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Knowledge acquisition by emerging markets firms  
through M&A deals: The effect of state ownership

Master's Thesis by the 2<sup>nd</sup> year student

Concentration – Management

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**ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ  
ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ**

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## АННОТАЦИЯ

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Название магистерской диссертации	Поглощение знаний компаниями развивающихся рынков через сделки слияний и поглощений: Эффект участия государства
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Научный руководитель	Панибратов Андрей Юрьевич
Описание цели, задач и основных результатов	<p><u>Основная цель:</u> Определить влияние государственного участия в капитале компаний развивающихся рынков на процесс поглощения знаний через сделки слияний и поглощений</p> <p><u>Задачи:</u></p> <ul style="list-style-type: none"><li>- Определить особенности сделок слияний и поглощений в качестве инструмента поглощения знаний</li><li>- Изучить государство в качестве участника сделок слияний и поглощений, целью которых является приобретение знаний</li><li>- Анализ влияния государства на такие сделки с помощью регрессионного анализа</li></ul> <p><u>Основные результаты:</u></p> <ul style="list-style-type: none"><li>- Выявление переменных, оказывающих влияние на процесс сделок слияний и поглощений</li><li>- Регрессионный анализ, определяющий роль государственного участия в капитале компаний развивающихся рынков</li></ul>
Ключевые слова	Поглощение знаний, роль государственного участия, сделки слияний и поглощений, развивающиеся рынки

## ABSTRACT

Master Student's Name	Ilya E. Chavrin
Master Thesis Title	Knowledge acquisition by emerging markets firms through M&A deals: The effect of state ownership
Faculty	Graduate School of Management
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Academic Advisor's Name	Andrey Y. Panibratov, Professor
Description of the goal, tasks and main results	<p><u>The main goal:</u> Discover how does government's ownership in emerging markets' companies influence on knowledge acquisition process through M&amp;A transactions</p> <p><u>Main tasks:</u></p> <ul style="list-style-type: none"> <li>- Identify M&amp;A specifics as knowledge acquisition instrument</li> <li>- Identify government as participant in knowledge-aimed M&amp;As</li> <li>- Analyse government's influence through regression analysis</li> </ul> <p><u>Main results:</u></p> <ul style="list-style-type: none"> <li>- Identification of variables, influencing M&amp;A by emerging markets companies</li> <li>- Regression analysis of role of government's participation in emerging markets companies' capitals</li> </ul>
Keywords	Knowledge acquisition, government participation, M&As, emerging markets

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## INTRODUCTION

The modern economic environment, which is based on constant innovative development, requires knowledge seeking and creation by companies. This is especially important for companies from emerging markets, which need to develop in more intensive way in order to compete to developed market's companies. At the same time, this process has an aim – competitive advantage creation. Among numbers of advantage creation ways there is a merger and acquisition tool, which is a wide used instrument.

Merger and acquisition phenomena as a research object is a well-studied field. For instance, Mulherim provided historical research and identified waves of merger and acquisition activity (Mulherim, 1996). Such authors as Motta, Tirole, Stennek and Verboven contributed a lot in M&A rationales research (Motta, 2012; Tirole, 1993; Stennek, Verboven, 2001).

At the same time, a lot of authors underlined increasing significance of emerging markets companies in merger and acquisition activity in the current globalized economy (Makino, 2002). Because of this, emerging market companies' specifics in M&A activity are also well-studied. For instance, Casciaro studied internationalizing instruments of emerging markets companies, one of which is merger and acquisition instrument (Casciaro, 2005). Moreover, the most important M&A rationales for such companies were identified (Buckley, 2012; Antkiewicz, 2007).

One of aspect of emerging markets companies' M&A activity is role of state. Following the trend of increase in scientific focus on emerging markets, this aspect is also in the focus of researchers today (Clo, 2015). Papers in this field usually focus on such specifics as merger and acquisition performance, strategic motivations, financial aspects. Under M&A performance, researchers focus on correlations between state participation in M&A transaction and completion of transaction, dependencies on share's volume, forms of government participation (Jing, 2017; Bertrand, 2012). Strategic motivations, such labour, resources, markets seeking were studied by a lot of authors, for instance by Pinto, Wang and Musacchio (Pintoa, 2017; Wang, 2004; Musacchio, 2014). Zhang and Reed investigated such financial aspects of government participation in M&A activity as premiums levels and cash volumes (Zhang, 2017; Reed, 2016).

While government participation is in research focus today, it is necessary to study this question under the dimension of innovation based economy. Therefore, it is necessary to investigate the role of government in knowledge creation process by emerging markets companies.

Following the strategic motivations direction of research, we can conclude that there is lack of studies in the field of interdependencies of government participation in M&A by emerging companies markets and knowledge transfer through M&A. This lack of studies occurs because of challenges in knowledge and knowledge transfer measurements: knowledge is defined as multidimensional phenomena and there is a disputable question regarding knowledge measurement instruments. Therefore, we identified research gap in this field.

Knowledge measurement is also a challenge question for our research. That is why we will not focus on knowledge itself and its transfer. To study aspects of knowledge we focus on knowledge creation activities, as it was done by Hitt (Hitt, 1996).

Focusing on interconnection of knowledge activities and government's role in M&As by emerging markets companies, we stated the following research question:

***Does government ownership affect knowledge-aimed M&As by emerging markets companies?***

This paper is structured as follows. First, we will study M&A phenomena and its aspects. This will include M&A definition and rationales, theoretical concepts and views, under which M&A is considered. After this, we will study theoretical concept of knowledge and its interdependency with merger and acquisition process.

At the next chapter, we will focus on previous researches and empirical evidences provided by them. We will study role of state in M&A activity, specifics of M&A by emerging markets companies and process of knowledge transfer through M&A. This research will allow us to state hypothesis in order to answer the research question.

Finally, we will conduct regression analysis in order to test the hypothesis. Based on analysis results, we will be able to develop conclusions.



# **1. THEORETICAL BACKGROUND**

## **1.1. Merger and acquisition transactions**

### ***1.1.1. Defining M&A***

It is necessary to start with definition of merger and acquisition transactions due to distinct characteristics of them. Generally speaking, both merger process and acquisition process consist of transfer of ownership control from target firm to acquirer firm. The distinction occurs in the level of control receiving: acquisition means higher level of control receiving than in the merger process, which is usually more mutually beneficial for both transaction participants.

The first characteristic of M&As is how the transaction was announced to the target firm. Depending on this characteristic, we can distinct friendly and hostile merger and acquisitions. The transaction is characterized as a hostile, when the target company had initially reject the transaction (Jenkinson, Mayer, 2005).

Another way to distinct different types of M&As is the structure of the merging firm. There are three types of M&As: horizontal, vertical and conglomerate (Tirole 1993).

Horizontal: when two companies are competitors in the product produced and operate on the same market.

Vertical: when the M&A transaction lead to creation of downstream-upstream structure.

Conglomerate: when both target firm and acquirer operate on different markets and do not compete directly.

Moreover, there are formal ways of distinction, which are based on industry and geography of transaction participants.

According to some authors (Lipton, 2006), M&A transactions were turned in use at the end of nineteenth century. Since than, there were different waves of M&A activity, which differ by industrial focus and M&A types.

The first wave (beginning of 1900): this wave was called “the wave of mergers for monopoly”. Different markets were consolidated, mainly in the USA, included oil, telephone, mining and railroad markets. This wave ended with introduction of antitrust law in the USA.

The second wave (the 1920s): mainly in the USA, companies conducted vertical integration strategy. The main players in this wave were automotive producers, which tended to acquire businesses, involved in the automobile manufacturing process. The second wave was ended with the Great Depression.

The third wave (the 1960s): the conglomerate wave, which is characterized by the aim of major companies to compete in the new markets and areas. Another aim was the increase in research and development activity of such firms. The wave ended due to decrease in investors' certainty regarding the future of conglomerate type of companies.

The fourth wave (the 1980s): mainly hostile mergers and acquisitions, with the aim of changes in ownership control. The main industries involved were banking and financial services.

The fifth wave (the 1990s) occurred because the liberalization of market rules. The main aim of M&A in this wave was increase in acquirer's size, entering the new markets, mostly blue ocean ones (Mitchell and Mulherim, 1996). The mostly affected industries were finance, telecommunications, media and technology. This wave ended with financial problems in technological companies.

Summarizing the theoretical part of the M&A types studies, we can conclude, that there are several ways of types distinction. Merger and acquisition transaction could be friendly and hostile, horizontal, vertical and conglomerate, different in participants' industries and countries. At the same time, there were several waves in merger and acquisition activity. We assume, that intensification of emerging economies and increasing in emerging markets' activity create the sixth wave, which is based on transactions where emerging markets companies play significant role.

### ***1.1.2. M&A rationales***

There are different ways to classify the types of M&As' rationales. We divide the massive of rationales into three groups of factors: economic, strategic and managerial. It should be underlined, that it is a relative distinction and rationales from one group can be linked with ones from another group. At the same time, transaction participant can base its decision to participate in M&A transaction on several rationales.

#### ***Economic factors***

##### *Economies of scale*

This rationale is based on increase in total production of the company with decrease in costs. In the short term the acquirer benefits from marginal cost reduction, in the long term it benefits from the coordinated investments of two firms in required assets (Tirole, 1993).

##### *Economies of scope*

Economies of scope occurs when the target company operates in the supply chain of acquirer. In this case the product, which is created with participation of both target company and acquirer, has lower producing cost (Motta, 2004).

##### *Economies of vertical integration*

This type of economies occurs when the acquirer company starts to control several stages of production instead of one of them. Usually, the target firm in such transaction does not produce the same product with the acquirer, but operates in the same market. This type is widely used in order to decrease the bargaining power of counterparts for acquirer (Motta, 2004).

#### ***Strategic factors***

##### *Know-how diffusion*

This type of M&A motivations takes place when target firm and acquirer differ in technological capabilities, patents and human capital. In this case two parts of the M&A transaction have an aim to complement each other. As a result, they develop their technological development and innovation creation process (Stennek, Verboven, 2006).

##### *R&D*

Another way of technological development and innovation creation process increase is R&D acquisition, which is considered as "firm's non-tradable asset" (Roller, Stennek and Verboven, 2006). In this case acquirer assume that external R&D expenses are more effective than internal ones and that M&A transaction costs are less than research and development

activities developing internally. This motivation is the research object in this paper and it will be studied in more detail in the Chapter 2.

#### *Cost savings*

This type of M&A motivations is based on relocation of production capabilities. For instance, it could be relocation of production from expensive acquirer's plants to less expensive target firm's factories. This relocation does not usually have an aim of technological development and focuses only on costs reduction.

#### *Purchasing power*

When a company follows the strategy of increase in its size, acquiring its direct competitors, it can increase its purchasing power from its upstream suppliers.

#### *Creating internal capital markets*

This strategy is used when external capital markets like securities, stocks and banks are not effective for the acquirer to create value. In this case, internal capital market is created by implementation of multidivisional firm structure. Different divisions, which could be differentiated by products of geographical location, are independent in operation decisions.

#### *Financial cost savings*

Financial cost savings do not directly affect the firm's value creation. Instead of that, this rationale is in use when acquirer desires to redistribute its financial costs (Roller, Stennek and Verboven, 2006). There are the following types of financial costs, which could be saved:

**Taxes:** these costs are reduced because of lower depreciation charges, occurred in the moment of new assets acquisition. Tax savings are not widely used today because of changes in legislation in the 1980s.

**Interest rates:** this saving occurs when a major firm has access to a wide range of markets and economies and it is possible to choose the most profitable markets for money borrowing. It is profitable to smaller firm to participate in such M&As to receive this option by joining to major player.

**Diversification:** this rationale is based on portfolio theory. It is stated, that acquirer can increase the market value of its firm by investing in different businesses with the optimal risk level. At the same time, the bankruptcy risk is also reduced by the optimal investing strategy.

### *Enhancement or strengthen of market power*

This rationale occurs when the acquirer has an aim to raise its products prices. Another aim relating to this rationale is to exclude the acquirer's competitors. This process is used in both horizontal (mainly) and vertical M&As. There are different ways of market power enhancement:

Through unilateral effects: occurs in horizontal M&As. It is solid strategy to increase the final prices of the product for firms, which produce homogeneous products and have constant and equal marginal costs (Farrell and Shapiro, 1990). According to quantitative research by Farrell and Shapiro, there is a rule for this type of synergy: "the larger the merging market share and the more inelastic the market demand, the higher the effect of the synergy".

Through coordinated effects: occurs in horizontal M&As. This strategy takes place when prices increase as a result of competition decrease because of decrease in market players. One of the most important variables here is the market symmetry: the lower the asymmetry of the market, the higher probability that the M&A transaction will not achieve the aim of prices increase (Ivaldi, 2003).

To raise entry barriers: when the firm has an aim of competition decrease, it is important to save the desired level of competitors by creating obstacles for new competitors' entry. One of the option to achieve this goal is to concentrate key technology or acquire the most market share before the new wave of entrants.

To spread portfolio: occurs in conglomerate M&As. This strategy is based on assumption that buyers prefer to buy products, which are produced by a single company instead a chain of them. At the same time, this strategy may result in competitors exits (Motta, 2004)

To obtain multimarket contract: occurs in conglomerate M&As. This strategy assumes, that market power of the firm can be increased by increasing its contracts number or quality in other markets. This rationale is deeply connected with economies of scale and scope (Scott, 2005).

### *Preemptive and defensive rationale*

This rationale is based on the strategy to increase the company's size and effectiveness in order to avoid hostile acquisition by competitor (Fridolfsson and Stennek, 2005).

### *Managerial factors*

#### *Disciplinary takeovers*

This rationale is based on principal-agent theory and it states that merger and acquisition strategy could be used as a principal's instrument to control agents' actions. That means, that while managers desire to increase their own wealth, owners are able to influence the firm's policy and increase the firm's value. There are two ways of such strategy:

Corporate control: occurs when owners facilitate mergers and acquisitions with the aim of management replacement after such transactions (Manne, 1965).

Free-cash flow: while companies with high free-cash flows level are frequent targets for hostile acquisition, owners could desire to invest free-cash flows, even if it is not obvious way to be profitable in the future (Jensen, 1986).

#### *Managerial Gains*

Another side of principal-agent theory is that agents (managers) usually have different information about the company and the market: manager usually have better information, which is received for the wide range of high-quality resources (Leibenstein, 1966). Therefore, managers desire to increase their level of wealth, based on different from owners' information, is another rationale for merger and acquisition transactions. There are two ways of this rationale implementation:

Size increasing: occurs when manager level of compensation is directly related to the size of the company. In this case, aggressive M&A strategy is the main development instrument for the company (Mueller, 2004).

Overconfidence: based on the assumption of management of the acquirer that they are able to manage the target company more efficient than the previous managers (Roll, 1986).

To sum up, there are different ways of M&A rationales classification: economic, strategic and managerial. In our research, we focus on R&D and know-how receiving rationales, because we study M&A as knowledge acquisition instrument. It means, that we assume merger and acquisition as an instrument for strategy implementation. The concept of knowledge and its acquisition process will be described in Chapter 2.

### ***1.1.3. Theoretical views***

According to the previous chapter, there are several motivations for merger and acquisition processes. All of them have the main aim – competitive advantage creation. In order to provide better understanding of motivations origins, we studied theoretical views, which study competitive advantage creation.

#### ***The Market-Based View (MBV)***

From the Market-based view concept we determine industry factors and external market orientation as the most important for the company's performance (Bain 1968; Caves & Porter 1977; Peteraf & Bergen 2003; Porter 1990).

According to this concept, strategic position of the company is determined by the competitive situation where the company performs. This situation shapes the position, firstly, by the activity of the firm, which is different from competitors and, secondly, by the structure and dynamics of the whole industry (Schendel, 1994).

Therefore, market-based view is about external influences of the company and the process of finding the best ways to match the environment. Due to limitations in the concept and related models, the resources-based view appeared in the 1980s (Wang, 2004).

#### ***The Resource-Based View (RBV)***

The Resource-based view is about internal processes of the company which is determined as a key driver of competitive advantage. The logic here is that internal competitive advantages are used as a competition instruments in the business environment. The key scientists who worked in this field are Hoskinson, who shifted the focus from environmental factors to internal factors of competition, Penrose, who studied the resources and its role in the business, Wernerfelt, who defined the firm as a combination of assets and resources, Prahalad and Hamel, who settled the concept of core competitiveness.

There was an evolution of firm's resources identification. Early studies defined them as physical, monetary and human resources (Ansoff, 1965). Further classification of resources was level classification (resources of the whole company and resources of different levels of the company) (Lee, 2001), origins classification (resources which are based on company's property and resources which are based on knowledges) (Miller and Shamsie, 1996). Then, researchers added such resources as physical capital resources, human capital resources, organizational

capital resources, human management resources (Liebowitz and Wright, 1999). Resources were defined as instrument which enables the company to “create and implements strategies, which increase its effectiveness” which helps the firm to gain competitive advantage when it “implements the strategy, which is not implemented by competitors” (Barney, 1991).

At the same time, in framework of this concept the company managers manipulate different resources and advantages which are received by other manipulations. This process in general is a business strategy of the company (Powell, 2001). During this strategy, there are three steps: competency creation, competency realization and competency transaction (Maier and Remus, 2002).

### ***The Knowledge-Based view***

Some authors argue that knowledge is one of resources which can be used by company in order to receive a competitive advantage. At the same time knowledge as a resource distinguishes from other ones, which is a reason why some researchers claim that Knowledge-Based view is a separate concept from Recourse-Based view. There are two main arguments, which are used to prove, that knowledge is a special type of resources. Firstly, it is difficult to copy knowledge by competitors while technological and managerial resources can be coped (Tiwana, 2002). Secondly, when the company uses its knowledge resources, this type of resource increases over the time, while material assets decrease (Evans, 2003). It is important to distinguish three types of knowledge: core knowledge (for long-term development of the company), advanced knowledge (for short-term and medium-term competition strategies), innovation knowledge (for being a leader in the market) (Zack, 1999).

### ***The Capability-Based View***

The next step type of competitive advantage view is based on the idea that resources are not able to provide the company by advantages because it is what capabilities do. In this case resources are sources of capabilities. Within this concept capabilities are defined as an ability to use resources and implement organizational processes in order to achieve planned aims (Grant, 1996). The same as resources types, capabilities are divided to tangible, intangible and information-based (Amit and Shoemaker,1993).



### *The Relational View of Strategy*

The Relational view relates to the Resources-based view. It also claimed that competitive advantage is gained through resources of the company and manipulation of them. However, researchers who acted in the framework of this concept argued that resources are not owned by a single company. In opposite, the source of resources are inter-firm relationships and links. In other words, inter-firm relationships create “profit which is generated by specific contribution of each participant of the alliance” (Dyer, Singh, 1998). Dyer and Singh who are pioneers in this view claimed that there are four sources of competitive advantage which can be generated in alliance: relation asset (when advantage is achieved by the fact the this alliance exists), knowledge-sharing process (when advantage is achieved by the access to specific type of knowledge which can be gained only within an alliance), complementary resources and opportunities (additional to the first and the second type resources of advantages) and effective governance (resource which is generated by effective management of alliance) (Dyer, Singh, 1998).

It should be mentioned that this concept is relatively new for competitive advantage theory. However, during the last 20 years it has become increasingly popular. Thus, this concept was added by discussions about inter-firm collaboration, networks, business interactions, contexts of macro-level and micro-level organizational networks (Oliver, 1990; Ebers, 1999; Ahuja, 2000).

Based on the previous chapters we can conclude, that under the knowledge-based view, knowledge seeking is one of the rationale for merger and acquisition activity. At the same time, the knowledge seeking is assumed as a special resource seeking in the current knowledge-driven economic conditions.

## **1.2. Knowledge acquisition**

### ***1.2.1. Defining knowledge***

The definition of knowledge is still disputable question and there is not a one widely used definition among scholars. The problem of knowledge definition is linked with different philosophical concepts: knowledge could be associated with “learned abilities, acquaintance or familiarity with certain things and facts, which were gathered by study, observation or experience” (Aune, 2008). At the same time, it is not a single perception of the knowledge as an object: it could be “state of mind, process or capability”, depending on scholars’ background and aims of studies (Alavi and Leidner, 2001).

To overcome the knowledge conceptualization, scholars started to use different dimension of knowledge instead of the single definition (Fagin, 2003).

However, there are still several dimensions of knowledge and the chosen dimensions is still dependent on research aims.

In this paper we will use dimension developed by Albino in 2001: quantitative dimension. Our decision is based on the fact that quantitative methods are used in the statistical research provided in this paper.

There is an undisputable trend is the modern economy, which is supported by both theoretical scientists and practical scholars: shift to the technological era with the increasing importance of the knowledge development (Beverly, 1994; Piper, Naghshpour, 1996). Moreover, knowledge is perceived today as the competitive advantage in the modern business environment (Lambe and Spekman, 1997).

The concept of knowledge economy was first introduced by Peter Drucker in 1969. In his concept, the economy, influenced by technological development, is driven by knowledge, instead of capital and labour resources, dominated before (Drucker, 1969). This concept was developed by modern authors, who stated that “the modern economy is based on intellectual capabilities than on physical inputs or natural resource” (Powell and Snellman, 2004). Their statement could be supported by Kogut, who linked knowledge as an intangible asset of the firm and competitive advantage and firm value, created by knowledge (Kogut 1992).

To describe knowledge as a competitive advantage, it is necessary to overview competitive advantage concepts. Competitive advantage receiving is one of the most popular topics within academic studies in the field of strategic management (Furrer, 2008).

Competitive advantage concept is linked with creation and distribution of value. The main issue here is that the company can be described as a subject, which has a competitive

advantage in a case when it creates more value in business processes than it can create when it does not participate in economic exchange (Brandenburger, Stuart, 1996).

This concept is more and more important in highly competitive environment. One of the main tools in this case is cost reduction through, for instance, time, efforts, space savings.

In general, competitive advantage means the capability of the company to offer better products and services in comparison with competitors' ones. Instruments in competitiveness achieving are prices, quality, after-selling service, ability of the company to meet the market demand, implementation of technical development results (Porter, 1996).

The origins of competitive advantage can be distributed into the topics. According to Ramos-Rodríguez and Ruíz-Navarro there are economic, sociological and psychological origins. In the deeper study, they identify transactional cost theory, agency theory resource-based view and evolutionary theory as a part of economic field, organizational issues and recourse-dependency as a sociological way and organizational development and structural patterns as a psychological one (Ramos-Rodríguez, Ruíz-Navarro, 2004).

While competitive advantage is an instrument of company's high-performance achievement, it can be determined as a key point in superior performance (Porter, 1985).

To sum up, there are different ways of knowledge definition. Usually, particular type of definition is used according to research conducted and research needs. In our paper we use the concept of quantitative knowledge, because we implement numerical tools to knowledge study. At the same time, knowledge itself is considered as an instrument of competitive advantage creation, which is linked with discussed in the first chapter concept of competitive advantage creation under the knowledge-based view.

### ***1.2.2. M&A and R&D***

#### ***Theoretical developments***

While the most part of merger and acquisition studies focuses on the economical and financial aspects of such transactions, only few paper studied the dependency of merger and acquisition instrument and research and development activity. There are two main theoretical directions, which are useful in this filed research: financial economics studies and industrial organization studies.

### *Financial economics*

According to financial economics point of view, when acquirer conducts merger or acquisition transactions, it is able to relocate its research and development costs and use target company's resources to increase the volume of R&D investments (Braguinsky, 2015; Maksimovic, 2011). This theory was initially developed by Schumpeter and he stated, that research and development activities is dependent on the company size on the one hand and market concentration on the other (Schumpeter, 1942).

Following the cost relocation, acquirer is able to reduce managers' efforts, which is used in innovative activities (Hitt 1996).

It is important, that cross-border M&As with the aim of R&D increase are under research today. The main theoretical frameworks, which is used in this case, are knowledge capital model and theories of multinational firms. According to them, there are different costs and quality of research and development activity in different countries and it is an efficient strategy to locate R&D subsidiaries in different countries according to acquirer's preferences (Markusen, 2002; Arkolakis, 2013).

In this case, the company benefits when its knowledge transfer costs are less than internal R&D cost (Keller and Yeaple, 2013). At the same time, acquirer benefits from receiving access to target firm's distribution channels, which, in its turn, allows to reduce distribution costs and relocate this amount of money and resources to R&D investments (Guadalupe, 2012).

### *Industrial organization*

At the same time, acquirer is able to use both its own resources and assets with a combination of the target ones (Norbäck and Persson, 2007). Following the combined usage of research resources, knowledge diffusion between acquirer and target occurs, which also results in innovation development (Arrow, 1962, Katz, 1986). In this case two firms can combine know-how, patents and research departments (Kumar, 2001).

## **2. EMPIRICAL EVIDENCES AND HYPOTHESIS STATEMENT**

### **2.1. State and M&A activity**

The significance of state ownership in companies, which participate in merger and acquisition transactions as acquirers, is increasingly in focus of recent researches. One of the reasons for such interest is increase in participation of such companies in merger and acquisition activities. For instance, about 30% of traded assets with M&A instrument during the last decade were with participation of state-owned companies (Clo, 2015). More specific, about 10% of M&As in banking industry during the last 10 years were conducted by state-owned banks as acquirers (Bacchinocchi, 2017).

#### *State motives to participate in M&A activity*

That is stated, that among different M&A rationales, there are several motives, which are especially significant for government to participate in M&A activity:

- Shareholder value maximization
- Innovation development
- Strengthening of competitive position
- Financial distress

As it was demonstrated by Florio, these motives are distributed as follows: about 60% of deals with participation of government in acquirers' capital were motivated by shareholder value maximization. This motive is also the main rationale for private companies to use M&A. Other three motives hold 40% of M&A rationales and are distributed equally (Florio, 2017).

At the same time, shareholders value maximization is depended on operational performance excellence, which, in its turn, is depended on competitive advantage creation. One of the ways of competitive advantage creation is resources receiving. It is important, that some papers stated, that the higher government share in acquirer's capital, the higher the possibility, that the target resources are not natural, but strategic resources, one of which is knowledge and innovation (Klimek, 2016).

#### *Empirical evidences of state's role*

The role of states in M&A activity is a well-studied field, especially during the last years. However, results and conclusions are different, depending on analyzed sample (sample size, geographical distribution, industrial distribution, analyzed period). For instance, there are papers, which aimed in comparison of private companies and companies with government participation in M&A process. It was stated, that these types of companies are similar in behavior during ownership purchasing process though cross-border M&As: they focus mostly on smaller targets,

with smaller growth opportunities, playing in related industries (unlikely domestic M&As) (Karolyi, 2017). Another research demonstrated, that the same the private companies, companies with government participation mostly focus on underperforming targets (Clo, 2017).

One of examples of researches difference can be demonstrated by the studies of correlation between the government share in acquirer's capital and its performance in M&A transactions in case of Chinese companies: Wu and Xie demonstrated, that there is a positive correlation between these two variables, while Chen and Young stated that this correlation is negative (Wu, Xie, 2010; Chen, Young, 2010). The difference here was in the studied industries of acquirer. The same negative correlation was demonstrated in case M&As with participation of Russian government in acquirers' capital (Bertrand, 2012).

Pintoa concluded after the statistical analysis, that the more the state participation in acquirer's capital, the higher possibility, that the acquirer will undertake full acquisition of target firm and the higher level of difference of target company in terms of played market structure and business model. It means, that government support allows benefiting companies to reach more difficult for business operations markets and to diversify its businesses (Pintoa, 2017). This conclusion is agreed by several researchers, who stated that governments, though different ways of participation, tend to support companies, which are aimed to reach markets and business, which are less developed in home markets (Musacchio, 2014; Wang, 2012).

Another papers state, that the level of government participation in acquirer's capital negatively influences the possibility of the transaction at all (Jing, 2017). This is supported by the empirical evidences, that the government participation "challenges the legitimacy" of the transaction (Zhang, 2011; Li, 2014). It is interesting to note, that M&As with government participation are characterized by higher stock returns and premiums (Zhou, 2015). However, these transactions are similar to private companies in terms of financing volumes (Gu, Reed, 2016). It means that support through cash is not the most significant way of government participation.

One of the well-studied filed in state's role in M&A activity field of study is to research M&As with state participation through principal-agent theory (Yuan, 2010). Papers in this field state, that in the case of ownership concentration by government in acquirer's companies, it is a poor governance of both operational performance and M&A performance (Si, 2008). One of the consequences of poor operational performance is low level of internal innovation development and knowledge creation. This is the motivation for such companies to seek innovations and knowledge externally. Poor M&A performance matches the precious statement regarding

negative correlation between government share in acquirer's capital and possibility of M&A transaction completion (Cornett, 2003).

In the research, conducted by Pintoa, it was demonstrated, that the level of government participation in acquirer's capital has a positive correlation with the possibility of beneficial performance of merger and acquisition transaction, in which acquirer has an aim of knowledge assets acquisition.

Summarizing theoretical and empirical evidences regarding government's role in M&A activity, we can conclude, that the volume of shares in acquirer's capital correlates with different aspects of merger and acquisition process. However, correlation directions and significance of influence are different depending on analyzing samples. Moreover, some evidences contradict each other.

At the same time, the majority of M&A rationales of companies with government participation are the same as for companies without such participation. Therefore, competitive advantage creation through knowledge as resource receiving is one of the rationales for such companies. However, there is a specific, which motivate companies with state's participation to use M&A for knowledge and innovation creation. Increase in government share in company's capital results in poorer operational performance comparing with companies without government participation. This poorer operational performance results in decrease in ability of company to develop innovation and create knowledge internally. Merger and acquisition activity is used as an instrument of external receiving of knowledges and innovation.

## **2.2. M&A and emerging markets**

According to Makino, Lau and Yeh, merger and acquisition transactions, conducting by companies from emerging markets, are a "process of strategic assets acquisitions, which may result in acquisition of marketing capacity, management expertise of technology and knowledge" available in a host country (Makino, Lau, and Yeh, 2002).

Different authors focus on different drivers of such transactions. In general, it could be "market seeking, labour seeking, natural resources seeking, value chain control seeking, financial incentive seeking and technology seeking" (Rasiah, Gammeltoft, and Jiang, 2010).

It was underlined by several scientists, that during the studied in this paper period, emerging markets were becoming more and more critical in the global economic life (Antkiewicz & Whalley, 2007; Buckley, Forsans, & Munjal, 2012). However, there is a research gap in studies, which focus on M&A which are conducted by emerging markets companies (Jain, 2013). The main theoretical concept, which is used in order to analyze this particular type of M&A transaction, is research-based view and it states that external relations and cooperation are created in order to receive the necessary resources, which are not available or expensive if received in the home markets (Davis and Cobb, 2010; Hillman et al., 2009).

There are different strategies of internationalizing: joint ventures, alliancing etc. However, merger and acquisition instrument provide acquirer with unique features, which are not available in other strategic options: acquirer is able to reach a full control on the necessary resources, minimizing negotiation and bargaining costs, which occurs in other options (Casciaro, Piskorski, 2005).

Under the resource-based view, knowledge is evaluated as a resource, which is becoming more and more significant in the modern technological-based economy (Luo, Tung, 2007). There are papers, which underlines, that knowledge receiving and knowledge acquisition is one of significant motivations for companies from emerging markets to use merger and acquisition instrument (Jullens, 2013; Rabbiosi, 2012). The knowledge acquisition process as a resource for emerging markets firms will be studied in the next chapter.

To sum up, rationales for merger and acquisition activity by emerging markets companies are generally the same as for other companies. However, there are several rationales, which drive this activity more than others. For instance, we have market seeking, labour seeking, resources seeking value chain seeking and technology seeking as one of the strongest M&A drivers. As a special type of rationales, knowledge seeking is underlined. This rationale is stated as one of significant factors of M&A decision-making on the one hand and is considered as understudied aspect of merger and acquisition by emerging markets companies. This paper has an aim of this gap filling.



### **2.3. Knowledge development and transfer through M&As**

In order to receive a knowledge as a competitive advantage, firms use different strategies, depending on their market position, capabilities and resources. One option, which is connected to “make decision”, is to use internal research and development activities. Another decision is to participate in strategic alliances with the aim of knowledge receiving. These alliances could take the form of co-development, joint ventures, licensing or R&D outsourcing. The last option is not about “make decision” but “buy decision” and consists of participation in mergers and acquisitions (Agrawal, Jaffe, 2000).

The last two options are used when it is impossible to develop knowledge internally. However, in this case there is a risk of failure due to significance of knowledge transfer process (Man and Duysters, 2005).

According to the general concept of knowledge transfer, the firm is able to increase its value through knowledge development depending how knowledge is spread among firm’s employees (Kogut and Zander, 1992).

According to some authors, there are three main factors, which influence knowledge transfer: firm’s reputation, size of knowledge base and absorptive capacity (Ensign, 2009; Osterloh and Frey, 2000; Ahuja and Katila, 2001).

The main problem in the process of knowledge transfer studies, which is also a problem for our research, is transfer measurement instruments. There are two ways in the existed studies of how it could be measured: to focus on change in knowledge itself and to focus on performance related to the knowledge. The first approach is the most disputable, because there is not an agreement among scientists regarding the nature of knowledge (Liebowitz and Wright, 1999).

The most popular way to measure knowledge transfer is to assume the instrument regarding the measured variables (Rich, 1997). We base our measurement instrument on the paper by Hitt, which was created in 1991. Hitt used research and development activity of the company to measure the knowledge creation activity. Following this concept, we use financial figure – R&D expenditures – as a financial form of R&D activity and, consequently, knowledge creation activity. Therefore, we do not measure the knowledge itself, because it is a multidimensional resource, which is hard to be measured, but we measure activities regarding knowledge creation.

Having competitive advantage creation process through merger and acquisition instrument with the aim of knowledge receiving, we face problem of knowledge transfer measurement. The same as the knowledge concept itself, knowledge transfer and acquisition measurement approaches are dependent on specific research needs and data availability. It means, that measurement approaches are based on assumptions. In our case, we make an assumption, that research and development expenses reflect company's knowledge creation activity. At the same time, we assume, that if the target company intensify its research and development expenses after transaction, the acquirer is able to receive knowledge, which was not available or was expensive to receive before.

The same as theoretical researches in the field of connection of M&As with R&D, there is a lack of empirical studies of this problem. The most popular way to study is statistical analysis, which also be used in this paper. However, the majority of studies were conducted about the USA's companies (Hall 1999, Hitt 1996, Blonigen 2000). They generally concluded that M&A transaction had negative impact on R&A activity. Other studies state that there is a neutral impact of merger and acquisition on R&D activity (Man, Duysters, 2005). At the same time, other authors claim, that mergers and acquisitions are effective for technology development and it is a correlation between M&A effectiveness and pre-acquisition research and development activity (Hagedoorn and Kranenburg, 2006, Prabhu, 2005). The findings from prior research are mixed: some authors underline that merger and acquisition activity has a positive impact on knowledge transfer, other state that there is a negative effect, which is called "innovation placebo", which occurs, when M&A is conducted with the aim of innovation distribution, but results in neutral or even slightly negative impact on knowledge transfer (Jensen, 1998).

On the other side, a positive correlation between M&A and research and development activity was underlined in case studies, such Cisco Systems case and Johnson and Johnson's case. One of the most famous example here is Cisco Systems, which used a strategy to acquire knowledge by M&A instruments instead of internal innovation development (Tsai and Hsieh, 2006).

Some authors state that it is necessary to study how the synergy effect is achieving in the M&A process. For instance, it is important to consider culture integration, human resources integration, instruments of innovation process management, technological sources (Capron 1999, Ahuja & Katila 2001, Ernst & Vitt, 2000). Unfortunately, this variable requires more detailed study of M&As transactions, for instance in-depth case study.

At the same time, there is an evidence that the larger the pre-acquisition research base, the higher the possibility of beneficial combination of both acquirer's and target's resources

(Ahuja & Katila, 2001). That is why we will study both pre-acquisition and post-acquisition performance of transaction participants.

#### **2.4. Hypothesis statement**

Summarizing the first and the second chapters, which are about theoretical implications concerning merger and acquisition phenomena and knowledge acquisition concept, we can conclude that, firstly, knowledge is a resource to create competitive advantage in the modern economy. This special type of resources, which is considered under the knowledge-based view, is increasing in its significance. Secondly, merger and acquisition transactions is one of the instruments of knowledge receiving and, consequently, competitive advantage creation. Thirdly, this type of merger and acquisitions is from strategic groups of M&A rationales and enables transaction participants to reach their strategic goals. Fourthly, based on previous empirical evidences and statistical researches, government plays significant role in M&A activity – it influences the M&A performance, affects the decision of companies with government's participation in its capital to use or not to use M&A as an instrument of strategic aims achieving, uses different ways of internationalizing companies support. Finally, merger and acquisition as an instrument of knowledge acquisition is widely used by emerging markets companies. However, this process and its specifics is understudied. This paper has an aim to fill this research gap.

Therefore, based on the conclusions above, we are able to state research hypothesis, which match our research question regarding government's affection on knowledge-aimed M&As by emerging markets companies.

*Research hypothesis:*

**State ownership in emerging markets companies positively correlates with knowledge creation through M&As.**

It is necessary to clarify definitions, used in the hypothesis statement.

By *state ownership* we mean the volume of shares, which is owned by government in public companies participating in M&A transactions. In our research we study state ownership in emerging markets companies, which act as acquirer in M&A transactions.

*Knowledge creation.* Based on Hitt paper, we assume, that knowledge creation activity can be reflected by research and development activity. In our case, we use R&D expenditures as a reflection of research and development activity changes. Therefore, changes in target company's R&D expenditures assumed as changes in knowledge creation process.

### **3. EMPIRICAL STUDY**

#### **3.1. Research design**

As it was stated before, this paper has the aim to identify how government participation affects knowledge-based M&As by emerging markets. Therefore, this paper follows two directions of research: exploratory, because it allows to “assess phenomena in a new light” and explanatory, because we “explain relationship between variables in situation or problem” (Robson, 2002).

We decided to use quantitative research. This decision is based on two rationales: the most part of studies in this M&A area of study used quantitative approach. The main reason for that is the ability to analyze a huge amount of data after transfer it into standardized numerical format. Another rationale for our choice is data availability. It takes a lot of efforts and time to reach the studied companies and to receive insights from them. However, annual reports and financial information about public companies, which usually use merger and acquisition instrument, could be received in relatively short time and provide us with the necessary data in required amount.

#### **3.2. Sample selection**

This study focuses on merger and acquisition transactions, which occurred between 2004 and 2014. The decision to focus on this period is based on the fact that it was an upward trend in the M&A activity this time. Moreover, it was a time of economic growth in developing countries (Si, 2012). The end date is 2014 year due to the fact that it is important for us to analyze both pre-merger and post-merger data about the studied companies. Our strategy was to analyze three years before the transaction and three years after it. The most updated financial information, which is available in the moment of this paper writing, is companies’ annual reports published in 2017.

We study very specific variable – research and development expenses. This financial information is presented only in annual reports, which are provided only by public companies. This is the first limitation in the sample selection – we studied M&A, where public companies acted as target companies and acquirers.

It is the fact, that the highest cross-border economic activity, which includes M&A transactions, is occurred between developed countries. However, we decided to study the M&A phenomena as an instrument, which is used by emerging markets companies. It is where the second limitation appears – we studied only M&A, where companies from developing markets acted as acquirers and companies from developed countries acted as target companies.

Having all these limitations (time period, financial data availability and origins of transaction participants) we studied 168 M&A transactions which match our criteria. The number of studied companies is 296, which is less than  $168 \times 2$  due to the fact that a single company was able to participate in several transactions during the studied period. For each transaction the following data was collected:

- R&D expenditures during three years before the transaction (in target company)
- R&D expenditures during three years after the transaction (in target company)
- Government share (in acquirer's and target's capital)
- Age (of acquirer and target)
- Industry (of acquirer and target)

The decision to collect these variables was based, firstly, on the previous studies in M&A field of study and, secondly, on the data availability.

There was a two-step data collection process. Firstly, the database with M&A transactions, which match the stated criteria, was created. To create this database with the use of specific filters, ZEPHYR Bureau van Dijk was used. Secondly, it was a process of specific financial data collection. There were several sources of this information: Thomson Reuters Eikon, Amadeus and companies' annual reports.

Description of sample, presented below, provides us with some general conclusions regarding M&A activity by emerging markets companies. Firstly, public companies from China and Russia were the most active in M&A transaction activity. This can be explained by rapid economic growth, occurring in these countries during the studied period. The most attractive countries for emerging markets companies were Australia (mostly by Chinese companies), Canada and the USA. Secondly, extractive companies were the most active both as acquirer side and target side. Thirdly, the majority of emerging markets companies as acquirers and developed markets companies as targets were with zero government participation. However, about a quarter of emerging markets companies were owned by state by more than 50%.

Table 1. Sample Description

Total: 168 deals	Acquirers			Target companies		
	Name	#	%	Name	#	%
<b>Geographical distribution</b>	<i>Argentina</i>	2	1%	<i>Australia</i>	41	24%
	<i>Brazil</i>	6	4%	<i>Austria</i>	2	1%
	<i>Chili</i>	4	2%	<i>Belgium</i>	2	1%
	<i>China</i>	36	21%	<i>Bosnia-Herzegovina</i>	1	1%
	<i>Columbia</i>	5	3%	<i>Bulgaria</i>	2	1%
	<i>Egypt</i>	1	1%	<i>Canada</i>	26	15%
	<i>Greece</i>	1	1%	<i>Croatia</i>	1	1%
	<i>Hungary</i>	1	1%	<i>Czech</i>	1	1%
	<i>India</i>	15	9%	<i>Finland</i>	2	1%
	<i>Indonesia</i>	5	3%	<i>France</i>	2	1%
	<i>Malaysia</i>	14	8%	<i>Germany</i>	8	5%
	<i>Mexico</i>	7	4%	<i>Hong Kong</i>	3	2%
	<i>Nigeria</i>	1	1%	<i>Ireland</i>	2	1%
	<i>Peru</i>	2	1%	<i>Israel</i>	1	1%
	<i>Phillipines</i>	5	3%	<i>Japan</i>	1	1%
	<i>Poland</i>	4	2%	<i>Latvia</i>	2	1%
	<i>Russia</i>	34	20%	<i>Lithuania</i>	1	1%
	<i>South Africa</i>	17	10%	<i>Netherlands</i>	3	2%
	<i>Tailand</i>	7	4%	<i>New Zealand</i>	1	1%
	<i>Taiwan</i>	1	1%	<i>Norway</i>	4	2%
<b>Industry Distribution</b>	<i>Extractive</i>	100	60%	<i>Extractive</i>	86	51%
	<i>IT, telecommunications, machinery</i>	26	15%	<i>IT, telecommunications, machinery</i>	21	13%
	<i>Pharmaceutical and chemical</i>	12	7%	<i>Pharmaceutical and chemical</i>	30	19%
	<i>Other</i>	30	19%	<i>Other</i>	31	18%
<b>Government share</b>	<i>0%</i>	111	66%	<i>0%</i>	160	95%
	<i>1% - 50%</i>	18	11%	<i>1% - 50%</i>	5	3%
	<i>50% - 100%</i>	39	23%	<i>50% - 100%</i>	3	2%
<b>Transaction volume</b>	<i>&gt;50%</i> 68			<i>&lt;50%</i> 100		

### **3.3. Methodology and variables choice**

As it was stated before, the majority of previous studies of M&A phenomena are based on quantitative research. We decided to use the same strategy because it allows us to study a huge sample of transactions and to avoid subjective conclusions without primary data from the companies.

At the same time, the previous studies focus on changes in financial data and financial position of transaction participants after the transaction. We decided to expand the studied area by adding pre-merger data in the analyzed sample.

Having the variables below, we are able to use regression analysis to identify role of government in knowledge-aimed M&As by emerging markets companies and test our hypothesis.

#### ***Changes in R&D expenses***

There is not an agreement in scholars about the most efficient measurement of knowledge transfer. The huge amount of different approaches could be distributed into two groups: numerical and qualitative approaches. The same as the two research concepts (qualitative and quantitative), these two approaches have different methodologies. Socio-cultural aspects of knowledge transfer are studied under the qualitative approach using such instruments as surveys and participants' insights (Kogut, 1992; Gupta, 2000; Ensign, 2009). We decided not to use this approach because it requires direct contacts to studied companies and, consequently, create more limits in the sample size.

Another way to study knowledge transfer is to use quantitative approach. This way requires assumptions in research design (Rich, 1997). Our assumptions are based on the previous researches: on the one side our dependent variable has a theoretical background, on the other side it was used in previous papers. For instance, Hitt used research and development activity as an instrument of knowledge transfer measurement (Hitt, 1991). We decided to use the same approach, because it, firstly, based on the fundamental research, and secondly, match our requirements in the necessary data availability.

#### ***Target and acquirer age***

Age is assumed to be an important variable in M&A measurement because it usually similar organization practices in the companies with the similar age. Some scientists even underline that the age of the transaction participants can predict post-merger characteristics, such as market positioning, compensation policy, financials structure (Eisenhardt, 2010; Boeker,

1989). In our research, we found that age of acquirer and age of target firm do influence M&A activity in knowledge acquisition dimension.

### ***Target and acquirer government share***

The most part of papers, which state that the government's share is an important variable in merger and acquisition measurement and it influences research and development activity, focus on Chinese companies as acquirers. Some researches state that government influences M&A activity by supporting acquirer with different types of protection and benefits (Deng, 2013). As an example, Haier was provided by preferential, which was a unique situation for Chinese private companies (Holtbrugge, 2012). Another example is Lenovo, which is supported by Chinese Academy of Science (Kreppel, 2012). Another way of support by government is to provide a unique access to resources and materials (Child, 2014). Overall, government participation in the company activity and decision-making process, which can be measured by the size of government share, has two ways of influence: provide the participant with the unique resources or privileges or to directly boost the international expansion of the company (Luo, Xue, 2010).

### ***Acquirer industry***

It is necessary to underline, that industry is defined in different ways by previous studies. Some papers focus on industry structure and identify correlation between transaction participants' industry and M&A performance. Other try to study how the participants integrate in their markets. Nevertheless, it is defined, that industry do impact post-merger performance (Hu, 2009).

In our research, we use industry variable as a binary variable: 1 is extractive companies and 0 is other companies. This particular way of binary distribution was selected after comparison of its significance in regression analysis, which is described in the next chapter.



### 3.4. Regression analysis

The following formula is used to measure the influence of variables on the research and development activity in merger and acquisition transactions:

$$RDA = \beta TarAge + \beta AcqAge + \beta TarGov + \beta AcqGov + \beta AcqInd + \beta TarRD + \alpha + \varepsilon$$

Where:

RDA = Research and Development activity, which is measured as a R&D expenses to revenue ratio in three years after the transaction by target company in each M&A deal;

TarAge= Age of target company, which is measured as a difference between transaction year and target company foundation year in each M&A deal;

AcqAge= Age of acquirer, which is measured as a difference between transaction year and acquirer's foundation year in each M&A deal;

TarGov= Share of government in target company in the moment of transaction and before the changes, which occur after transaction share redistribution in each M&A deal;

AcqGov= Share of government in acquirer in the moment of transaction in each M&A deal;

AcqInd= Industry of acquirer, which is measured as a binary variable, where 1 is extractive companies and 0 is other companies in each M&A deal;

TarRD= Changes in research and development expenses in target company, which is measured as a CAGR for a period of 3 years before the transaction in each M&A deal;

$\alpha$ = constant

$\varepsilon$ = normally distributed random error.

The regression analysis provided us with the following results:

Table 2. Descriptive statistics

<b>Total: 168 deals</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b>RDA</b>	<i>0.599</i>	<i>1.747</i>
<b>Acq. Gov.</b>	<i>0.050</i>	<i>0.202</i>
<b>Tar. Gov.</b>	<i>0.006</i>	<i>0.496</i>
<b>Acq. Age</b>	<i>32.220</i>	<i>29.684</i>
<b>Tar. Age</b>	<i>31.393</i>	<i>33.162</i>
<b>Target RD</b>	<i>-1.895</i>	<i>22.746</i>
<b>Acq. Ind.</b>	<i>0.400</i>	<i>0.492</i>

In order to investigate correlation effect between independent variables we conducted Pirson's correlation analysis. As we can see from the table, correlation coefficient of all independent variables is significantly less than 0.5, which tells us that our variables are not interrelated.

Table 3. Correlation analysis

	<b>RDA</b>	<b>Acq. Gov.</b>	<b>Acq. Age</b>	<b>Tar. Age</b>	<b>Acq. Ind.</b>	<b>Tar. Gov.</b>	<b>Tar. RD</b>
<b>RDA</b>	<i>1</i>						
<b>Acq. Gov</b>	<i>0.200</i>	<i>1</i>					
<b>Acq. Age</b>	<i>0.267</i>	<i>-0.075</i>	<i>1</i>				
<b>Tar. Age</b>	<i>-0.136</i>	<i>-0.028</i>	<i>0.142</i>	<i>1</i>			
<b>Acq. Ind.</b>	<i>0.220</i>	<i>-0.063</i>	<i>0.089</i>	<i>-0.037</i>	<i>1</i>		
<b>Tar. Gov.</b>	<i>0.098</i>	<i>-0.028</i>	<i>0.051</i>	<i>0.147</i>	<i>-0.009</i>	<i>1</i>	
<b>Tar. RD</b>	<i>-0.121</i>	<i>0.025</i>	<i>0.018</i>	<i>0.054</i>	<i>0.060</i>	<i>0.019</i>	<i>1</i>

Coefficient table demonstrates the significance of each variable in the level of impact on dependent variable (“Significance” column) and the direction of this impact (“B” column).

Table 4. Coefficient table

	<b>B</b>	<b>Standard error</b>	<b>beta</b>	<b>Significance</b>
<b>Constant</b>	-0.103	0.257	-	0.690
<b>Acq. Gov.</b>	2.053	0.678	0.237	0.003
<b>Acq. Age</b>	0.017	0.005	0.287	0.000
<b>Tar. Age</b>	-0.009	0.004	-0.173	0.032
<b>Acq. Ind.</b>	0.754	0.279	0.212	0.008
<b>Tar. Gov.</b>	4.215	2.782	0.119	0.132
<b>Tar. RD</b>	-0.011	0.006	-0.138	0.081

We followed the logic, that the less significance number (p), the more significance of the variable in the impact on the dependent variable. As we can see from the table, the most significant variables here are age of acquirer, government’s volume of shares in acquirer’s capital and industry of acquirer.

### 3.5. Results interpretation and discussions

#### *Results interpretation*

Testing the hypothesis, we can conclude, that, firstly, volume of government participation on acquirer’s capital is significant in knowledge-aimed merger and acquisition transactions by emerging markets companies. This is demonstrated by  $p=0.003$  in the regression analysis results. Secondly, we can conclude, that there is a positive correlation between volume of government participation in acquirer’s capital and research and development activity in target company after the transaction. This fact is demonstrated by  $B=2.053$ . Therefore, hypothesis was tested and accepted.

It is important to note, that by knowledge-aimed activities we consider such M&As, when research and development activities by target company increase during three years after

transaction. We have decided to use this measurement based on approach by Hitt, who studied R&D activity as knowledge creation activity measurement.

### *Discussions*

Our hypothesis testing results demonstrate a positive correlation between government's participation in acquirer's capital and knowledge-aimed M&As. This positive correlation is supported by empirical results of researches by Wu and Xie, who identified the positive correlation between government capital participation and M&A performance in Chinese market (Wu, Xie, 2010).

Based on theoretical research and empirical testing we can conclude, that this positive correlation occurs because, firstly, merger and acquisition transaction are used as resource creation instrument, which is knowledge in our case. This statement is supported by papers by Davis, Cobb and Hillman (Davis, Cobb, 2010; Hillman, 2009).

Secondly, positive impact of government participation occurs because of the fact, that governments tend to support companies, which are aimed in markets and resources, which are not available or expensive in home markets. This statement is based on papers by Mussacchio and Wang (Mussacchio, 2014; Wang, 2012).

Thirdly, there is another reason, which makes the correlation identified possible: companies with government's capital participation demonstrate poorer operational performance comparing to private companies. This performance problem was identified by such authors as Goldeng, Grunfeld and Benito (Goldeng, Grunfeld, Benito, 2008).

Finally, companies with higher government capital participation tend to use M&A as instrument of knowledge receiving. This conclusion is made on our empirical research and supported by Tsai and Hsieh (Tsai, Hsieh, 2006).

Moreover, regression analysis demonstrated some correlations, which were not in the scope of this research. However, these correlations could be interesting for further researches.

It is a negative correlation between research and development activity in target company before the transaction and this activity after the transaction. This matches the previous empirical evidences, that stated, that the more government participate in acquirer's capital, the more the possibility that acquirer has underperformed company as a target. This statement was about financial figures of target companies. However, as we can see, this is relevant to knowledge-aimed M&As. Another correlation is that extractive companies tend to participate in knowledge-

aimed M&As more than companies from other industries. It is an interesting dependency between knowledge-aimed merger and acquisition by emerging markets companies and transaction participant's age. It is a positive correlation between acquirer's age and target's research and development activity after the transaction, which tells us that more experienced acquirers are able to use M&As as knowledge-seeking instrument in more effective way. However, is it a negative correlation between age of target companies and research and development activities after the transaction. It means, that less experienced target companies are able to create knowledge and develop innovation in more effective way.

## CONCLUSION

This master thesis had the aim to identify how government participation in acquirer's capital influences the performance of knowledge-aimed M&As by emerging markets companies. In order to achieve this aim, we, firstly, provided theoretical analysis to study knowledge concept and M&A as instrument of knowledge receiving. This analysis can be found in the Chapter 1 of this paper. Next, we studied previous empirical evidences to identify the role and impact of government on merger and acquisition activity as well as role of government in knowledge creation activity. Based on this review we were able to state the hypothesis. Results of this review and the hypothesis can be found in the Chapter 2 of this paper. Next, based on the hypothesis stated, we created sample requirements and collected data. Finally, the data collected was analyzed by regression analysis. The regression analysis, which was used to test stated hypothesis, has allowed us to make conclusions regarding the impact of government on knowledge-aimed M&As.

It was identified through the statistical analysis, that government participation in acquirer's capital is significant in knowledge-aimed M&A, the same as in other types of merger and acquisition transactions. At the same time, it is a strong positive correlation, which means that the higher level of government participation in acquirer's capital leads to higher research and development activity in target company after the transaction.

Combining theoretical research and statistical results, we can explain this fact in the following way. Emerging markets companies need knowledge and innovation to development. While emerging markets are less innovative than developed markets because of lack of innovation ecosystems, high level of government participation in such companies' capital makes it even harder to develop innovations and create knowledge. This occurs because of less effective management of companies with high government participation. Next, in order to receive knowledge and innovations, these companies use internationalizing opportunities and one of these opportunities is merger and acquisition instrument.

To sum up, our conclusion reinforced the previous researches, which stated the government plays important role in M&As by emerging markets companies. We focused on more specific types of such merger and acquisition transactions and found out that this statement is relevant in M&As with knowledge-seeking motivations.

### ***Theoretical and practical contributions***

There are three theoretical contributions, provided by this research.

Firstly, the concept of merger and acquisition activity as knowledge receiving instrument was studied. Therefore, we have developed ideas and findings by Bragudinsky and Keller (Bragudinsky, 2015; Keller, 2013). This concept was initially identified in the first chapter as a theoretical concept. Then, we used it to identify empirical evidences in the second chapter. The hypothesis was stated on this concept. Consequently, we have based our regression analysis on this concept.

Secondly, we developed ideas by Hitt, who used research and development activities to measure knowledge creation activities (Hitt, 1996). We used such figure as research and development expenditures in our research in order to identify knowledge creation activity.

Thirdly, this research itself is a contribution into such field of study as M&A by emerging markets companies. It is important to underline, that this field of study is in research focus today because of increase in the M&A activity my emerging markets companies and, consequently, increase in significance of such companies in modern economy, according to Clo (Clo, 2015).

However, the main contribution of this research is empirically proven government's affection on knowledge-aimed M&A by emerging markets' companies. It was demonstrated, that the higher the government ownership in the company's capital, the higher the possibility, that this company will use M&A as a knowledge receiving instrument and that the knowledge creation aim will be achieved. This correlation could be used by managers of such companies in the process of knowledge creation strategies statement. Moreover, this correlation could be used in the process of such companies' activities predictions by market experts.

The novelty of this paper is the demonstration of the fact, that governments of emerging countries actively participate in knowledge acquisition from developed markets. This is implemented through companies with government's ownership, which conduct merger and acquisition transactions.

### ***Limitations***

As it was demonstrated in sample selection and collection process description, there are some limitations in the research.

Firstly, the main limitation is the form of analyzed companies. All of companies analyzed are public companies. This limitation appears because of data, which were analyzed. We

analyzed research and development expenditures by target companies, which can be found only in annual reports, which are provided by public companies. The same is for acquirers: information regarding capital structure and, consequently, government's ownership in the concrete moment of time (transaction year) can be found only in reports by public companies.

Secondly, it is a limitation, which is connected to origins of companies analyzed. We analyzed developing markets companies as acquirers and developed markets companies as targets. We assume, that overcoming of this limitation could provide researchers with different results.

Thirdly, there is a limitation in analyzed period. In our research only transactions from 2004 to 2014 were included. We believe, that research approach, demonstrated in this paper, could be used for wider sample – both earlier and more later transactions should be analyzed and be compared with results of this paper.

### ***Recommendations for further research***

As it was described previously, this research has some limitations. We assume that overcoming of these limitations is important to more specific and reliable conclusions. One of the most important limitations, which must be overcome, is analysis of only public companies. Private companies, or companies, without public reports, play significant role in M&A's by emerging markets companies is adding them into analysis should provide us with broader picture of knowledge-aimed M&As phenomena.

Another way of further researches development is expansions of studied time period. Perhaps, dependency of knowledge-aimed M&As' performance and historical waves of merger and acquisition activity can be studied.

Moreover, we believe that dependent variable could be modernized. In our research, we used research and development expenditures/revenue ratio in order to identify knowledge creation activities. We used method, which was introduced by Hitt. We assume, that the variable, which demonstrates knowledge creation activity, could be a combination of several figures. For instance, it is necessary to include patent registration activity in this variable. Perhaps, the number of employees and board members with higher education could be included.



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