"Social Transformations in Contemporary Society", 2014 (2)
ISSN 2345-0126 (online)

THE PATTERNS OF THE INVESTMENT IN INTANGIBLE ASSETS

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Abstract

Purpose– Scientific studies have concluded that investments in intangible assets increase future output and consumption for the entire economy the key point again is whether an increase in intangibles yields returns at some point in the future in the form of higher production efficiency, improved product quality and effectiveness. The challenge relies around the uncertainty of what are the components of intangible assets that should have more attention regarding the size of the investment. Various economies use different approaches to assess their investment strategies, therefore the purpose of this article is to explore the investment in intangible assets patterns in OECD countries as well as Baltic States.

Design/methodology/approach – Scientific literature review, comparative and statistical data analysis.

Findings – According to the statistics department of Lithuania, investment in Research and Development as a share of Gross Domestic Product in Lithuania has increased starting 0,79 perc. back in 2006 up to 0,9 perc. in 2012. Konstatinos *et all* (2013) defended, that the size of the investment in R&D is not enough to get a grasp of the intangible asset essence and impact in the economy. Corado (2012) has adopted a model to assess the intangible investment potential valuation in Organization for Economic Co-operation and Development countries, where intangible assets are classified based on three categories: computerized information, intellectual property and economic competencies. The objective of this paper is to explore whether it is possible to apply adopted Corrado model in Lithuania.

Research limitations/implications – Statistics department of Lithuania measures the percentage of investment in Research and Development as a share of Gross Domestic Product. This indicator alone should not be used to identify the investment level in intangible assets in Lithuania, therefore adopted model, which includes various indicators, should be used to grasp real situation in the country. The challenge arise with macro data availability. Data limitation could affect benchmarking chances.

ISSN 2345-0126 (online)

Practical implications – Investment in intangible assets valuation model would allow to benchmark Lithuania's economy with countries such as United States, Denmark, Sweden and Japan.

Originality/Value – Lithuania's policies regarding intangible assets follows traditional theories, therefore it is very important to identify the level of intangible investments, not recorded in the accounting books and define its impact on the economic effectiveness.

Keywords: intangible assets, intangible investment, economic growth

Research type: literature review, research paper.

Introduction

Many studies have concluded that investments in intangible assets increase future output and consumption for the entire economy (COINVEST, 2013; INNODRIVE, 2013, INTAN Invest, 2011). According to Corado *et all* (2012) the key point again is whether an increase in intangibles yields returns at some point in the future in the form of higher production efficiency and improved product quality. Webster and Jensen (2006) argues that intangible assets cannot be treated as investments at all, since they are not identifiable and the owner of these assets cannot always control access to them as use according to owner's needs.

According to the statistics department data, investment in Research and Development (R&D) as a share of Gross Domestic Product in Lithuania has increased starting 0,79 perc. back in 2006 up to 0,9 perc. in 2012. Konstatinos *et all* (2013) defended, that size of the investment in R&D is not enough to get a grasp of the intangible asset essence and impact in the economy. Corado (2012) has adopted a model to assess the intangible investment potential valuation in Organisation for Economic Co-operation and Development (OECD) countries, where intangible assets are classified based on three categories: computerized information, intellectual property and economic competencies. Policies regarding intangible assets in Lithuania follow traditional accounting principles, therefore it is very important to identify the level of intangible investments, not recorded in the government accounting books and define its impact on the economic potential.

Due to salutatory evolution of intangible investment in different economies, the aim of the research is to explore the policies covering intangible investments abroad as well as in Lithuania and identify possibilities to measure its impact on future economic growth. The objectives: 1) to analyse intangible asset investment methods in advanced economies; 2) to explore intangible asset investment potential in Lithuania. Research methods – scientific literature review, research paper.

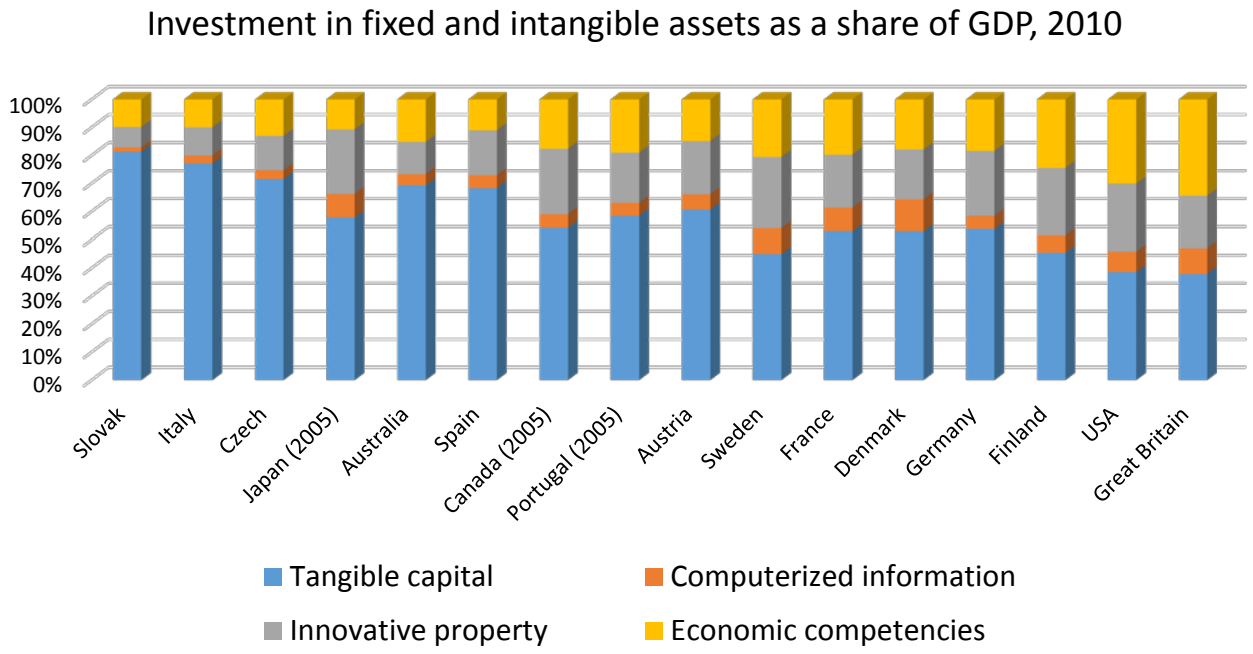
Investing in intangibles: challenges and possibilities

The world economy has moved form an industrial to a knowledge economy where intangible assets are key drivers for long lasting competitive advantage. Various studies

ISSN 2345-0126 (online)

(Corrado, 2012; Morrano, 2013; Suriñach and Moreno, 2012; Goodridge *et all*, 2012) have showed that tangible assets such as equipment, plant, office buildings are no longer playing an important role in todays advanced economy. According to the reports from Organization for Economic Co-operation and Development (*OECD*), countries, such as United Kingdom, Japan and the United states, have already exceeded the investments in the intangible assets as a share of GDP compared to the investments in tangibles (OECD, 2013). If intangibles are playing such an important role in today's economy, it is natural to raise questions, whether these investments are worthwhile, and how much should the economies invest to increase their effectiveness.

OECD's Innovation Strategy, published in 2010, reported that many innovating firms do not invest in R&D, which is necessary to create and maintain long lasting competitive advantage and economic growth. Looking closer, the argument is quite debatable. Secretary-General of the OECD has released a study (OECD, 2013), which proposed, that innovation efforts are supported by investments in much broader range of intangible assets from software and large data sets to designs, firm-specific human capital and new organizational processes. Advanced economies such as Great Britain, United States, Sweden, Japan has exceeded their investments in intangible assets, compared to the tangible ones (see Figure 1).



Source: OECD (2013), Supporting Investment in Knowledge Capital, Growth and Innovation.

Figure 1. Investment patterns in OECD countries

Traditional growth model derive from the production function evolved as a period-by-period analysis of the factors determining output along the growth path of an

ISSN 2345-0126 (online)

economy. The model uses capital as predetermined, which might be misleading, since investments and savings are choice variables in a complete growth model. Choice dimension will determine the quantity of capital available at any time given; it also determines what counts as capital. The answer to the question, whether intangibles should be treated as capital is therefore a matter of embedding the production function–based sources-of-growth analysis in a larger model of economic growth. (Corrado *et all,* 2005, p. 17).

According to Webster and Jensen (2006) intangible assets cannot be treated as investments, since they are not identifiable and the owner of these assets cannot always control access to them as use according to owner's needs. Corrado et al. (2009) argues that these concerns apply towards tangible capital as well, in addition these statements has no point at macroeconomic level, since the owner of the asset is not important. What matters here, is whether the investment in intangibles increase the output and consumption of the entire economy. Hulten (2001) explains that it is irrelevant whether the marginal product of some intangibles is zero. The key point again is whether an increase in intangibles yields returns at some point in the future in the form of higher production efficiency and improved product quality (Corrado *et al.,* 2009)

OECD (2013) empirical study supported widely accepted intangible asset classification initially proposed by Corrado *et all* (2005), which groups these assets into three types:

- Computerized information;
- Innovative property.
- Economic competencies

This approach has been used in various intangible asset related studies (Corrado *et al,* 2005; COINVEST, 2013; INNODRIVE, 2013, INTAN Invest, 2011; New Sources of Growth: Knowledge-based Capital, 2013) to assess the intangible investments of the economies (See Table 1).

Within the conventional System of National Accounts, expenditure on intangible assets, such as research and development or human and organizational capital, is not considered either as part of gross value added (GVA) or as investment. In the UK, Marrano *et al.* (2009) report increased market sector GVA figures by as much as 13% in 2004 after treating intangibles as investment (op.cit. Konstantinos *et al,* 2013). Broadly accepted concept of intangible assets states, that intangible assets claims to future benefits that do not have a financial or physical embodiment (Bianchi & Labory, 2004). According to Konstantinos *et al* (2013) this approach supports the claim that intangibles should be approached as investment given that they represent a sacrifice of the present level of consumption in order to produce more output in the future. In addition, if these investments produce returns at some point in the future, they should not be only treated as an investment but also included in GVA) calculations, given as much quantitative importance as inputs of tangible nature (Konstantinos *et al,* 2013).

ISSN 2345-0126 (online)

Table 1. Classification of the forms of KBC (knowledge based capital) - knowledge intensive capital (intangible assets) and their effects on output growth

Type of intangible assets	Mechanisms of output growth for the investor in the asset
COMPUTERISED INFORMATION	
Software	Improved process efficiency, ability to spread process innovation more quickly, and improved vertical and horizontal integration.
Databases	Better understanding of consumer needs and increased ability to tailor products and services to meet them. Optimized vertical and horizontal integration.
INNOVATIVE PROPERTY	
Research & Development	New products, services and processes, and quality improvements to existing ones. New technologies.
Mineral explorations	Information to locate and access new resource inputs - possibly at lower cost - for future exploitation.
Copyright and creative assets	Artistic originals, designs and other creative assets for future licensing, reproduction or performance. Diffusion of inventions and innovative methods.
New product development in financial services	More accessible capital markets. Reduced information asymmetry and monitoring costs.
New architectural and engineering designs	New designs leading to output in future periods. Product and service quality improvements, novel designs and enhanced processes
ECONOMIC COMPETENCIES	
Brand-building advertisement	Improved consumer trust, enabling innovation, price premia, increased market share and communication of quality.
Market research	Better understanding of specific consumer needs and ability to tailor products and services.
Worker training	Improved production capability and skill levels.
Management consulting	Externally acquired improvement in decision-making and business processes.
Own organizational investment	Internal improvement in decision-making and business processes.

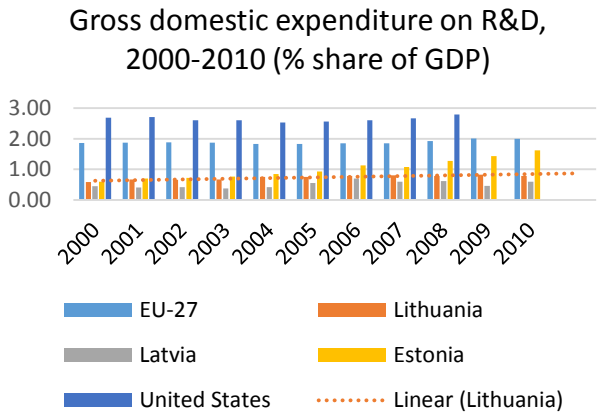
Source: Corrado *et all* (2005) Measuring Capital in the New Economy

ISSN 2345-0126 (online)

The patterns of investing in intangibles

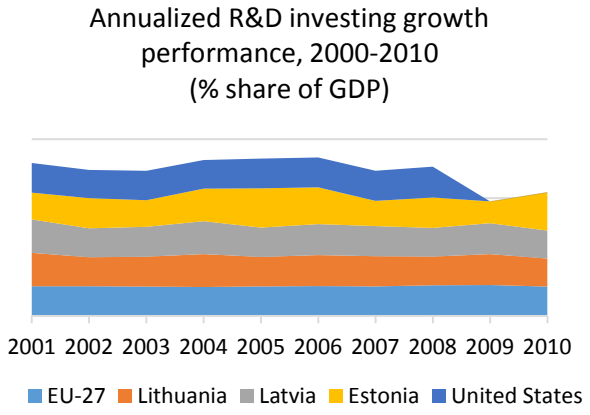
Konstantinos *et all* (2013) defended, that the size of the investment in R&D is not enough to get a grasp of the intangible asset essence and impact in the economy. After intensive discussions on the impact of intangibles on GDP (Corrado, Hulten, and Sichel (2005, 2006) the United States Bureau of Economic Analysis adopted a policy in July 31, 2013, where R&D were categorized as an investment on the government's books rather than an expense (BEA, 2013). After the adoption of this policy the GDP of the United States should increase by 3 percent, in addition revised GDP calculation methodology will be applied to re-calculate economic indicators starting 1929 m. (BEA, 2013). OECD (2013) reported that investments in R&D has showed little or no change in France for the period 1995- 2010. Within five years investment in R&D amounted for 1,9 percent of GDP, on the other hand, the investments in knowledge capital, organizational capital and other intangibles, which are not included into R&D has accumulated 7,4 up to 10,6 percent of GDP. These results supports Marrano et all (2009) idea, that R&D is only one of many intangible assets, which impacts the effectiveness of our economies.

According to the statistics department of Lithuania, investment in Research and Development as a share of Gross Domestic Product in Lithuania has increased starting 0,79 perc. back in 2006 up to 0,9 perc. in 2012.



Source: Eurostat

Figure 2. Gross domestic expenditure on R&D 2000-2010

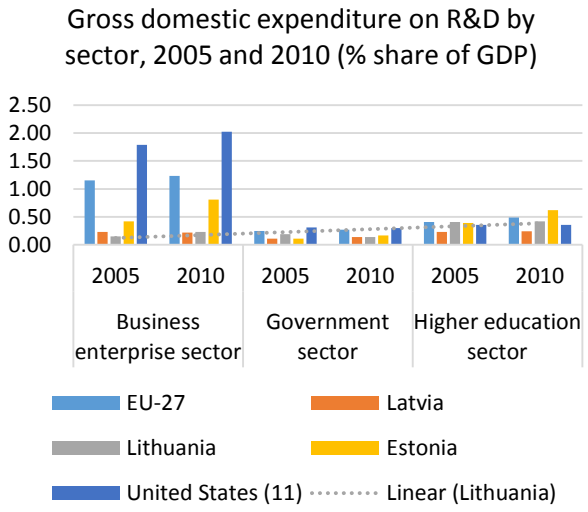


Source: Eurostat

Figure 3. Annualized growth performance

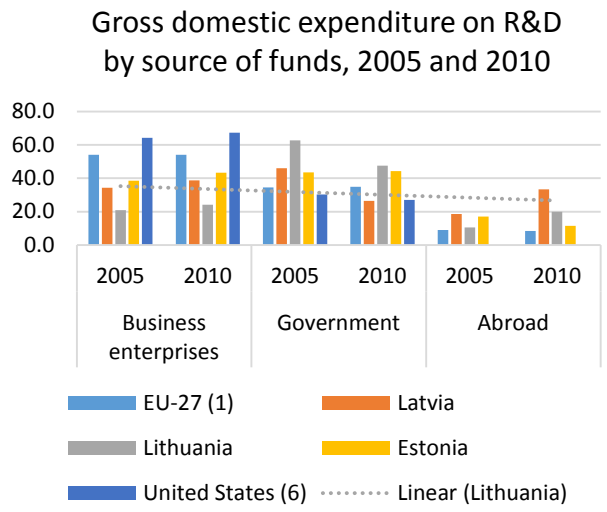
The size of the investment in R&D as a percent of GDP in Baltic States is much smaller compared to the EU(27) or the United States (See Figure 1). Lithuania and EU (27) performance follows consistent trend line in the investing practice compared to Estonia or the United States. Estonia also demonstrates high growth rates compared to all regions. For the year, 2004 – 2006 Estonia has increased its investment in R&D by 14 percent; starting 2009 investment trends are indicating the growth again (See Figure 2).

ISSN 2345-0126 (online)



Source: Eurostat

Figure 4. GDP expenditure on R&D by sector



Source: Eurostat

Figure 5. GDP expenditure on R&D by source of funds

According to Eurostat data, GDP expenditure patterns on R&D by sector for the period 2005-2010 has been changing. Business enterprise sector has increased the investments in R&D in EU (27), all Baltic countries and the United States. Government investment in R&D within the same period in Lithuania has dropped slightly, yet investments in R&D in higher education sector in Lithuania has not showed any changes. Most of the funds to cover R&D expenditure in Latvia and Lithuania come from government institutions, although EU (27) and United States get most of R&D funding from business enterprise. Looking at the trends of R&D expenditure source of funds Lithuania follows the same pater as EU (27) and the United States, which is, ascending financial recourses from private sector and descending from the government.

Investment patterns in R&D as a percentage share of GDP presents intangible asset investment trends partially, since R&D is only one of many intangibles which impacts the growth of the economy.

Conclusions

Various economies use different approaches to assess their investment in intangible assets potential. United Kingdom, Japan, the United States and other advanced economies use Corrado *et all* (2005) model, where intangibles are classified based on three categories: computerized information, intellectual property and economic competencies. According to the latest OECD report (OECD, 2013) the investments in intangible assets have already exceeded the investments in the tangibles as a share of GDP.

ISSN 2345-0126 (online)

Baltic countries account their investment in intangible assets using the total expenditure on R&D. According to the statistics department data, investment in R&D as a share of Gross Domestic Product in Baltic countries is following a slow growth, same patterns are seen in the US as well as Europe Union countries. Although according to the research (OECD, 2013) R&D does not reveal investment in intangibles patterns completely, since R&D indicator is only one of many intangibles, which affects the growth of the economy.

References

Corrado C. & Hulten C. & Sichel D., 2006. "Intangible Capital and Economic Growth,"NBER Working Papers 11948, National Bureau of Economic Research, Inc.

Corrado C., Haskel J., Jona-Lasinio C., Massimiliano L. (2012), "Intangible Capital and Growth in Advanced Economies: Measurement Methods and Comparative Results" Working Paper.

Corrado C., Haltiwanger J. & Sichel D, 2005. "Measuring Capital in the New Economy,"NBER Books, National Bureau of Economic Research, Inc, number corr05-1.

Corrado C., Haskel J., Jona-Lasinio C., Iommi M. 2011 Intangible Capital and Growth in Advanced Economies: Measurement Methods and Comparative Results, Intan Invest, http://www.INTAN-Invest.net.

Corrado C., Hulten C., & Sichel D, 2009, INTANGIBLE CAPITAL AND U.S. ECONOMIC GROWTH, Review of Income and Wealth, Series 55, Number 3, September 2009

Eurostat. http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/

Goodridge P., Haskel J., Wallis G. 2013, Can Intangible Investment Explain the UK Productivity Puzzle? National Institute Economic Review 224: R48-R58, doi:10.1177/002795011322400104

Konstantinos A. Melachroinos & Nigel Spence (2013) „Intangible Investment and Regional Productivity in Great Britain" Regional Studies, 47:7, 1048-1064, DOI: 10.1080/00343404.2012.684678

OECD (2010) Innovation to strengthen growth and address global and social challengeswww.oecd.org/innovation/strategy

OECD (2013), Supporting Investment in Knowledge Capital, Growth and Innovation, OECD Publishing. http://dx.doi.org/10.1787/9789264193307-en

Official Statistics Portal http://osp.stat.gov.lt/en/web/guest/home

Piekkola H., et al. (2011), "Firm-level Intangible Capital in Six Countries: Finland, Norway, The UK, Germany, The Czech Republic and Slovenia", in H. Piekkola (ed), "Intangible Capital – Driver of Growth in Europe, INNODRIVE" .

Suriñach J. and Moreno R. (2012) "Introduction: Intangible Assets and Regional Economic Growth, Regional Studies" 46:10, 1277-1281

U.S. BEA (2013) "Changes to How the U.S. Economy is Measured Roll Out July 31" U.S. Bureau of Economic Analysis

Webster E. and JensenP. H. (2006) „Investment in intangible capital: an enterprise perspective", Economic Record 82, 82–96.