Day' (NPBD) in Malaysia that was initiated by Malaysian Government seemed effective in reducing the use of plastic bags while shopping at the supermarket or other outlets. Also in the program, the retail shops do not give plastic bags to customers for free. The results showed that consumers avoided using plastic bags while they bought things at retail shops (Asmuni et al., 2015).

In Ontario, Canada, Berghoef and Dodds (2013) found some factors, which motivated the wine industry to participate in the eco-certification and eco-labeling program. It is a credible, monitored program related to labeling and marketing to drive a sustainable increase in attention towards the environment. With the support of LCBO and collaborating with EPP, the program pushed for wider participation by wine refineries.

Williams and Wikström (2011), in studying food packaging, found that the packaging , and the process systems in packaging did have impacts on the environment. Other researchers, e.g. Steensgaard et al. (2017), studied the influence of EU rules relevant to plastic bag life-cycles. In the study, they found some crucial things, among which is that poor waste management is the main problem in terms of plastic waste which causes pollution in the sea, and that this is an important matter that should be considered by the EU countries.

Studies by Martinho et al. (2017) and Steensgaard et al. (2017) analysed the process of managing the environment, mainly regarding the impact of government regulations towards behavior or the environment. The difference between those studies and this one is the subject matter. This studied the consumers' mental process, i.e. their considerations or attitude that drives their behavior to manage waste or to pay attention to products that harm the environment. Today, there are ongoing studies on consumer potential and perceptions towards the environment and green-products in Indonesia.

DeCosta et al. (2017) studied experimental research and found that environmental variables, in this case the control variable of parents and the variable of social facilitator, could change children's behavior regarding eating pattern. Those

variables could be applied to adults. An addition to the hypothesis consideration in this research is the research by Stranieri et al. (2017) which found that consumers tends to choose organic vegetables over less eco-friendly ones.

Based on the studies by Stranieri et al. (2017), Martinho et al., (2017), Boz (2016), Asmuni et al. (2015) – and Berghoef and Dodds (2013), therefore, -the first and second hypotheses of this research are:

H1: Perception of government regulation negatively and significantly influences intentions to use plastic bags

H2: Perception of Government regulation positively and significantly influences intentions to buy green products

Perception of Government Regulations and Eco-friendly Awareness

Several authors (Barbarossa et al., 2015; Arisal & Atalar, 2016; T.B. Chen & Chai, 2010) revealed the meaning of eco-friendly as an attitude or perception related to someone's consideration before making a decision. Especially regarding the decision not to buy products that create pollution, or in the form of one's concern for products that have an impact on ecology, or attitudes related to environmental protection.

According to some researchers on consumer behavior, such as Schiffman and Kanuk (2000), Zaltman and Wallendorf (1979), perception is described as a process where someone makes a choice, organizes, and interprets the world as they see. Further, Peter and Olson (1999). Zaltman and Wallendorf (1979), revealed that in the cognitive process system or the process of information processing, the stimulant from the environment would be interpreted and stored in the consumer's memory, then it would be a pre-known knowledge, before it goes through a further process and became the basis of someone's attitude and behavior.

Some of the opinions of these writers are seen in how government regulation is perceived by cigarette consumers, in that it then becomes information that is stored in the memory as a knowledge. Furthermore, the knowledge would become a basis for the attitude or intention of the cigarette consumer. Because government regulation tends to shape a restriction or to reduce the leeway of someone to smoke, therefore, according to the perception theory, government regulation would create a knowledge regarding the dangers of smoking to a smoker. Based on this logic, the third hypothesis of this study is as follows:

H3: Perception of government regulations influencing eco-friendly awareness.

Eco-friendly Awareness and Intention to Purchase

Ajzen and Fishbein (1980) define the intention to behave as the subjective possibility of an individual to do one particular act. They also explain that intention is connected to four different elements: the target of the behavior, the object of the behavior, the situation where the behavior is conducted, and the time when the behavior arises. Maholtra and McCort (2001) describe intention as a person's conscious plan- to try as hard as possible to do a specific action. Moreover, Ajzen and Fishbein (1980) as well as Ajzen (1971; 1988) in explaining the theory of reasoned action and the theory of planned behavior stated that intention to behave is a variable which is connected to behavior attitude and a person's actual behavior.

In those theories Ajzen and Fishbein (1980) and Ajzen (1988) describe the position of intention between two variables, being the behavior variable as the cause or consequences of intention, and the attitude variable as the antecedent or factor that causes the rising in intention.

The intention concept is used in a lot of research related to green products or sustainable environment. Among, these is the research conducted by Paul et al. (2016) and T.B. Chen and Chai, (2010). Paul et al. (2016) predicted the intention to buy green products through the expansion of the TPB model, i.e. by adding environmental concerns to the model. T.B. Chen and Chai (2010) describe behavior intention as customer conative loyalty.

The naming is related to the concept showing that loyalty is divided into two kinds, attitudinal loyalty and behavioral loyalty (Dick & Basu, 1994); (Pritchard, Pritchard, Havitz & Howard, 2015). C. Chen and Chen (2010) assume that the loyalty level of a tourist destination is often reflected in the tourists' intentions to revisit their tourist destination and they want to recommend it to others, therefore operationalizing the intention variables through the approach on loyalty.

Another research which investigates purchase intention is from Chen Y.S. and Chang (2012). They use the definition of intention from Netmeyer and Morrison, that intention is the possibility of the consumer purchasing a product caused by the need of his environment. Their research showed that both green perceived value and green trust have a positive relation to the green purchase intention. Besides, (Paul et al., 2016), through an extended TPB Model showed a significant and positive relation between environmental concern and purchase intention.

Guyader et al. (2017), in their experimental research, found that retail consumers who see or are aware of the existence of eco-friendly products are willing to pay a higher price than usual for green products; besides, prime consumers who have the intention to buy eco-friendly products would raise their visual focus on green products. Based on the research conducted by Guyader et al. (op.cit.) and also by Paul et al. (2016) who successfully revealed the relationship between eco-friendly and environmental concern on the purchase intention, the fifth and sixth hypotheses of this research are therefore:

H4: the higher the consumer awareness toward environment, the greater the intention to purchase green products.

H5: the higher the consumer awareness toward environment, the smaller the intention to use plastic bags when shopping

The relation between eco-friendly and the intention to use plastic bags naturally would be negative, with the assumption that the higher consumer awareness toward the environment would lessen the possibility that he should use plastic bags when shopping at the market.

Methods

This research used survey methods for collecting data. The type of services under this study were retail businesses, based on the consideration of convenience in conducting the research. The survey method used was based on the consideration that the data analyzed is ex-post-facto. The analytical method

used was structural equation modeling. J.F. Hair, R.E. Anderson and R.L. Tatham (1998) revealed that the number of samples used to perform analysis through a statistical model or multivariate is 15 respondents for 1 parameter, or between 200 to 400 respondents (p. 23). The sample taken in this research was 283 respondents. The sample size is not statistically determined because the sampling method used in this study is not a random sampling method and the population is infinite, since the number of populations cannot be estimated (Singh, 1986).

The measurement of variables in this research is derived and adapted from previous studies, such as Junior, da Silva, Gabriel and Braga (2015), Zhao, Gao, Wu, Wang and Zhu (2014), Prakash and Pathak (2017). Intention to use a plastic bag and intention to buy green products is operationalized through seven items for each variable and is formed based on (Prakash & Pathak, 2017) and (Junior et al., 2015). Since we defined eco-friendly awareness as an awareness of consumers pertaining to products that could create damage to the environment (*see literature review section*), then we operationalized this variable into ten items adapted from (Zhao et al., 2014), and perception on government regulations into ten items based on the operational definition concept adopted from (Sekaran, 2013).

All variables were measured using Likert scales, which are used based on convenience considerations in reliability testing since the Likert scale is a multiple choice with a single response bases for the variable analyzed (Cooper & Donald R., 2003). The instruments of this research were adopted from previous research, e.g. (Barbarossa et al., 2015); (Chahal, Dangwal & Raina, 2014); (Prakash & Pathak, 2017); (Stranieri, Ricci & Banterle, 2017); (Boz, 2016); (Asmuni et al., 2015) and (Berghoef & Dodds, 2013). In addition, the questionnaire also asked the respondents' opinions about "environmental maintenance programs that have been carried out by the government". The question asked is to see the respondent's opinion in general regarding the implementation of government regulations.

A reliability test was conducted using Cronbach's alpha, while a validity test is conducted using construct validity, which consists of convergent validity and discriminant validity, and a reliability test is conducted using Cronbach's alpha. Discriminant validity is calculated by comparing the average value of the square of correlation and the extracted variance of each variables. The extracted variance is the weight indicator average value of the square of standardized regression, extracted from each of the latent variables (Hair et al, 2003; Chau, 1997). Discriminant validity is calculated by comparing the variants value extracted and the average value of the variables correlation. If the average value of the extracted variants is greater than the average value of the correlation square, it means the validity discriminant is accepted (Hair, et al, 2003; Chau, 1997).

By eliminating the unexpected items, the final component matrix shows that all of the items of variables are confirmed. Then, analyze the reliability of each variable. The tables show that all variables are reliable. Since the alpha values exceed 0.7, it means that all of the items of variables are valid and reliable to be analyzed further.

The Cronbach alpha for each variables are: government regulation 0.7; eco-friendly awareness 0.747 (going through the elimination of 2 questions, which are the EF2 and EF7); intention to buy plastic bags 0.736 (going through the elimination of 4 questions); intention to buy green products 0.807 (going through 2 questions). Therefore, the data is calculated using only the existing variables. Construct validity and discriminant validity are created using the congeneric model (Anderson and Gerbing, 1988; Hair et al, 2003).

The values of the extracted variance for each of the variables are: 0.56 for the intention to buy plastic bags; 0.39 for perception of government regulations; 0.35 on eco-friendly awareness; and 0.52 for the intention to buy green products. The average value of correlation for each of the variables are: 0.02 for the intention to buy plastic bags; 0.09 for the perception of government regulations; 0.29 for eco-friendly awareness; and 0.27 for the intention to buy green products. All the extracted variance values of each variable are greater than the value of the average correlation, therefore all the analyzed variables have an accepted construct validity value and could be analyzed further using Structural Equation Modeling (SEM). Moreover, the value of KMO-Bartlet test data is 0.835 which indicated that the processed data have a marvelous level according to the sampling adequacy measurement.

Figure 2. **Research Model**
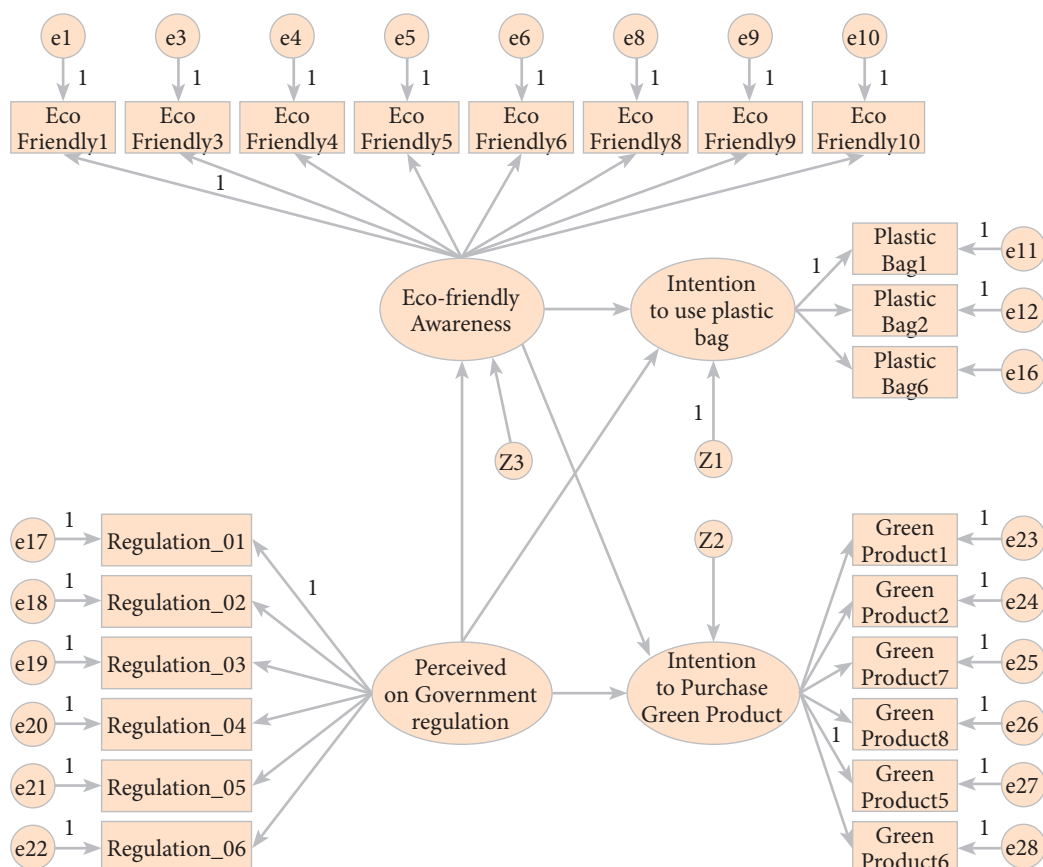
Respondent Profile

Questionnaires were distributed to 252 respondents. The profile of respondents is as follows:

1. From the 252 respondents, 157 respondents (62.3%) are females and 83 respondents (36.9%) are males.
2. From the total respondents, 60.7% (153 respondents) are 15–25 years old. This profile shows that most of the respondents are teenagers who still have pristine thoughts and have great potency to be altered in behavior.
3. From the total respondents, 153 respondents (60.7%) are under 26 years old, 37 respondents (14,7%) 26–40 years old, 31 respondents (15.4%) 41–50 years old, 24 respondents (9.5%) 51–60 years old, and 6 respondents (2.4%) 60 years old, while 1 respondent did not fill in the age information. Most of the respondents (75.4%) are below 41 years old. This shows that the respondents are from the productive level of society.
4. Based on income levels, the respondents had the following composition: 45.6% earned less than IDR 2,800,000 (minimum regional province wages); 7.2% earned between IDR 2,900,000 – and 5.000,000; 31% earned above IDR 5,000,000, and 13.5% earned above IDR 10,000,000.
5. Based on their education, the respondents had the following composition: 38 respondents (15.1%) had Doctoral degree; 41 respondents (16.3%) had a Master's degree; 66 respondents (26.2%) had Bachelor's Degree; and 106 respondents were no answered.

Out of all the respondents, 99.2% understand the term eco-friendly, and 90.3% recognize green products.

It means that almost all of the respondents have an awareness of green products and eco-friendly terms.

The above profile shows that generally respondents with environmental awareness, are in the range of 20–30 years old and teenagers who are still active in college; generally in Indonesia, the age of college students is between 20 and 27 years old. In addition, the above data also indicates that most of the respondents understand the terms eco-friendly and green products, thus, this research is feasible to be analyzed.

Results and Discussion

The fit measurement index between the model and the data showed good values. For example, the value of Cmin/DF is less than 5, (1.558); the GF1 value = 0.855, and AGFI = 0.821, both have adequate values, that is equal above 0.8; the RMSEA value is under 0.08, (0.052), and the Parsimoni value is 0.881. All the values show that the research model is good and has a high level of conformity with the data (Mueller (1996, p. 82), Hair, et al. (2003, p. 682), Bone, Sharma, and Shimp (1989) and Joreskog and Sorbom (1988).

The influence between variables as the analysis basis for the hypothesis test is calculated using the regression weights values, which are the indicators of the research model structure, as shown in Table 1, as follows:

Regression Weights of Research Model

			Estimate	C.R	P	
H1	Intention to_use plastic bags	← Government Regulation	0,427	2,532	0,011	Not-supported
H2	Purchase_Green Products	← Government Regulation	0,072	1,004	0,315	Not-supported
H3	Eco-friendly_ Awareness	← Government Regulation	0,255	3,202	0,001	supported
H4	Purchase_Green Products	← Eco-friendly_ Awareness	0,871	4,715	***	supported
H5	Intention to_use plastic bags	← Eco-friendly_ Awareness	-0,719	-3,114	0,002	supported

Table 1 shows that three out of the five hypotheses have a supported value. The unsupported values are H1 and H2, which are the influence of perception on government regulations on the intention to use plastic bags, and the influence of perception on government regulations on the intention to purchase green products. The first hypothesis is not supported because the value is positive, while the second hypothesis is not supported because it is probability value is over 0.05. The explanation is shown in Figure 3 as follows:

Figure 3: **Research Results**
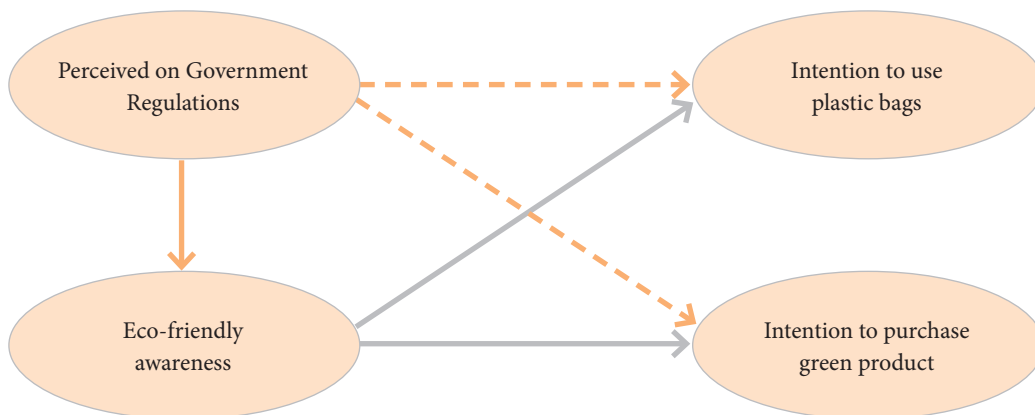
noted : ⟶ : supported ; ⇢ : not supported

Referring to the goals and results of this research, some points should be discussed, as follows:
1. The first hypothesis of this research is not supported; the result shows that the more aware supermarket consumers are for the Government regulations, the more effectively they will use plastic bags. This is not in line with the hypothesis, since the hypothesis said that perception of government regulations will

negatively influence intention to use plastic bags. Thus, it is also not in line with Steensgaard et al. (2017) and Martinho et al. (2017), who suggested that government regulations have influence, especially regarding tax programs (Martinho, 2017) and regulations on the plastic waste management (Steensgaard et al, 2017).

This shows that for Indonesian supermarket customers, government regulation does not have a direct role in raising awareness and determining a reduction in plastic bag use by customers. This is probably because of a more negative perception towards the government, which means that the consumers probably ignore the government regulations regarding reducing plastic bag use. Even worse, there is a tendency to oppose the regulation, i.e., "the more government regulation regarding the reduction of plastic bag use, the more consumer intention is to use plastic bags". This study finds that the positive and significant relation between the perception of government regulations and the intention to use plastic bags is a form of protest by supermarket consumers against government regulations.

This condition is probably caused by the imperfect regulation. The government issues the regulation, however, it never applies the regulations, plus there are no punishments for people who do not abide by the regulations. Society assumes that the government only issue the regulations but never punish the law-breakers. Therefore, the government regulation did not act as a driver for the consumer to reduce their intention to use plastic bags. In the questionnaire, there are open-ended questions to get the respondents' opinions regarding the environment government program issued. Most respondents (more than 80%) stated that government program is already good, however it is not good at implementation.

2. The second hypothesis of this research is not supported, but the third, fourth, and fifth hypotheses are supported. This means that the influence of government regulations on the intention to buy green products and on the intention to use plastic bags is mediated by environmental awareness. The relation of those three variables is obvious, where the government regulations indirectly create the intention to buy green products and to reduce the use of plastic bags. This means that the government regulations drive environment awareness in society, therefore, the consumer would tend to buy green products and reduce the use of plastic bags.

    This finding shows that the issued government regulations do not directly drive supermarket consumers to buy green products or hinder them from using plastic bags. However, if the regulation creates environmental awareness, it would influence supermarket consumers to buy green products and reduce the use of plastic bags.

3. The fourth and fifth hypotheses of this research are supported, since both of the correlations between eco-friendly awareness and intention to use plastic bags and with intention to buy green products are significant. This means that the more aware consumers are towards ecology, the more likely it is that they will not use plastic bags, and the more possible it is that they will buy green products. Based on these associations, we argue that eco-friendly

awareness can be used to predict both intention to buy a green product and intention to use a plastic bag. This indicates that the use of plastic bags and the purchase of green products when shopping in supermarkets or minimarkets are influenced by eco-friendly awareness.

4. Based on the results of the indirect influence (Point 2 and 3), there is the possibility of a positive relation between perception on government regulations and the intention to using plastic bags. This is because the supermarket consumers have to use a plastic bag, because they forget as they are not used to bringing bags from home, or because they did not have any plan to shop while going out in the first place, or they bought many green products, and therefore they have to use plastic bags. Moreover, the price of the plastic bag is relatively cheap. In the supermarket, the cost of a plastic bag is only a supplement to the shopping. They do not care about the regulations, because the regulations do not carry any punishments. They also do not want to lose customers simply because they sell plastic bags at a high price or because they do not provide any at all.

5. The influence of eco-friendly awareness toward the intention to use plastic bags is negative, however, its influence toward the intention to buy green products is positive. It describes that when eco-friendly awareness emerges in the mind of a consumer, the buying of green products is the alternative option to the use of plastic bags, because the influence on the intention to use plastic bags is negative while the influence on the intention to buy green products is positive.

6. Based on the second and third points, we argue that the Indonesian government should strengthen public awareness of eco-friendliness through government regulations, and consequently, consumers will reduce the use of plastic bags and buy green products, thereby reducing the possibility of pollution caused by plastic bags in the river. Thus, regulations on paid plastic bags are better to be replaced by government regulations that require supermarkets to sell higher priced plastic bags, or by increasing the tax on plastic bags.

Conclusion

The main objective of this research is to analyze government management in preventing Indonesian consumers from engaging in environmental destruction, especially regarding the use of plastic bags while shopping as Indonesian consumers usually throw used plastic bags into rivers, which pollutes the environment, especially the oceans. The prevention efforts are conducted through analyzing the relationships among government regulations, eco-friendly awareness, the intention to use plastic bags, and the intention to buy green products, as seen in this research model.

We argue that both the intention to use the plastic bags and the intention to buy green products can be predicted through government regulations and eco-friendly awareness. The predictions are: 1) Indonesia's consumers in the future will tend to continue using plastic bags, or 2) They will stop using plastic bags and buy eco-friendly products (green products).

The significant paths of the result model show that:

Both the use of plastic bags and the purchase of green products could be predicted both directly and indirectly by government regulations; the path shows that indirect predictions can be made through eco-friendly awareness variables. This means that Indonesia's consumers would like to ignore plastic bags if the government regulations made consumers aware about being eco-friendly first. Therefore, we conclude that eco-friendly awareness is an important point for the government in order to manage consumer behavior in Indonesia with regards to reducing plastic bag usage while shopping.

The relationship between eco-friendly awareness and the intention to use plastic bags is negative and significant. It means that the intention to use plastic bags is a consequence of eco-friendly awareness. If the government regulations cannot increase eco-friendly awareness, then no matter how high Indonesian customers perceive the importance of the government regulation, it will not override their intention to reduce their use of plastic bags when shopping at the supermarket. This study shows that the efforts of the Indonesian Government in managing consumer's behavior cannot merely rely on regulations to restrict the use of plastic bags, or raising taxes, or raising the price of paid plastic bags. Instead, the government should focus on how to raise eco-friendly awareness in the minds of supermarket consumers. Consequently, the government should also make intensive environment programs or provide green products as a tool to support consumers' intention to reduce the use of plastic bags. The significant relation in this research model, is the relation between government regulations, eco-friendly awareness, and plastic bag reduction.

The association between government regulation and the intention to use plastic bags is positive and significant; this relationship reinforces the conclusion in Point 2 of the sub-section above. The relationship is positive and significant, indicating that the more government issue regulations, the more people use plastic bags when shopping in supermarket, because the regulations do not carry any legal consequences. Also, since Indonesian consumers are not used to bringing a bag of their-own when shopping, the government regulations regarding the restriction on using plastic bags do not influence the reduction of plastic bag use; on the contrary, it triggers the use of more plastic bags.

The significant path shows that eco-friendly awareness is a mediating variable between government regulation and intention, both the intention to use plastic bags and the intention to buy green products. Related to that, there are four conditions that could be the basis for the government to manage consumer' behavior in Indonesia. These are: (a) Indonesian consumers who are aware of eco-friendly issues would not use plastic bags, but are likely to buy green products. Then Indonesian Consumers in the future will tend to continue using plastic bags; (b) The higher the consumers' perception of eco-friendly issues, the higher they will perceive green products as an alternative. This means that the higher the perception of eco-friendliness, the higher the perception of the importance of green products. Indonesian consumers will not stop using plastic bags, but they will buy eco-friendly products as a manifestation of eco-friendly awareness; (c) The three hypotheses can be improved into **a law like generaliza-**

tion, that is "A recurring pattern or regularity in different conditions or situations and can only be explained through mathematical, graphical or symbolic methods. The pattern is repetitive but does not have to be universal in all situations" (Hunt, 1991; Sheth & Sisodia, 1999). The three hypotheses are: correlations between government regulations and eco-friendly awareness; eco-friendly awareness and intention to use plastic bags; and eco-friendly awareness and intention to buy green products; (d) One hypothesis that cannot be improved into law like generalization is the correlation between government regulations and the intention to buy green products.

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