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## Foreword

### Changing Economy – developing key skills for a new attitude

*Go with the times or be gone in no time<sup>1</sup>*

Our economy and society is marked by very rapid changes. We live in times of permanent changes in a breathtaking pace. This is accompanied by uncertainty, anxiety and general lethargy. We can recognize Phenomena such as these not only at individuals - undisputed right at each of us in varying degrees – but it also relates to all sectors, such as the economy, politics, society in its various areas.

In times like these, however, it would be necessary exactly the opposite. An attitude is required to accept seriously the challenges of the future rather than care for a comfort Soothing zone or turn to the inner peace like the motto "Let the storm pass me by" or pursue an optimism that promises it will always go on as all the years before also.

What qualities would be therefore necessary in a changing economy? Above all there are three characteristics of a new attitude, without which we cannot cope with the challenges of the future such as energy policy, globalization, demographics, diversity, scarcity of raw materials, etc.. These three features required for a new attitude in changing economy are: authenticity, transparency and dialogue. This may sometimes ring trite, but we can look closer. Never before people were able to handle with so much information. The Economy 4.0 is a real challenge for the future. The new media like the Internet and the social networks allow a large number of people to be informed and to have an independent opinion. Their criticism has increased in particularly, so that they developed a fine sense for fairly and honestly trade. Everything gets near rip, manipulation or deception are quickly considered hazardous and therefore rejected.

Only those who deal authentically with its stakeholders, will be able to build or maintain its reputation as a reliable partner. Closely related to the authenticity is the transparency. The information era allows many people and NGOs (non governmental organizations) to access a wide range of numbers, figures and facts about business, politics, etc.. The attention is given in terms of sustainability. The sustainability stays next to price in sales decision. Who advertises with social projects, but then has to justify for exploitative wages, has a serious credibility problem.

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<sup>1</sup> Friedrich Schiller (1759 - 1805), german dramatist, poet and historian



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The economy is increasingly more have the responsibility to observe social linings and contribute to the correction of irregularities. The sustainability efforts must keep this direction, although not always with sufficient consequences and credibility. Conversely, society and politics will do it's best to create the optimal frameworks for the economy - not only for the preservation and creation of jobs, but of assurance of the balance of the social climate in the country in general.

The current issues of journal of Economic Development, Environment and People (JEDEP) presents very important subjects for the economic debate: Eco industrial Development: as a way of Enhancing Sustainable Development (*B. Sertyesilisik, E. Sertyesilisik*), New Trends in Economic Globalization (*E. Gurgu, A. Cociuban*), the Evaluation of Working Capital in Airline Companies which proceed in Bist (*S. Kendirli, A. Kaya*), an Essay on the Applicability of the Lindner Hypothesis in Determining the Patterns of the Romanian International Trade (*T.G. Viciu, L. Mihoreanu, C. Costea*), Activ social Programs and Their Strategic Advantages in Labor Market Development (*E. Stoyanov*), the Effects of Right Offering Announcements on Returns of Shares of Deposit Banks Traded in Istanbul Stock – Exchange (*S. Kendirli, M. Emin Elmali*), Contributions to the Analysis if Amendments of the Crime Stipulated in Art. 43 of Law nr. 255/1998 on the Protection of New Varieties of Plants Made by Law no.187/2012 for the Enforcement of Law no. 286/2009 on the Criminal Code (*B. Florea*).

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## Eco Industrial Development: As a Way of Enhancing Sustainable Development

Begum Sertyesilisik<sup>1</sup> and Egemen Sertyesilisik<sup>2</sup>

<sup>1</sup> Istanbul Technical University

<sup>2</sup> Political Scientist

*Abstract. The world's habitat is being deteriorated especially due to the unsustainable production. The need for sustainable development and reducing humanities' environmental footprint have been addressed in various international frameworks, meetings and reports (e.g. Kyoto protocol, the Resource Efficiency and Cleaner Production Program, the Ten Year Framework of Programs on Sustainable Consumption and Production, the UN Resource Panel, and the Green Economy Initiative, Rio+20, green building certificates, "UNEP Green Economy" in 2011, "Green New Deal" in 2012, the Intergovernmental Panel on Climate Change's report etc.). EIDs (the eco industrial development) can act as catalysts in sustainable development and in reducing environmental footprint of the production processes. Based on an in-depth literature review, this paper aims to analyze how EID can be supported so that environmental footprint of the production processes can be reduced contributing to sustainable development. With this aim, the objectives include: analysis of the need for the EID; need for the sustainable development enhanced by sustainable production and sustainable products; key success factors for, barriers against and drivers for the EID. The policymakers, companies, and researchers are expected to get benefit from this paper.*

**Keywords:** eco industrial development, eco industrial parks, sustainable production.

**JEL Codes:** O1, Q5, Z00

### 1. Introduction

The world's habitat is being deteriorated (i.e. water depletion, loss of biodiversity) (Tukker, 2013: 274). The growing industrialization and increase in the scale of economic activity have transformed the world's resources into wealth causing adverse effects on ecosystems and resources (Linnenluecke and Griffiths, 2013: 382). Nature is under the combined pressure of human population growth and the growth in the wealth per capita (Tukker and Butter, 2007: 102). The 'economy is crashing against the Earth' (Tukker, 2013: 274). The world economy is expected to grow by 3% per year until 2030 and more than 9 billion

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humans are expected to live on earth by 2050 (Rohn et al., 2014: 32). The economic growth puts pressure on the environment (Tukker and Butter (2007: 102).

The economic growth's adverse effect on the environment is expected to be increased due to the need for a US\$200 trillion global economy by 2050 to eradicate the poverty, while not affecting the income of the rich, as well as fulfilling the aspirations and expectations of the middle class (Tukker, 2013: 272). The economy needs to be sustainable. An economy is sustainable only if it simultaneously caters human needs – in particular the essential needs of the world's poor – and accepts the limitations imposed by the need to sustain the environment's ability to meet present and future needs (Lorek and Spangenberg, 2014: 33).

Despite of rising prices for natural resources during the past 30 years, there is increase in the global consumption of natural resources (Rohn et al., 2014: 32). The Earth, however, has its limitations (Ayres and Kneese, 1969; Daly, 1991; Meadows et al., 1972; Tukker, 2013: 272). As stated by The Club of Rome's (1972) Limits to Growth, economic growth cannot continue indefinitely due to the limits of the capacity of the global environment (Jung et al., 2013). Essential needs are not substitutable and as limits are clearly referring to the environment, and not to natural capital or a substitute thereof (Lorek and Spangenberg, 2014: 33). As the environmental degradation continues to occur in an accelerated way, time is of the essence for taking effective precautions. The report from the Intergovernmental Panel on Climate Change (IPCC) called for immediate action (EC website, 2014). The fact that the world's habitat is being deteriorated (i.e. climate is changing, the earth's temperature is rising, and the earth resources are being exploited) despite of the precautions (e.g. Kyoto protocol, the Resource Efficiency and Cleaner Production (RECP) Program, the Ten Year Framework of Programs on Sustainable Consumption and Production (10-YFP on SCP), the UN Resource Panel, and the Green Economy Initiative (GEI), Rio+20, green building certificates, "UNEP Green Economy" in 2011, "Green New Deal" in 2012 etc.) taken reveals the need for acting strategically (e.g. encouraging ecoindustrial development, enabling sustainability transition, degrowth, dematerialization, and encouraging the change agents for sustainability) for the survival of humanity considering technical, and socio-economical aspects and reducing the footprint of the humanity (including, production processes).

CE (Circular economy) and IE (Industrial ecology) enhanced by the EID (eco industrial development) need to be encouraged for reducing humanities' environmental footprint. CE is based on (Stahel and Reday, 1982): perception of waste as food or input; perception of diversity as strength; relying on renewable energy sources; and systems thinking. The CE encompasses principles mainly from: closed loop system; biomimicry; IE; and cradle-to-cradle. IE can be defined as a community of manufacturing and service business collaborating for economic and environmental benefit by managing energy, water, materials and other resources (Love et al., 1996). (Zhu and Cote, 2004: 1025). IE is based on a complex and self-organized closed-loop system similar to that in nature (Panyathanakun et al., 2013: 71) and transforms the industrial system and minimizes inefficiencies by learning and mimicking from the natural environment and how natural environment works (Chertow, 2000; Graedel and Allenby, 2003; Korhonen, 2007; Lambert and Boons, 2002; Pakarinen et al. 2010; Romerao and Ruiz, 2014). IE can contribute to the sustainable growth (Panyathanakun et al., 2013: 71).





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IE is supported by the EID (eco industrial development) which is a framework for the development of the industry reducing its adverse effects to the environment (Cohen-Rosenthal, 2003). EID is based on the biological symbiosis and on the closed loop production cycle principles (Lown, 2003). Mutually beneficial connections among industry, natural systems, energy, material and local communities are considered as central factors in designing industrial production processes (Cohen-Rosenthal, 1999). EID aims to improve business and environmental performances mainly through: resource efficiency (Babu and Meyer, 2012); cleaner product; IE; industrial symbiosis; environmental management systems; and design for the environment.

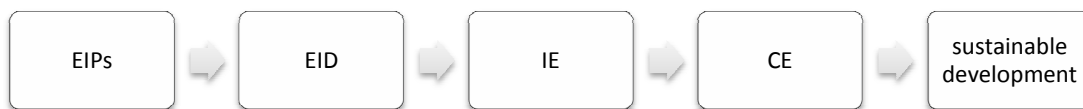


Fig. 1: The relationship among EIPs, EID, IE, and CE

An important application of the IE concept is EIP (the Eco-Industrial Park) (Panyathanakun et al., 2013: 71). EIP can be defined as “a community of manufacturing and service businesses located together on a common property. Member businesses seek enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues” (Veiga and Magrini, 2009: 653). EIPs lead to the EID which supports IE and IE leads to CE enhancing the sustainable development (Figure 1). EIPs are based upon IE principles which suggest that industrial systems can operate like natural ecological systems (Jung et al., 2013: 50). EIP is based on the idea of the industrial symbiosis which aims to engage separated industries in a collective approach so that their economic performance is improved whereas their environmental footprints are reduced (Chertow, 2000; Fang et al., 2007; Oh et al., 2005: 271; Tibbs, 1992; Yu et al., 2014). EIPs enable engagement of separated industries through “significant, systematic industrial change” including physical exchange of materials and by-products, shared management of common utilities and infrastructures (Chertow, 2000; Fang et al., 2007; Tibbs, 1992; van Berkel, 2009; Yu et al., 2014). EIPs connect different waste-producing processes, plants, and consumers (Fang, 2003; Fang et al., 2007: 319). Panyathanakun et al. (2013: 71) emphasized that the EIPs enable not only tangible exchanges [i.e. the physical exchange of materials, energy, water, and by-product (Chertow, 2007)] but also intangible exchanges of knowledge and human or technical resources (Mirata and Emtairah, 2005). The exchanges of resources and collaboration among collaborative companies in the production process lead the emergence of synergy (Cote and Cohen-Rosenthal, 1998; Lowe, 1997; Panyathanakun et al., 2013: 71; Romerao and Ruiz, 2014: 394). “The collaborative community of companies in EIPs establish the ‘industrial ecosystem’. (Lowe et al., 1996; Lowe, 2001; Veiga and Magrini, 2009: 653)” (Oh et al., 2005: 271)

EIPs can be established for new developments as well as for redevelopments of existing or obsolete industrial sites (Pellenbarg, 2002). Majority of the EIPs have been developed as a result of transformation of existing industrial parks (Mathews and Tan, 2011; Yu et al., 2014). As the enterprises in traditional industrial parks aimed at high economic output without considering the ‘costs’ of environmental degradation,







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transformation of existing industrial parks into EIPs is expected to contribute to the solution of the environmental pollution problems and to the sustainable development path (Bai et al., 2014: 5). For this reason, EIPs are perceived as a new industrial model to address the three dimensions of sustainability, namely: social, economic and environmental (Veiga and Magrini, 2009: 653). EIPs have been established throughout the world [i.e. Europe (Baas and Boons, 2004; Tudor et al., 2007), China (Fang et al., 2007; Zhang et al., 2010), India (Singhal and Kapur, 2002), the Americas (Gibbs and Deutz, 2005, 2007), Australia (Roberts, 2004), and Japan (Berkel et al., 2009)] (Jung et al., 2013: 50).

CE, IE and EID support the sustainable society which relies on sustainable consumption, as well as on sustainable production (Lorek and Spangenberg, 2014). For this reason, change agents are needed to foster the EID. According to Wangel (2011: 873), the term ‘agency’ refers to ‘the social’ part of the socio-technical society, which consists of formal institutions (i.e. policies, taxes, and organisations), and informal institutions (i.e. norms, values, and social practices). Individuals and organisations having the capacity to act can act as agents (Wangel, 2011: 873). Sustainability leaders are the change agents who play the key role for the successful transformation towards sustainability, as well as for regional EID.

Changing unsustainable production has been identified as one of the objectives of sustainable development in the 2002 World Summit on Sustainable Development (UN, 2002; Barber, 2007: 499). There is need to foster EID as a tool to reduce environmental footprint of the production processes so that sustainable development can be achieved. For this reason, based on an in-depth literature review, this paper aims to analyze how EID can be supported so that environmental footprint of the production processes can be reduced contributing to sustainable development. With this aim, the objectives include: analysis of the need for the EID; need for the sustainable development enhanced by sustainable production and sustainable products; key success factors for, barriers against and drivers for the EID.

## **2. Sustainable Production and Companies as Change Agents for Sustainability**

Companies acting as change agents for sustainability need to be active in the sustainable production so that they can support EID. Companies can be major contributors to sustainable development as they are perceived as major contributors to ecological problems (Clifton and Amran, 2011; Roy and Goll, 2014: 851-852). Stakeholders’ and consumers’ growing pressures encourage companies in engaging in sustainability and in sustainable development, as well as in aligning the corporate values with those of the society (Matos and Silvestre, 2013; Musson, 2012; Seuring and Müller, 2008; Steurer, Langer, Konrad, and Martinuzzi, 2005). Corporate leaders and employees are increasingly recognising their role in contributing to sustainability (Lozano, 2012: 14). Companies in the supply chain, as consumers of resources throughout the production process play vital role as change agents for sustainable development. Their role can be supported by the EIPs which enable emergence of synergy especially with respect to tangible and intangible resources exchanges. As companies need to achieve economic success and their survival while enabling ecological protection (Clifton and Amran, 2011; Stead and Stead, 2000), they can be supported by the synergy of the EIPs.

**Eco-labelling:** Eco-labels support the EIPs aims as they encourage sustainable production which can be enhanced by increased synergy among the companies in the EIPs so that they can reduce their environmental footprints. Eco-labels provide the consumers information about the environmental impacts





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of products (Reczkova et al., 2013: 498). For this reason, they have the potential for influencing consumers' purchasing decision towards environmentally friendly products (Reczkova et al., 2013: 498). They influence the individual consumers' demand for the end product, as well as the demand of the companies in the supply chain for sustainable/environmental friendly input materials or byproducts. Eco-labelling can act as a marketing tool. Advantages of certification and eco-labelling include (Chkanikova and Lehner, 2014):

- influencing consumers' demand for environmentally friendly and ethical products (Rex and Baumann, 2007; Elham and Nabsiah, 2011; Larceneux, Benoit-Moreau et al., 2011);
- encouraging sustainability improvements and their implementations 'upstream' in the supply chain (Burch and Lawrence, 2005; Deaton, 2004; Hatanaka, Bain et al., 2005; Henson and Humphrey, 2010; Seuring, 2011; Wu et al., 2010);
- allowing companies in the supply chain (e.g. retailers) to establish collaborative relationships with suppliers to improve product sustainability performance (Wu et al., 2010; Kogg and Mont, 2012);
- enabling the reduction of the transaction costs in appointing/assigning suppliers satisfying the sustainability criteria set for product's sustainability performance (Beckman et al., 2002; Vorley et al., 2002; Wathne and Heide, 2004);
- enabling the companies to pursue differentiation strategy and to generate higher profit margins lowering production costs (European Commission, 2011a,b,c; Jung and Sung, 2008; Kotler, 2002; Orsato, 2009);
- encouraging the market for sustainable products (Chkanikova and Lehner, 2014);
- encouraging the companies to proactively address sustainability issues both upstream and downstream in the supply chain (Chkanikova and Lehner, 2014).

**Policies and Government:** Leadership is crucially important for the establishment and implementation of the effective policies needed for the EID. Governments are increasingly being held responsible for their sustainability performance (Roy and Goll, 2014: 849). Local governments should invest in a sustainable development policy to satisfy citizens and benefit companies and act with companies as partners to increase resilience and sustainability (Musson, 2012: 75). Policies play the key role in improving local and global sustainability (Editorial Journal of Cleaner Production, 2005: 967-969), as well as EID and EIPs. The recently carried out international meetings and programs (i.e. Rio+20, the Resource Efficiency and Cleaner Production Program, the Ten Year Framework of Programs on Sustainable Consumption and Production, the UN Resource Panel, and the Green Economy Initiative programs) emphasize the need for sustainability and sustainable production. Policymakers play key role in sustainable development as they can influence the sustainability transition. The policymakers need to act as sustainability leaders and avoid taking populist decisions which might harm the sustainability (Church and Lorek, 2007; Fuchs 2005; Lorek and Spangenberg, 2014: 40-41; Maniates, 2010a, b). The politicians need to enhance the citizens' interest in protecting the environment. As quoted from Jain et al. 2013: 20, there is need for "... 'rational-citizens' so that 'sensible' future for the upcoming generations can be achieved (Ravio, 2011; UNESCO, 1978)". Policymakers should encourage individuals to engage in a wide range of pro-environmental practices (Barr et al., 2011: 1224) as human capital accumulation magnifies the positive growth effects of policies that lower the rate of resource destruction, preserving the welfare of newborn agents (Valente, 2011: 995).

Policies can support establishment of EIPs and transformation of the existing industrial parks into EIPs (Boons et al., 2011; Lehtoranta et al., 2011; Mathews and Tan, 2011) especially through laws and





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regulations (Yu et al., 2014: 466). Hard policies (i.e. regulatory and economic instruments) can influence consumption patterns (Rehfeld et al., 2007; ASCEE team 2008; Lorek et al., 2008). Policies and guidance can create synergy encouraging infrastructure sharing and company interaction (Gibbs et al., 2002; Mirata, 2004; Yu et al., 2014: 466).

Policies can support innovation which enhances sustainability performance of the production process, as well as of the product as “...technological improvements... must be combined with and integrated into structural change and sufficiency policy initiatives...” (Lorek and Spangenberg, 2014: 36).

Policies encouraging or requiring environmental friendly production and products can act as facilitators for consumers (companies in the supply chain) to prefer to work in the EIPs. Policies can encourage the consumers’ (both individual consumers of the end product, as well as the companies in the supply chain) demand for products and production process having high sustainability performance. For example, the approaches which can support the sustainable consumption include (Akenji, 2014: 19-21): “taking out the unsustainable options from the market or making them less desirable (Maniates et al., 2010); integrating measures of well-being in the accounting for development (Harrison et al., 2005; Hobson, 2006); encouraging grassroots innovation and building communities; as well as defining limits of resource extraction and pollution”.

#### **Drivers for companies to act as change agents for EID**

Drivers for companies to act as change agents for EID include: improvement of the sustainability performance; economic advantages and competitive advantage; regional development and future employability; policies and regulations.

**Improvement of the sustainability performance:** The requirements for improvement in the sustainability performance of the production process and of the products encourage the companies to work in the EIPs. Adverse effects of economic and environmental crisis encourage the politics to support CE, EID and transformation of industrial areas towards greater sustainability (Romero and Ruiz, 2014: 394). Sustainability and effective environmental protection have become a vital issue for the long-term development of industries, especially due to the limits of the availability in non-renewable resources, as well as due to limits of the biosphere’s ability to absorb wastes (Cao et al., 2009: 2868–2876). EID can lead to the dematerialization of the production process; reduction in the environmental footprints of the production; as well as support of the regeneration of the world slowing down the deterioration rate through reduced resource consumptions and reduced environmental footprints of the production. EID can support the sustainability performance of the companies acting as consumers in the production process throughout the supply chain especially in the way they cope with barriers which can be encountered while adapting the sustainability principles. For example, the barriers faced by the precast concrete industry in enhancing the sustainability of their production process include (Holton et al., 2010: 154): difficulties encountered in the recruitment and retention of skilled staff; problems faced in the supply chain due to poor payment practices and increased transport costs. These barriers can be overcome with the help of the synergies which can be created by EIPs as they enable exchange of tangible and intangible assets among the companies in the EIPs. For this reason, the advantages and driving factors for enhancing companies’





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sustainability performance [e.g. need for recycling and reusing the waste due to increased costs of and restrictions on waste disposal (Holton et al., 2010: 154)] can also become possible drivers for companies (consumers in the supply chain) to act as change agent for EID.

EIPs can support lean, resilient and sustainable supply chain management practices of the companies. These practices can affect the sustainability of the supply chain especially through “waste elimination”, “supply chain risk management” and “cleaner production” (Govindan et al., 2014). As the companies having lean, resilient and sustainable supply chain management can reduce all kinds of wastes and increase efficiency, they can be motivated to work in the EIPs so that they can exchange tangible and intangible resources.

EIPs can support innovation of sustainable products and sustainable production processes as they enable exchange of tangible and intangible assets among the companies in the EIPs. Technological innovation is important in achieving sustainability (Lorek and Spangenberg, 2014: 36). Radical innovations are needed to prevent nature from breaking down under the combined pressure of human population growth and the growth in the wealth per capita (Tukker and Butter, 2007: 102). Advancement in technology leads to the new substitution possibilities, as well as to the enhanced and improved technology for extraction, use and recycling (Barnett and Morse, 1973: 11). Furthermore, “what is sustainable today may not be so ten years from now.” (Parzen et al., 1996: 27). Valente (2011: 996) emphasized the importance of innovation for sustainability stating that sustainability conditions are intimately linked to the development of innovations and that non declining consumption requires resource-augmenting technical progress. Advantages of innovation include:

- adaptation of eco-innovative approaches to companies’ operations (Bocken et al., 2014: 43);
- production of new environmental friendly outputs (Bocken et al., 2014: 43) (i.e. regenerative materials/constructions);
- production based on “doing more with less” idea (Nakicenovic, 1996: 1);
- “... technical change for reduction in greenhouse gases and adaptation to climate change...” (Ausubel, 1995: 411);
- enabling decarbonization (Ausubel, 1995: 411) and dematerialization both of the product, as well as of the production process enabling increase in the energy efficiency, decrease in waste generation (Herman et al., 1990: 345), as well as decrease in raw material usage (Tchobanoglous et al., 1977).

As EID enhances sustainability performance of the production process, they can support future generations’ interests.

**Regional development and future employability:** CE can provide economic and business opportunities (the Economic and business rationale for an accelerated transition report, 2012), as well as support future jobs and competitiveness (the European Commission 2012’s Manifesto for a Resource Efficient Europe). EIDs can support improvement of the regional environmental performance and economic growth (Fang et al., 2007).

**Economic advantages and competitive advantage:** EIPs can enhance the competitiveness of the companies in the EIPs as they enable exchange of tangible and intangible resources, collaboration and learning among the companies in the EIP. EIPs can support the companies with respect to the synergy





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created among the companies in EIPs through exchanging tangible and intangible resources; increased competitiveness of the companies in the EIPs mainly through reduced costs (i.e. usage of the resources efficiently) and increased profitability, as well as enhanced company image due to fulfilment of corporate social responsibility role with the help of environment friendly production process. EIPs can enable the companies in the EIPs to gain social, economic and ecological benefits especially through exchanges of tangible and intangible assets (Fang et al., 2007). Companies in the EIPs are motivated to collaborate due to potential economic benefits (Pakarinen et al., 2010: 1393). Collaboration among the companies can enhance their competitiveness as “...the only productive way forward is through collaboration and learning, rather than competition between different” (Tukker, 2013: 278) which can be enabled in the EIPs. EIPs can enhance the competitiveness of the companies as they support their lean and green supply chain management practices and innovation. The advantages and driving factors for enhancing companies’ competitiveness [i.e. economic advantages (Vallaster and Lindgreen, 2013; Goger, 2013: 80); enhanced company image (Goger, 2013); internal branding and better communicated values in the workplace (Vallaster and Lindgreen, 2013: 298- 299); committed employees (Vallaster and Lindgreen, 2013: 298- 299); leading to long-term performance (Musson, 2012: 75); enhanced competitive advantage by i.e. lowering production costs through waste reduction and prolonged life or reuse of assets (Fiksel et al. 2004 as quoted from Hoejmose et al., 2012); upgraded value chain (Goger, 2013: 75); need for energy efficiency due to increased energy costs; need for reducing resource consumption (Holton et al., 2010: 154); enhanced organisational performance, reduced cost, and increased productivity (Aras et al., 2010; De Oliveira et al., 2010; Iraldo et al., 2009; Maletic et al. 2014; Michelon et al., 2012); differentiation for improving companies’ future performance (Bose and Luo, 2011; Gupta and Kumar, 2013: 312)] can also become possible drivers for companies (consumers in the supply chain) to act as change agent for EID.

***Policies and regulations:*** Policies and regulations can act as facilitators and as driving factors for EID in case they support EID and enhanced sustainability performance. Furthermore, governments can support the EIPs to catch the sustainability targets set in international protocols.

**Barriers against EID include:** unawareness of the consumers, and company specific characteristics.

***Unawareness of the consumers:*** Individual consumers demand for sustainable products can encourage the companies to enhance their products and their production processes’ sustainability qualifications whereas the individual consumers’ demand not in favour of sustainable products can demotivate the companies to engage in GSCM practices (Porter and Kramer, 2006). For this reason, individual consumers of the end product need to “...recognise the roles, responsibilities and actions businesses have towards the health of the ecological environment in which businesses interact and operate (Rondinelli and Berry, 2000)” (Gupta and Kumar, 2013: 312). Companies need to persuade their customers about the initiatives they take for the welfare of society through brand communications as sustainability-based brand knowledge drives customers favourably towards the brand (Bridges and Wilhelm, 2008; Rust et al., 2004; Gupta and Kumar, 2013: 312).

***Company specific characteristics:*** EID can encounter barriers emerged due to regulations and distrust among actors (Gibbs and Deutz, 2007; Heeres et al., 2004; Yu et al. 2014: 464); internal factors of the companies including internal politics and norms (Carter and Rogers, 2008; Govindan et al., 2014). EIPs’





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success depends on (Sakr et al., 2011: 1163): symbiotic business relationships; economic value added; awareness and information sharing; policy and regulatory frameworks; organizational and institutional setups, and technical factors.

### 3. Key Success Factors for EID

EID in Europe, America, North Africa and Asia Pacific regions have been analyzed to investigate the key success factors for EID and EIPs. EIDs in different countries have been presented in the following paragraphs from the EIPs developments point of views.

**EIPs in Europe:** There are EIPs in Europe which are in different development phases, namely in operational, pre-operational, planned, or attempted phases (Sakr et al., 2011). The EU legislation also supports the CE and EID. For example, the EU legislation's lead to the reverse logistic enterprises for remanufacturing and recycling (Fang et al., 2007: 324). This legislation can also encourage the companies to work in the EIPs. Furthermore, flexibility of regulatory requirements on performance standards (Ehrenfeld and Gertler, 1997 and Desrochers, 2001), as well as regular monitoring and evaluation of EIPs (Geng et al., 2009a), as observed in the EU, support the EID. Similarly, sustainable development in the UK is encouraged by government through the use of sectoral strategies and government policies (i.e. the National Industrial Symbiosis Program in the UK supports the EIP development in the UK) (Glass and Pocklington, 2002: 1457; Yu et al., 2014: 464). The industries in the EU, such as cement and concrete sector, tend to actively enhance their sustainability performance via the environmental management systems (i.e. ISO 14000) and integration of the sustainability related targets into the company and sectoral sustainability strategies (Glass and Pocklington, 2002: 1457). One of the well-known EIPs in the EU is the industrial symbiosis network in Kalundborg, in Denmark (Cao et al., 2009). The Kalundborg EIP provided evidence of feasibility of embedding sustainability into production process and of enhancing environmental performance of the production process. Due to water scarcity, six major companies in Kalundborg spontaneously formed a symbiotic network (Chertow, 2000; Desrochers, 2001b; Jacobsen, 2006; Pakarinen et al. 2010: 1394; Yu et al., 2014: 464). Companies in Kalundborg EIP reuse each other's waste as by-products.

**EIPs in America:** There are more than 60 eco-industrial networking projects in Canada and the United States, however, approximately 17 out of them are operational with completed projects (Peck, 2002; Sakr et al. 2011: 1160). Most of the EIPs in the US have been developed to foster applications of IE to industrial parks through the President's Council on Sustainable Development and US Environmental Protection Agency (Sakr et al., 2011: 1160). EIPs in Brazil are at an early stage of development (Veiga and Magrini, 2009: 660). EIPs are perceived in Brazil as a potential environmental planning strategy to foster sustainable development and to improve the degraded urban and environmental condition (Veiga and Magrini, 2009: 660). EIP development in Brazil highlighted the need for (Veiga and Magrini, 2009: 660): enhancing collaboration among governments, private institutions and industries, communities and academia; overcoming the reluctance of the state government in supporting the EIPs due to changes in political administrations and public agency leadership; and enlarging the scope of EIP idea to cover the environmental planning strategy for sustainable development.

**EIPs in North Africa:** As the industrial sector in Egypt is considered as vital for economic and social development of Egypt, there are approximately 80 industrial cities and zones in Egypt (IDA, 2010 as quoted





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by Sakr et al., 2011: 1159). There are, however, no EIPs in Egypt (Sakr et al., 2011: 1159-1160). The two pioneer programmes, namely the Environmentally Friendly New Industrial Cities Program (supported by the Ministry of State for Environmental Affairs) and the Integrated Industrial Solid Waste Management in Egypt project (supported by the EU LIFE Third Countries in cooperation with the Egyptian Environmental Affairs Agency) by which were targeted the improvement of environmental performance on the scale of an industrial estate, failed to meet their targets (Sakr et al., 2011: 1161-1162).

**EIPs in the Asia Pacific region:** During 1970s, China has transformed her planned economy to market based economy. After such transformation, foreign trade and investment has enhanced economic development (Cao et al., 2009: 2868-2876). Due to this rapid economic development, China has established EIPs in order to provide sustainable economic development (Zhu and Cote, 2004: 1025). That's why China launched EIP project in 1999, through this project industrial wastes are reduced and recycled. "The recycled materials are also used as inputs by enterprises within the park (Fang et al., 2007; Yuan et al., 2006; Zhang et al., 2010a)." (Zhang, et al., 2014: 1). After a decade in the year 2002 China's central government formally adopted the CE concept. "By 2013, 20 national eco-industrial demonstration parks had been approved, and 56 additional parks had been approved for construction (MEP, 2013)." (Zhang, et al., 2014: 1). The industrial parks that were first to adopt ecological evolution activities generally focused on sector-specific parks (e.g. sugar, electrolytic aluminium, salt-to-chemicals industry) whereas gradually, ecological evolution activities were extended to multi-sector parks (Bai et al., 2014: 5). China's government promotes EID through demonstration sites for EIPs, demonstration city and province for CE, as well as through policies, incentives, research and education (Fang et al., 2007: 327). In China, there are EIPs managed by (Fang et al., 2007: 317): enterprise groups (i.e. Guigang, Baotou, Lubei, and Fushun); the Management Commission of the Development Zone (i.e. Nanhai, Huangxing, Dalian Economic Development Zone, Tianjin Economic Development Zone); and local government (i.e. The Guiyang city and Liaoning province demonstration sites for CE). Some of the leading EIPs in China include: Guigang eco-industrial cluster (Fang et al., 2007: 318); the Guitang Group (Zhu and Cote, 2004: 1025); the Nanhai site (Fang et al., 2007: 318); the Shenyang Tiexi New District (Fang et al., 2007: 318); the Dalian economic and technology development zone (Fang et al., 2007: 318 and Bai et al., 2014: 5).

South Korea's EIP development strategy is based on the transformation of the industrial complexes into EIPs. EIP initiatives have been launched in 2005 (Jung et al., 2013: 50) and embarked by the Ministry of Knowledge Economy. Daedok Technovalley Development Project was the Korea's first attempt to design EIP by restructuring a conventional industrial estate development plan (Oh et al., 2005: 269). The South Korean EIP development plan consists of three phases as (Jung et al., 2013: 50-59):

- The first phase (2005-2009) covered pilot projects for transforming industrial complexes into EIPs. Furthermore, environmental education and awareness campaigns were conducted (Park et al., 2008).
- The second phase (2010-2014) aimed to widespread the dissemination of the EIP concept to industrial parks and to increase the quantities of EIPs.
- The third phase (2015-2019) is planned to analyse the lessons learnt from the previous two phases and would be fed back into the system/plan.





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EIPs developments in Europe, America, North Africa and Asia Pacific revealed the importance of the following key factors for EID:

- laws and legislation supporting reverse logistics, sustainable development (Fang et al., 2007);
- flexibility of regulatory requirements on performance standards (Ehrenfeld and Gertler, 1997 and Desrochers, 2001), as well as;
- regular monitoring and evaluation of EIPs (Geng et al., 2009a);
- governments' supports;
- sectoral strategies and government policies (i.e. the National Industrial Symbiosis Program in the UK supports the EIP development in the UK) (Glass and Pocklington, 2002: 1457; Yu et al., 2014: 464);
- enhancing collaboration among governments, private institutions and industries, communities and academia; overcoming the reluctance of the state government in supporting the EIPs due to changes in political administrations and public agency leadership; and enlarging the scope of EIP idea to cover the environmental planning strategy for sustainable development (Veiga and Magrini, 2009: 660);
- launching pilot EIPs.

#### 4. Discussion

Promoting sustainable production is among the objectives of sustainable development (UN, 2002; Barber, 2007: 499). CE, IE and EID play important role in the sustainable development as they support sustainable production (Lorek and Spangenberg, 2014) and as companies are perceived as major contributors to ecological problems (Clifton and Amran, 2011; Roy and Goll, 2014: 851-852). For this reason, EID needs to be fostered and the companies need to be encouraged to act as change agents for sustainability producing in the EIPs and supporting EID. In this way, environmental footprint of the production processes can be minimized and companies can get benefit from producing in the EIPs (e.g. improvement of the sustainability performance; economic advantages and competitive advantage). Furthermore, social benefits can be obtained (e.g. regional development and future employability) supporting sustainable development. Companies, however, can encounter barriers (e.g. unawareness of the consumers, and company specific characteristics). Consumers' awareness for sustainable products and importance for sustainable production processes can affect their demand for the products of the companies in the EIPs. For this reason, enhancing consumers' awareness through formal or informal education, and media plays important role in increasing their demand for sustainable products encouraging the companies to invest in sustainable production processes and in producing in the EIPs. Consumers' demand for sustainable products and companies' willingness to produce in the EIPs can be encouraged by relevant laws and regulations. Furthermore, countries' policies need to encourage EID benchmarking from past experiences of the countries where EID has been successfully achieved. Factors which need to be considered by the countries and their policymakers wishing to widespread the EID have been summarized in the Table 1.

Table 1: Factors for encouraging the EID and sustainable development

Factors	References
Countries need to establish laws and legislation supporting reverse logistics,	Fang et al. (2007)







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sustainable development.	
Laws and regulations need to encourage consumers' demand for sustainable products and companies' willingness to produce in the EIPs.	
Laws and regulations need to provide flexibility of regulatory requirements on performance standards.	Ehrenfeld and Gertler (1997), Desrochers (2001)
Countries need to perform regular monitoring and evaluation of EIPs.	Geng et al. (2009a)
Countries need to encourage collaboration among governments, private institutions and industries, communities and academia, as well as sectoral strategies and government policies; and to provide steady political environment for development of EIPs.	Glass and Pocklington (2002: 1457), Veiga and Magrini (2009: 660), Yu et al. (2014: 464)
Countries need to launch pilot EIPs.	
Consumers' awareness for sustainable products and importance for sustainable production processes need to be enhanced through formal or informal education, and media plays important role in increasing their demand for sustainable products.	
Eco-labelling need to be supported as they provide consumers information about the environmental impacts of products.	Reczkova et al. (2013: 498)
Countries' policies need to encourage EID benchmarking from past experiences of the countries where EID has been successfully achieved.	
International collaboration is needed to reduce environmental footprint of the production processes and to enhance EID.	

## 5. Conclusions

This paper focuses upon the EID as a key for reducing environmental footprint of production. Based on an in-depth literature review, this paper analyses the need for the EID; sustainable development enhanced by sustainable production and sustainable products; as well as key success factors for, barriers against and drivers for the EID.

The world's habitat is being deteriorated especially due to the unsustainable production and consumption. There is an increase in the global consumption of natural resources (Rohn et al., 2014: 32). CE and IE enhanced by the EID need to be encouraged for reducing humanities' environmental footprint. CE, IE and EID can support sustainable society which relies on sustainable consumption, as well as on sustainable production (Lorek and Spangenberg, 2014). For this reason, companies acting as change agents are needed to foster the EID. Facilitators for transformation of companies into change agents for EID include: eco-labelling, policies and government.

- Eco-labelling: Eco-labelling influences the individual consumers' demand for the end product, as well as the demand of the companies in the supply chain for sustainable/environmental friendly input materials or by-products. Eco-labelling encourages sustainable production which can be enhanced by increased synergy among the companies in the EIPs so that they can reduce their environmental footprints.
- Policies and governments: Policies and governments can act as facilitators and as driving factors for EID. Policies should encourage the citizens' involvement to increase their effectiveness.





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Drivers for companies to act as change agents for EID include: improvement of the sustainability performance; regional development and future employability; economic advantages and competitive advantage; policies and regulations.

- **Improvement of the sustainability performance:** The requirements for improvement in the sustainability performance of the production process and of the products encourage the companies to work in the EIPs. EIPs can support lean, resilient and green supply chain management practices of the companies, as well as innovation of sustainable products and sustainable production processes as they enable exchange of tangible and intangible assets among the companies in the EIPs.
- **Regional development and future employability:** EIDs can support improvement of the regional environmental performance and economic growth (Fang et al., 2007).
- **Economic advantages and competitive advantage:** EIPs can support the companies with respect to the synergy created among the companies in EIPs through exchanging tangible and intangible resources; increased competitiveness of the companies in the EIPs mainly through reduced costs (i.e. usage of the resources efficiently) and increased profitability, as well as enhanced company image due to fulfilment of corporate social responsibility role with the help of environment friendly production process. EIPs can enable the companies in the EIPs to gain social, economic and ecological benefits especially through exchanges of tangible and intangible assets (Fang et al., 2007).
- **Policies and regulations:** Requirements of the laws and regulations for environment friendly production and products can act as facilitators and as driving factors for EID. International protocols and agreements on sustainability targets can enable the governments to encourage EID as well.

Barriers against EID include: consumers who do not demand for or who are not aware of the sustainable products or sustainable production process, and company specific obstacles (e.g. regulations; working culture; organizational structure).

The governments are recommended to consider the key success factors for the EID so that they can widespread EIPs. Based on analysis of the EIPs' developments in Europe, America, North Africa and Asia Pacific, the following key factors for EID have been revealed:

- Governments should be keen in supporting EID.
- Governments should prepare laws and legislations which support reverse logistics, sustainable development (Fang et al., 2007).
- Governments should provide flexibility in regulatory requirements with respect to the performance standards (Ehrenfeld and Gertler, 1997 and Desrochers, 2001).
- Governments should establish a system for regular monitoring and evaluation of EIPs (Geng et al., 2009a), as well as sectoral strategies and government policies (i.e. the National Industrial Symbiosis Program in the UK supports the EIP development in the UK) (Glass and Pocklington, 2002: 1457; Yu et al., 2014: 464).
- Governments should encourage collaboration among governments, private institutions, industries, communities and academia (Veiga and Magrini, 2009: 660).
- Governments can start the EID launching pilot EIPs.





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Furthermore, the governments are recommended to consider the facilitators for transforming the consumers into change agents for EID as their policies' effectiveness can be enhanced with the help of citizens' involvement in the process. The governments are also recommended to consider the driving factors for and barriers against the EID so that they can take necessary precautions on time. Wide-spreading EID throughout the world can support the sustainability performance of the production processes reducing environmental footprint of the humanity. For this reason, international collaboration on how to support and encourage establishment of EID needs to be fostered. Further researches are recommended to be carried out on political aspects of the EID at the international level focusing on how to motivate governments in establishing EIPs and the companies to operate in the EIPs, as well as on the international laws and trade regulations needed to drive establishment of the EIDs worldwide.

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## New Trends in Economic Globalization

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*Abstract: The long disputed and analyzed globalization has now become an objective phenomenon unprecedented in world history as magnitude and evolution. Criticized by some, revered by others, it seems that it follows its trajectory. For us, relevant are some negative aspects of globalization, but more significant are those that maintain balance and well-being of mankind. Based on the research conducted, we have concluded that both globalization and regionalization emerged and developed as a result of unprecedented increased competition in the level of trade of states or regions.*

**Keywords:** globalization, regionalization, emerged and developed states or regions, competition, trade, internationalization.

**JEL Codes:** F10, F23, O10

### 1. Introduction

Reducing barriers to international trade as a result of globalization, it has helped many countries to develop at a pace much faster than they otherwise could have. International trade contributes today significantly to the economic growth of a nation, and in turn the economic growth, influenced by exports, is the central component of the economic policy of a state that leads to improving the lives of millions of people, the development of each nation.

In this regard, we agree with the well-known opinion of the economist **Joseph E. Stiglitz**, which says that *"those who criticize globalization too often ignore its benefits."* This complex phenomenon has determined the decrease in intensity of the sense of isolation felt by many developing countries, through the more widely access to knowledge compared to previous centuries.

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We believe that assessing whether globalization is good or bad involves objectively identifying arguments that support the one or the other. Some authors consider, and we support this view, that any negative side of globalization has, in its turn, a good part. For example, liberalization of markets in developing countries, even if the activity has affected domestic producers, has brought great benefits to poor consumers, who could buy goods at lower prices and higher volume. Examples of this are many and eloquent.

Proponents of globalization deemed that this phenomenon always mean progress. For many other authors, the widening disparities between the rich and the poor are much more profound than the benefits of globalization, reason for which it is considered "*an attack on democracy and welfare.*" The critics of globalization accuse the West of hypocrisy and somehow we think that they are right; they forced poor countries to eliminate most trade barriers, but they continued in most cases to apply them. In these circumstances, countries with lower levels of development have been unable to export surplus of their agricultural production – often the only economic activity – and to reduce the trade deficit and payments. Moreover, when setting the priorities of globalization, it has been found that poor countries have a much lower benefit compared with major global players.

## 2. Globalization's effects

According to those studied in the economic literature, it appears that the effects of globalization are different in proportion and destination, and tackling it often generates differences of opinion and sometimes conflicts. We may mention here, world or regional movements that comprise important mass anti-globalization protesters to address its effects. We drew the conclusion that these protests are all a result of globalization, because the communication to fix the date and place of the demonstrations, the international transport, the organized conferences, etc., all used exclusively the instruments of globalization.

In one of his speeches, **Butros Butros-Ghali**, former UN General Secretary, stated that "*we live in the middle of a world revolution... Our planet is under huge pressure of two opposing forces: globalization and disintegration.*" (**Butros Butros-Ghali: 2006**) The major concern that appears worldwide is due to the fact that the world population is in a continuous rise while natural resources, many of them non-renewable, tend to be approaching a critical point. We believe that such problems should find a solution in globalization.

Deeply marked by the economic situation that is difficult for most of its inhabitants, the same **Butros Butros-Ghali** added: "*History shows that those who are in the midst of revolutionary changes rarely understand the ultimate meaning of this*", referring to the powers that often promote personal interests and then those of the group. (**Butros Butros-Ghali: 2006**)

In our view, globalization is primarily a political act which establishes the "*rules of the game*". This is why the most powerful wins and sometimes takes it all. Economic, demographic and cultural strength are also important, but positioning the criteria of a nation in the global system is largely political.



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Currently, all earthly universes are comprised of a true "revolution"; no one is "spared" the transformation of this. Since ancient times, the law of natural selection separated the world into two segments: one of the few and mighty, asserting itself in any way and at any price, and another of the many who want but do not have sufficient means to dominate. We believe that the world economy is governed by the same law. There are many who try to reach the top of the hierarchy, but few succeed. Apparently, most often, the new conquests of science and technology divide the rich and poor in losers and winners, strong and weak depending on their possibilities of access to them.

Understood as an unleashing of market forces and depriving the state of the global economic power, according to some analysts, globalization is a process imposed by force for most nations, which cannot evade it.

It is an acknowledged fact that globalization generates different effects at the level of states. In general, major economic powers are defining and coordinating universal principles of this process. We believe that for the United States, globalization has been a process in motion and supported by their own political and economic elite. The only superpower remaining intact is the last nation that has maintained an important degree of national sovereignty. Just by its economic strength, the US became the last existing order in the chaos factor, that of global interdependence.

According to some analysts, the world should look like an organized global governance to stimulate the economic competition between the three great powers: America, centred on the United States, United Europe, centred on Berlin-Moscow axis, and Asia-Oceania, in which China counterbalances the economic growth coming from Japan. These three super-regions should be represented by a single forum.

### 3. New economic order

From the above is clear that globalization has not just one perception, nor it may take the form of a single representation of the interests of any single country. The new economic order demanded by globalization, which asserts itself with an impetuous force, encounters many shortcomings, including perceptions. Interesting to note is the fact that the "periphery" always acts differently than the centre and this could have significant effects in reshaping the world.

It became obvious to everyone that the great powers have an important word, say for example in the policy development world, only that in this process, all the states have engaged. We could easily see that the grievances of the poor but many are increasingly felt. Continuing their marginalization could lead to a conflict whose solution will generate big losses worldwide.

Anti-globalization movements are a response to the attitude of some international organizations – WTO, for example – that not a few times, though the policy promoted, disfavoured even more the underdeveloped economies and continued to benefit the great powers. "Too rich and too poor" is a slogan whose meaning is not to be explained.

The primary task extremely difficult of the globalization process is, in our view, reducing the gaps between the rich and the many poor. The identification of viable solutions and adopting practical measures is a lengthy process, involving some huge efforts. The silence of the world will depend largely on the



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success of this venture. More than ever, we need consensus in adopting development policies for the world. Only through joint action we will be able to find a fair solution to the major problems of the planet. In fact, ideational unit is not a bad thing if it converges toward general welfare and freedom of action.

#### 4. The optimal way of solving the mankind problems

According the research made so far, we consider that globalization can be an optimal way of solving the serious problems facing humanity today. But the favourable effects of this process will be seen and felt by all states equally? Some authors believe that the winners will take it all, meaning that major economic powers will record unprecedented gains, while most states will endure the increasingly difficult burden of poverty. Optimistic analysts, with whom we agree, believes that globalization, by its nature, will improve the economic and social situation of individual countries, but the proportion of benefits will not be the same for all, as well as any economic, financial or scientific contribution and social participation in the achievement of this process will not be equal. We would like to believe that, ultimately, all states will have a piece of the “pie” in particular, but the slices will most certainly be uneven. The category of pessimistic analysts supports the opposite, that the gap between rich and poor will widen increasingly more without chance of recovery. Venturing to make such statements it’s a little exaggerated, however. The truth will be reflected when the future becomes the present, meaning that this process must be monitored in time with its qualities and drawbacks. It should be undertaken with caution in order to limit the negative impact of the influence factors.

The globalization of the world economy, in our opinion – as that of other authors too – can be understood as a spatial phenomenon, with two extremes: at one side, local communities with their specific problems, and at the other – the global society which we are all striving together for.

Today globalization is almost a euphemism, sometimes having the exactly opposite meanings of those which it suggests; it can mean different things in different contexts. Economic globalization has become noticeable once the industrial enterprises began their abroad expansion.

In one of his works, which has made a special contribution to the launch of “*globalization*”, the American economist **Michael E. Porter** – which we fully agree with – repeatedly refers to the fact that, currently, we can speak of the existence of global industries “*where the competitive position of a company in a particular country is affected in a significant manner by the strategy adopted by other companies in other countries*”. (**Michael E. Porter: 2006**) The meaning of the concept of global industry began to be translated “*to produce cargo anywhere, using resources from anywhere, to locate the company sells everywhere and everywhere*”; it changes constantly, depending on trends and developments in the economic world.

Globalization can be seen as a positive phenomenon, the only chance to increase welfare or, conversely, as the sole responsible for the complex issues facing the planet in recent years. In their reference work „*The globalization trap*”, authors **Hans-Peter Martin** and **Harald Schumann** claimed that “*relocation of production, simplification, reduction of prices, layoffs, high performance economy based on high-tech kidnap the work of consumption society and throw on the street own consumers*”. They warn that



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"...an economic and social earthquake of dimensions unknown before is announced". (**Martin Hans-Peter, Schuman Harald: 1999**) The entire work is very well documented and the authors are knowledgeable in the field, drawing together many studies and reports on the global interdependence of the economy, the environment and politics. The aim of their work is to warn mankind that any phenomenon of ample dimensions should be viewed and analyzed in its complexity, taking into account not only the positive aspects generated by the interaction, but also risks, sometimes huge, which could mitigate or even reverse the effects expected if it is not viewed with caution. These ideas are supported by many other authors, without minimizing the positive effects of globalization proposed to keep under control the economy and joint action to identify ways to maximize long-term performance, worldwide.

As for us, we believe that global economic globalization leads to increased competence, effectiveness nation-wide economic activity, but also reduce social protection to employees. Whether it's about building cars or computers, chemistry, electronics, telecommunications or postal services, retail trade and finance, in any place in the world where products or services are negotiated freely without even considering any border, employees get into a seemingly unstoppable whirlpool in order to assess their value. In recent years, in OECD countries, the number of better paid jobs has reduced considerably. If, in the not too distant past, businesses were independent, belonging to a single country, gradually, the biggest of all began to locate branches and subsidiaries in other countries and areas, where they hoped to obtain significant profits by using cheaper local resources. The benefit was even for the host country because the created units were absorbing some of the local workforce and the products made there were to be sold by the parent company, thus stimulating international trade flows and employment in this area.

## 5. The delocalization phenomenon

Relocation subsequently led to unprecedented growth of global production. Transnational corporations do not belong anymore to a single nation. For example, the relocation of the Coca-Cola business, a global image of refreshments, increased significantly the production, without registering as well sustained rhythms in the international trade. The mentioned company's management appreciated that it is more efficiently to create production centres in the consuming country than to export the finished product, as it was happening in the past, when the distribution prices increased significantly due to the transport costs. The same trends, of branches location in other countries, are available for corporations in all industries.

Also, from studies researched and done we noticed that outsourcing production recorded significant successes in previous years. Foreign companies resorted to production relocation (internationalization) to reduce production costs, particularly through the use of cheap labour coming from developing countries. Lately, it seems that this type of activity is limited in scope. A study on the clothing production under loan contract shows that since 2003 this type of activity no longer is interesting because, with the liberalization of trade in these product categories, China – the largest producer, won the major share of the market segment concerned by very low production costs, due to the low cost of labour. Waiver of this form of production was reflected negatively on developing countries, by significantly reducing employment. The only solution for the future was found in creating own profile enterprises that use local labour force, well-





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qualified. To ensure competitiveness, production costs of national goods must not exceed world prices. Moreover, the struggle for employment and keeping a market segment is fierce.

Neither the high tech situation is optimistic for the workforce, only that here is affected the advanced countries' population. In the software industry, for example, companies that once used the prestige of skilled labour in developed countries now turns to specialists from developing countries to reduce wage costs and therefore unit costs of production. Since the eighties of the last century design department heads from companies such as Motorola, IBM, Hewlett-Packard etc. prefer to hire specialists from India, for payment of lower wages, which compete well with the qualifications of the developed countries.

The studies and research show that if until a few years ago, the mentioned companies operated in the advanced countries and resorted to labour from outside (migration is high), now there is an expansion of the companies mentioned and many others, such as Digital Equipment, Siemens-Nixdorf, Deutsche Bank etc. in underdeveloped countries, but with manpower training. The reason of some branches location in India, Taiwan, Singapore etc. is always the same: employees of these states have received exceptional skills in English language from local universities and they cost the company only a tiny part of the wages received by a "colleague" in Europe or the US. "*With the price of a Swiss we can engage three Indians*", appreciates **Hannes Krummer**, spokesman for Swissair. (**Martin Hans-Peter, Schuman Harald: 1999**) Since 1990, over a million skilled programmers made their way on the computer market, coming from Russia and Eastern Europe, the cost of which seems to be more convenient. Moreover, even these less demanding professionals are faced with cheaper competition: the computer itself proves unbeatable. With the help of the new IT tools, it is estimated that the future programmer will perform operations that are currently produced by 100 of his colleagues; a very pessimistic forecast for the elite front progress. Karl Schmitz from Technology Consulting and Systems Company considers that work under loan contract in the processing sector is a "*temporary phenomenon*" and has predicted that out of the 200,000 jobs in the German software industry will remain only 2,000.

According to the research we have conducted in various other fields, it appears that the same trend is recorded in all advanced countries and in sectors such as banking, stock exchange, telephony, where the activity will take place only online. Regarding the financial sector, **Ulrich Cartellieri**, Board Member at Deutsche Bank, with whom we agree with, says that "*banks are now what was in the 90s the steel industry*" (**Edmondson, Gail: 2004**). In a study on the plans of the top 50 banks in the world, it is expected that even in the banking branch, in the next 10 years, half of the employees will lose their jobs.

## 6. The future of globalization

But how will the globalization of the economy look like in the future? We find the answer in a supplement of the British weekly "*The Economist*", where **Brian Beedham** endeavoured to answer the difficult question: "*How will the world look like in 2050s?*". (**Brian Beedham: 1999**) It will be, first, a world free from the scourge of the two great "*isms*" of the twentieth century: fascism and communism. Another "*ism*", ideological authoritarianism, "*will be put in the corner*", and any important country will not try the unfortunate experiment of the state monopoly over the economy. In a way or another, everyone will



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embrace market capitalism. And new technologies will simplify the movement of capital and ideas so that governments will find difficult to exercise strict control over these processes.

Obviously, in our opinion, sooner or later, all states, except for a few from Africa and Asia that are haunted by chaos, will direct the savings towards competitive capitalism. *"In Central and Western Europe, the new states that will be born will be more attracted to take economic decisions through collective action. What could result, ultimately, even in a kind of economic and political union"*.

But as we said earlier, the way through the *"postmodern state"* will be covered with different speeds in different countries. *"It will take decades until the world reaches a certain economic and political uniformity"*, believes the American political scientist, former official of the US Department of State, **Francis Fukuyama**, who recommend us that *"in the first half of the 21<sup>st</sup> century we must learn to have patience"*. (**Francis Fukuyama: 1992**) And this especially because the road ahead is full of unknowns. But could the states disappear or diminish their authority under the pressure of the technological revolution and because of a course towards the free democracy of the universal market?

In some respects, the role of states will diminish, possibly substantially, but their task is far from complete. First of all, because the 'open world' does not affect the main power exercised by the state's own borders – the citizens' taxation and how they spend their money. In the richest countries, the percentage of GDP spent by the state has increased since 1980. Through its monetary and fiscal policies, the state has the means necessary to achieve its objectives, regardless of the spectacular cross-border movement of capital. Secondly, it is too early to consider the disappearance of the state as an institution, because so far there are no signs that it might be replaced with something else. From this point of view, we consider that neither the UN nor the multinationals cannot substitute states, and the pioneering of the European Union, at least for the foreseeable future, is a singular experience.

But whatever happens in the future, the world of 2050s will have to look like one big family, made up of countries that have no serious grounds for dispute. We believe that over the next 50 years the world will not look so different from the one nowadays that it will no longer be recognized. On the stage of the world will act more powers, one of which (the US) has some advantage over the others, but we cannot know how it will maintain this advantage nor which of its main competitors will be detached from the bunch in the race for Planetary supremacy.

Power relationships of the future depend mainly on two factors. The first factor: if the current partnership between the US and Europe will be maintained through a common defence (in a redefined NATO or a possible alliance for democracy) or if the Alliance will break. In this case, America will approach Japan, but will become weaker and Europe will be *"nearly paralyzed"*. The second factor: who will be the "challenger" of America and of the world's main powers?

For the moment, we think that China has a good chance, whose gross national product would be equal in 2020 with that of America and will be twice as large as Russia's. But *"a stronger China might not be a warrior China?"* In any case, China will not be more than US in the nineteenth century.



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We think that Russia of the 2020s, economically surpassed by China and preoccupied with rebuilding its military force, will be focused on the vulnerability of its eastern territories, which could lead to a NATO approach. Just as it might stay away from the Atlantic Alliance, remaining in the Slav area, trying to recover Ukraine and pursue its special interests in the Baltic Sea and the Balkans.

**Zbigniew Brzezinski**, former American presidential adviser on security issues, in his 1997's book, *The Grand Chessboard*, said that *"the big planetary games that will lead the world in economic terms will be made in Eurasia"* (and not in Africa, America or South Pacific), between four, five or six powers, which will compete or will perform in different variants. The *"soft spot"* of the great Eurasian chessboard will be, according to **Brzezinski**, Central Asia, with its reserves of oil and gas still unrated. (**Zbigniew Brzezinski: 2005**)

And to conclude optimistically, the author who ventured to outline the global landscape of 2050s, **Francis Fukuyama**, said at one point, in an encouraging manner: *"Welcome to an exciting 21<sup>st</sup> century!"* (**Francis Fukuyama: 1992**) **Robert Reich**, in an article published in the *"World Almanac and Book of Facts 2000 – The World Atlantis 2000"*, believes that *"all we can do at the beginning of the new century and millennium is hope that the process of seeking a balance is maintained as far as possible with respect to humanity"*. (**Robert Famighetti: 2000**)

## 7. Conclusions

In conclusion, globalization increases the performance and efficiency of businesses by optimizing the use of resource and maximizing the results, but the consequences of progress, though laudable in terms of scientific research, appear to be very tough in the social plan. We believe that the decline in employment in traditional sectors would not be so great if new profession were created in parallel, in which the redundant labour force would be turned off. Private entrepreneurs are interested in permanent cost reductions, not in social problems. International bodies and organizations argue that unemployment can be maintained within acceptable limits, because the tertiary sector will still be generating offers and new jobs.

Will globalization solve all these problems that we face today? We believe that the role of globalization is to take action and find solutions for environmental protection in the long term. Solutions must be found, especially by specialized international bodies and organizations that are governing the global economic phenomenon. A comprehensive law is more effective than a limitation or a local law.

In this entire context of globalization, it would be necessary to take into account an economic development that does not affect the environment, and it is a question of developing the concept of eco-bio-economic development or sustainable development. Programs developed for a sustainable development are numerous, but they must be applied and have a purpose. The aphorism *"Think globally and act locally"* is a reality that must take into account all states, regardless of their level of development. As a recommendation, accepted by everyone, but from an operational perspective, there are still many deficiencies to be solved.

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## The Evaluation of Working Capital in Airline Companies Which Proceed in BIST

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*Abstract. The working capital such as cash and liquid assets runs the facilities and supports daily activities of firms. This kind of capital is essential for the continuity of the activities, increasing the volume, maintaining credibility, reducing impacts of risks and for overcoming extraordinary situations. The working capital's management is very important for making profits from activities, especially for dynamic sectors such as aviation.*

*The aviation industry in which the airline companies operate is a very dynamic sector. In this sector, the working capital has to be managed very professionally and carefully by airline companies. This study aims to assess the airline companies' working capital in terms of effectiveness. Airline companies whose shares are traded on BIST will be the sample of this study.*

**Keywords:** working capital, airline companies, BIST.

**JEL Codes:** G14, G19

### 1. Introduction

The working capital whose importance managers focus on and try to manage successfully has become an important concept for all corporations, because a management's success or failure is evaluated through the activity of the working capital.

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Making profit is located among prior targets of all corporations. They are planning all their activities to fulfil this goal. But, managements are not acting in a stable environment. In a becoming global world economy, corporations try to adapt to changing and developing conditions. Therefore, they have to manage and finance the activities very well to obtain their objectives. Even though the conditions are difficult, the corporations can achieve their goals and take leading positions on the market with an effective management of the working capital.

## **2. The Concept of Working Capital**

The corporations give special attention to the fixed assets during the installation phase. They make the investments which are needed to complete the installation activities, regarding the characteristics of the products or services they will offer. After the completion of the installation process, they switch to the production of goods or services and want to make the business work. From the moment the business starts, corporations need working capital in order to continue their activities at every stage.

For corporations, the working capital is essential for the continuity of the activities, for maintaining the highest performance, increasing the production volume, keeping the credibility steady, reducing impacts of risks and dealing with the extraordinary situations (Akgüç, 1998: 201).

The elements of the working capital are located under named current assets such as: liquid assets (cash, banks, etc.), marketable securities which can be converted to cash at any time (share certificates, bonds, etc.), short term receivables (customers, notes receivables, etc.), inventories (products, raw materials, etc.) and prepaid expenses (Aydın and others, 2004: 116).

### **2.1 The Importance of Working Capital Management**

The working capital management is essential for all corporations (no matter which size) to survive and develop. It includes the policies about current assets investments and payments of liabilities during one year period. Due to the importance of the working capital management for corporations, the managers spend a lot of time to deal with it (Baghiyan, 2013: 13) but, it is possible to increase liquidity and profitability through a successful working capital management. Thus, the time spent can be recovered (Rehn, 2012: 6).

The working capital management help managers keep a balance between investments and liquid assets which can be convert into cash in one year and fixed assets which are transformed into money in more than one year (Çelik ve Boyacıoğlu, 2013: 81). The administrators manage working capital very cautiously, because it can vary depending on the size of the investments in current assets, increases in the business volume, incurred risks and desired profits. The decisions can lead the market value through positive or negative directions (Akgüç, 1998: 204-205). For example, more than needed investments in working capital (current assets) increase the financing costs.

Especially the financial resources obtained from liabilities increase the financing costs because of the interest payments. Financing with shareholders equity may be deprived from incomes which come from other using areas of equities. Therefore, keeping a high amount of working capital may negatively affect







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profitability. If the working capital is less than required, then it causes the disruption of production due to the lack of raw materials, products in stock and cash. Because the corporation cannot operate at its full capacity, the costs of the product may increase and profit may decrease. The orders may not be delivered in time. This situation has some consequences such as loss of customers and reputation. The risk of not being paid on maturity of the liabilities may also arise. For these reasons, institutions such as banks or vendors, and investors who will receive company's stocks or bonds are engaged in business-related assessments to scrutinize the adequacy of working capital (Aydın and others, 2004: 116-118).

The business success is obtained by managing effectively the main items of working capital such as cash, receivables, and inventories. Because the working capital directly affects the liquidity and profitability, it behaves as a key feature for the finance and accounting department (Ammons and others, 2012: 12).

However, the working capital management should consider not only these departments', but also the entire organization's characteristics and needs. Administrators should be informed about current issues constantly during the production, and educated about new technologies and developments. The research should be done on finding new resources. In addition, through regular and timely payments, it is possible to conclude low-cost sales contracts with suppliers of new orders, the new costs generating higher profits. Inventories should be exactly what the business needs, should not be incomplete or more than necessary. In collecting receivables, facilitating and encouraging recommendations should be presented for customers (Bartram, 2013: 42-43). Through these and other similar applications, changing liquidity and profitability ratios in a positive way is possible with increasing the effectiveness and efficiency of working capital.

## **2.2 Working Capital Policies**

Due to direct effects on company's financial structure, various approaches have been developed on financing strategies of working capital, such as conservative, aggressive and moderate working capital policies (Apak ve Demirel, 2013: 216).

In aggressive working capital policy, less current assets investments are made, liquidity is kept at a low level, and high profitability is targeted by taking higher risks. Long term assets are financed with long term liabilities, current assets are financed with short term liabilities. Current ratio is less than 1. In conservative working capital policy, more current assets investments are made, liquidity is kept at a high level, and profitability is targeted by taking lower risks. Equities and long term liabilities are preferred for working capital financing. The risk and profitability are low; cost is high in this financing form. Current ratio is more than 2. In moderate working capital policy, managers identify a target level in the middle of the other strategies, and stay at this "optimum" level. Current ratio is between 1 and 2 (Aydın and others, 2004: 118-121).

## **3. Literature Review**

The various studies have been made in literature in order to identify relationship between working capital management and profitability.





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In a study conducted by Lizaridis and Tryfonidis (2006), the data of 131 firms which traded on the Athens Stock Exchange, between years 2001-2004, were evaluated. It is stated that corporations holding the optimum level of working capital items can increase profitability.

In another study conducted by Coşkun and Kök (2001), the relationships between profitability and working capital policies in 74 companies, which traded on Istanbul Stock Exchange between years 1991-2005, were examined. According to this study, if the inventory and receivables collection period are reduced, and the debt payment period is increased, the aggressive working capital policy could increase the firm's profitability.

In a study by Şahin (2011), the data of 140 companies between the years of 2005-2010 from the Turkish manufacturing sector and listed on the Istanbul Stock Exchange were analyzed, based on the working capital policy. Especially, the years of 2008-2010 were assessed as crisis period and the crisis factors were included in the analysis. According to this study, in the manufacturing sector, whether or not in crisis, it was evaluated that increasing the business performance by conservative working capital is possible.

In another study by Aygün (2012), 107 companies' data between years 2000-2009 in the Turkish manufacturing sector and listed on the Istanbul Stock Exchange were examined. The impact of working capital on business performance was analyzed in this study. The fact that long cash conversion cycle of the firms can reduce the profitability and performance was identified. The author expressed the idea that managers who want to increase profitability should lessen the cash conversion period.

The study realized by Muhammad and his colleagues (2012) based on 25 textile companies which traded in Pakistan's Karachi Stock Exchange between 2001-2006 stated that there is a positive relation between profitability and accounts receivable and a negative relation between profitability and liabilities. Additionally, the raises in cash, inventories and receivables increase the profitability of the companies. Therefore, effective working capital management could increase the profitability.

Poyraz (2012) studied the impacts of working capital on profitability. He examined data of a firm which is operating in banking sector between 1998-2011 years. As a result of the conducted analysis, Poyraz identified the fact that changes in short-term liabilities payments affect the profitability of the firm. A moderate working capital policy is useful for firms in banking sector to stay away from risky transactions.

In another study conducted by Saldanlı (2012), the relationships between profitability and working capital policies in manufacturing sector companies, which traded on Istanbul Stock Exchange, were examined. As a result of this study, the optimum working capital should be low enough not to reduce profitability, but high enough to maintain without any problems the activities.

In a study conducted by Baghiyan (2013), the data of 134 companies from 2005 to 2011 were evaluated. The study states that there is a meaningful relationship between working capital management





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and business performance, and evaluates that the selection of aggressive working capital policy can contribute to the development of business.

Another study conducted by Caballero and his colleagues (2014) based on the companies in UK indicates that optimal working capital policy has a significant effect on companies – it increases firms' market value by balancing their revenues and costs.

According to obtained results from literature review, most of the researchers found similar results and conclusion that there is a meaningful correlation between working capital and profitability. The changes in working capital directly affect profitability. Managers should take into consideration this fact while they are making decisions and producing policy on working capital.

#### **4. Study Purpose, Scope and Method**

The findings of existing studies in the literature reviewed demonstrate that working capital has an important impact on the profitability. In the research conducted, for the data used in these analyses were generally preferred companies from the manufacturing sector. However, the airline companies (THY & Pegasus) from the service industry were preferred for this study in order to obtain appropriate and meaningful data.

Airline companies are operating in a very dynamic sector. They are affected very quickly by economic crises and terrorist incidents. Especially, terrorist attacks such as the Gulf crisis, and September 11<sup>th</sup> in US. Furthermore, increases in fuel prices all over the world increase constantly the cost of airline companies (Morrell, 2007: 1). Because of high costs, the working capital must be managed carefully and professionally in order to sustain its operations, overcome the effects of crisis without troubles and gain profit.

The relations between working capital and profitability of Turkish Airlines Inc. and Pegasus Airlines Inc., companies traded in Istanbul Stock Exchange (BIST), are examined in this research. The data were obtained from the financial statements between the years 2009-2013. The desire was to measure the liquidity of corporations by using current ratio (%), acid-test ratio and cash ratio (%). The accounts receivable turnover (days), inventory turnover (days), net working capital turnover rate, and return on assets indicators were used to measure the effectiveness of the working capital management.

##### **4.1 The Ratios Used**

The ratios and formulas, which are used in this study to measure the efficiency of liquidity and working capital management, are mentioned on following paragraphs. (Akgüç, 1998: 28-59), (Türko, 1999: 104-114), (Ercan ve Ban, 2005: 37-47):

- **Current Ratio:** It shows the ability to pay short-term and long-terms liabilities with current assets of the business. It is the ratio that indicates whether it has or not adequacy for sustaining its operations, in case unexpected situations occur. The ratio is desirable to be 2:1. However, this ratio is close to 1.5:1 in developing countries because liquidity is not too high. Therefore, it is considered sufficient.





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$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

- Acid-Test Ratio: It shows the ability to pay short-term liabilities with current assets but without inventories. Usually the 1:1 ratio is the best for the companies, but below 1:1 is also acceptable because of the economic conditions.

$$\text{Acid-Test Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$$

- Cash Ratio: It points out the ability to repay short-term debts when the sales stop, and receivables are not collected.

$$\text{Cash Ratio (\%)} = \frac{\text{Liquid Assets} + \text{Marketable Securities}}{\text{Short-Term Liabilities}} \times 100$$

- Accounts Receivable Turnover: It shows the ability of collecting debts of the business. A high ratio is wanted. But, a low accounts receivable turnover in days is desirable.

$$\text{A.R. Turnover} = \frac{\text{Net Sales}}{\text{Average Accounts Receivable}} \quad \text{A.R. Turnover (Days)} = \frac{365}{\text{A.R. Turnover}}$$

- Inventory Turnover: It shows how effective companies' inventory is. The time of conversion into cash is calculated by 365 days divided by inventory turnover.

$$\text{Inventory Turnover} = \frac{\text{Cost of the Sales}}{\text{Average Inventory}} \quad \text{Inventory Turnover (Days)} = \frac{365}{\text{Inventory Turnover}}$$

- Net Working Capital Turnover: This ratio is used to evaluate the working capital efficiency. A high rate is desirable.





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$$\text{Net Working Capital Turnover} = \frac{\text{Net Sales}}{\text{Average Working Capital}}$$

- Return on Assets: This ratio reflects the company's efficiency at using the assets to generate earnings.

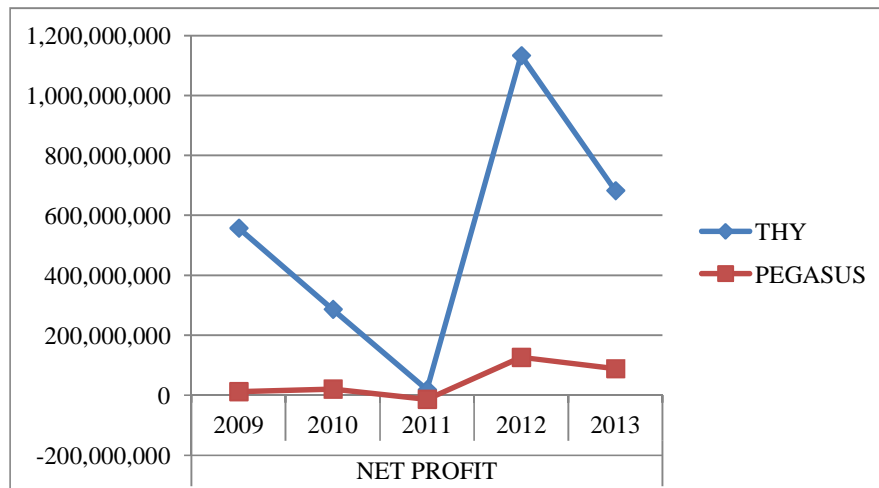
$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Average Total Assets}} \times 100$$

## 5. The Analysis and Comments

This study is based on the financial statements of the Turkish Airlines and Pegasus Airlines Inc., which are traded at Istanbul Stock Exchange (BIST), between 2009 and 2013 (five years).

Graphics on the basis of the net profit of the airlines are generated as follows:

	NET PROFIT				
	2009	2010	2011	2012	2013
<b>THY</b>	557,506,884	286,443,361	18,516,632	1,133,367,233	682,707,427
<b>PEGASUS</b>	12,102,999	20,237,310	-14,085,900	126,303,516	88,312,006





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When analyzing the graph of the net profit, similar fluctuations can be seen. It can be demonstrated as a reason that the aviation industry operates worldwide and all kinds of global crisis can affect the sector. Especially in 2011, it was observed that the airlines were affected significantly by the economic crisis, which affects the whole world. However, the effects of this crisis have reduced in subsequent years and the increase of businesses' profitability with sales is seen.

In terms of corporations' profitability, in order to measure the efficiency of the working capital, the current ratio, acid-test ratio, cash ratio, accounts receivable turnover (days), inventory turnover (days), net working capital turnover and return on assets are calculated from the financial statements. The tables are obtained from the calculated data in order to evaluate the effectiveness of the working capital.

	TURKISH AIRLINES				
	2009	2010	2011	2012	2013
<b>Current Ratio</b>	1,44	1,37	1,03	0,86	0,68
<b>Acid-Test Ratio</b>	1,36	1,31	0,97	0,80	0,63
<b>Cash Ratio (%)</b>	56,23	32,03	39,21	29,90	20,13
<b>Accounts Receivable Turnover (Days)</b>	21	22	21	19	19
<b>Inventory Turnover (Days)</b>	9	9	8	8	7
<b>Net Working Capital Turnover</b>	7,74	9,35	22,02	-54,96	-13,57
<b>Return on Assets (%)</b>	6,50	2,69	0,11	6,03	2,69

	PEGASUS AIRLINES				
	2009	2010	2011	2012	2013
<b>Current Ratio</b>	0,25	0,28	0,36	0,63	1,76
<b>Acid-Test Ratio</b>	0,25	0,28	0,35	0,63	1,75
<b>Cash Ratio (%)</b>	2,57	12,61	3,51	39,06	129,49
<b>Accounts Receivable Turnover (Days)</b>	12	9	12	12	18
<b>Inventory Turnover (Days)</b>	0,1	0,1	0,1	0,3	0,6
<b>Net Working Capital Turnover</b>	-7,21	-4,20	-4,63	-6,88	15,26
<b>Return on Assets (%)</b>	1,76	1,64	-0,77	3,61	2,52





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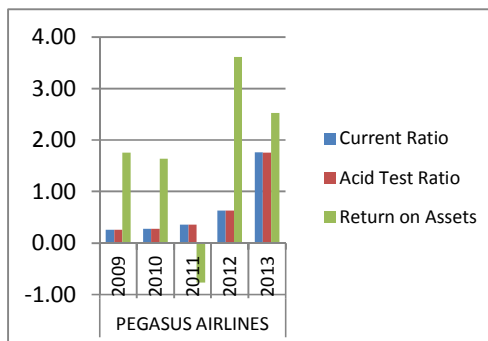
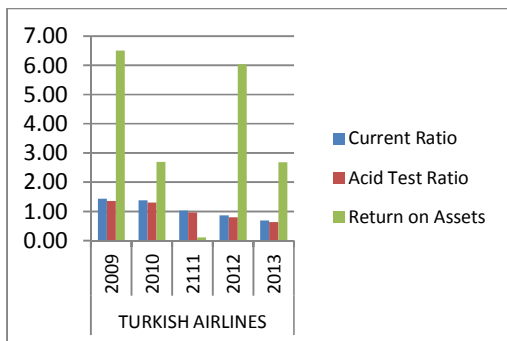
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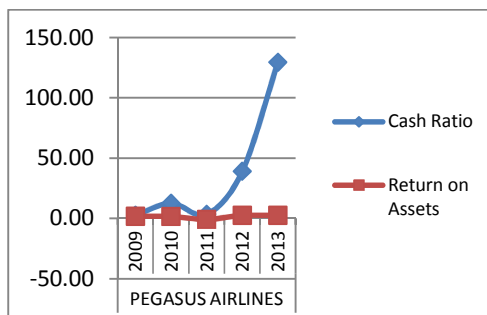
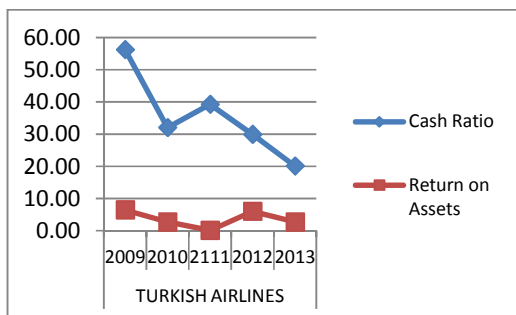
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**Current Ratio and Acid-Test Ratio:**



When considering the current ratio and acid-test ratio, THY has a declining trend and there is an increasing trend for Pegasus. The reason for the decreasing trend in the return on assets ratio of THY is the increasing rate of short-term liabilities, which is higher than the current assets. In view of Pegasus, current assets growth rate is faster than that of the short-term liabilities. The current ratios are less than 2 for both companies. It shows that aggressive working capital policy is applied. Considering the high costs to be effective in the aviation industry, both of the company's working capital management is considered efficient and companies can maintain the activities without experiencing any debt payment difficulties.

**Cash Ratio:**



Analyzing the graphs, the cash ratio of Turkish Airlines (THY) is descending, on the other hand, a fact that shows the increasing trend for the Pegasus. It is interesting that the cash ratio of both companies was over 20% for years. The aviation industry obtains loans from banks in order to meet the high cost due to the fact that high cash ratio has been evaluated and accepted as ordinary.

It is pointed out that THY carried out the optimum ratio of cash in 2013. Pegasus' high cash rate (129.49%) of in 2013 is related to the public offering during the year. When considering the cash ratio based on the year 2013, in case of both companies inability to make sales and collect receivables, the fact that they have the ability to pay short-term liabilities was assessed.





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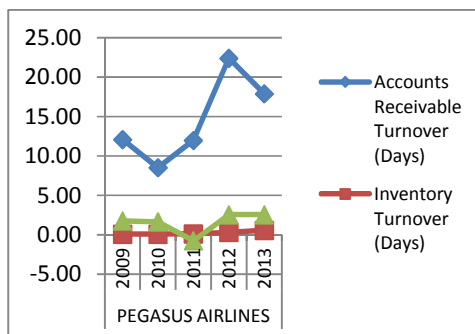
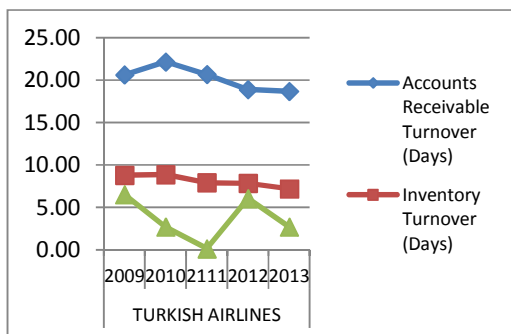
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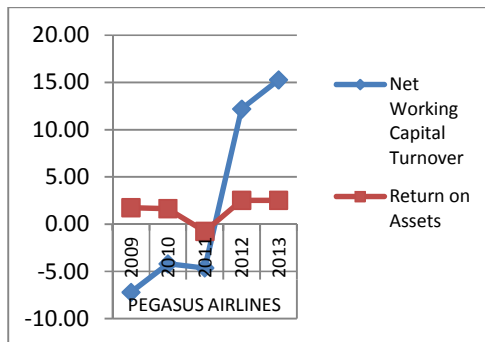
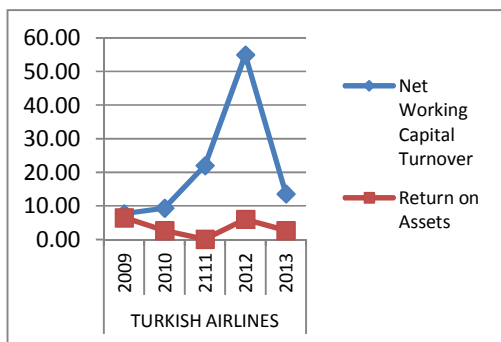
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### **Accounts Receivable Turnover and Inventory Turnover:**



We can see that the accounts receivable turnover in days of the two airline companies were not exceeded – 22 days for THY and 18 days for Pegasus. This is an indication that the accounts receivable are managed with great care. The low number of days of inventory turnover rate is a requirement of the service sector. Both companies have small quantities in stock and are immediately involved in production.

### **Net Working Capital Turnover:**



When the graphs were analyzed in terms of net working capital turnover rate of THY, an increase until 2011, a decrease in 2012 and then later on an upward trend in 2013 can be seen. Similar evaluation was revealed for Pegasus, the working capital turnover rate is increasing until 2011, declining slightly in 2011 and then again an increasing trend appearing. The increasing sales are considered to be the cause of the upward trend. However, the negative values took part in the net working capital turnover rates of both companies; this indicates that the short-term liabilities of the companies are higher than the current assets. This points out that the long term assets of the companies are financed with the short-term liabilities.

The negative value of the net working capital shows the liquidity problem that comes into prominence. However, the current ratio and the acid-test ratio point out that these companies do not have debt payment difficulties. Therefore, even during the periods when the net working capital is negative, these







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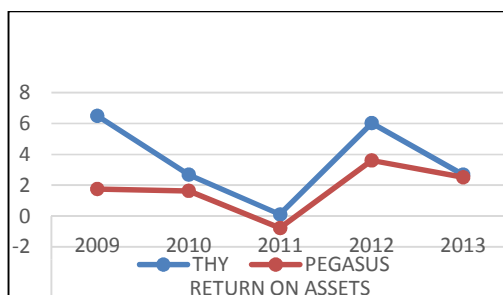
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companies do not face the liquidity problem because of the upward trend of ticket sales, and the short time of receivables collection.

### **Return on Assets:**



When analyzing it, the return on assets ratios, in both companies, decreased from 2009 to 2011, increased from 2011 to 2012 and seemed to have a descending trend from 2012 to 2013 again. A similar trend is seen through different rates for both companies. Being in a dynamic structure such as the aviation industry, the negative impact of economic crisis on sales, costs of personnel salaries, high fuel costs are considered as factors of reducing the profitability. Giving the impression of this perspective, lower return on assets rate indicates that profit from the current assets is not too high. It is noticeable that accounts receivable turnover ratio and net working capital turnover are negatively associated with each other.

## **6. Conclusion**

The working capital has an important role in sustaining company's activities. If managed effectively, that increases the profitability of the business and makes a positive impact. Airline companies, which operate in the aviation industry, cope with changing the economic conditions by effective working capital management policies.

In this study, the financial statements, between years 2009-2013, of two airline companies (Turkish Airlines and Pegasus Airlines), traded on Istanbul Stock Exchange, were studied. The working capital efficiency was evaluated by calculating the current ratio, the acid-test ratio, the cash ratio (%), the accounts receivables turnover (days), the inventory turnover (days), the net working capital turnover rate, and the return on assets.

As worldwide operating airline companies, Turkish Airlines and Pegasus Airlines had overcome the significant impacts of the 2011 economic crisis which were felt all over the world (even THY makes profit); in the following years, they succeeded in sustaining their profitability. According to the evaluated analysis, these companies managed working capital effectively and showed a tendency to increase their profitability.

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## **An Essay on the Applicability of the Linder Hypothesis in Determining the Patterns of the Romanian International Trade**

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*Abstract. The paper tries to shed light on the effectiveness of a previously proposed and wide accepted trade model and its consistency in developing economies such as the Romanian one. The structure and evolution of Romania's exports and imports in the last years have indicated an increase in the intra-industry trade, and concurrently, a shift towards the commerce predominantly in capital-intensive commodities. While the Linder theorem provides useful insight into the patterns of international trade formation, the hypothesis that trade is proportionate with the demand and market similarities expressed by GDP per capita does not test out for the data available for Romania and its main economic and commercial partners.*

*The political and economic restrictions and opportunities generated by foreign relations in the region can be attributed with the role of trade-creating forces, rather than income similarities on the markets.*

**Keywords:** trade models, economic development, trade-creating forces, commercial advantages, capital-intensive commodities, labour-intensive commodities

**JEL Codes:** F14, M10

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## 1. Introduction

Discovering the essence of trade patterns, serving in support of the ultimate goal of predicting their future evolutions, has remained a high priority for academic and company researches. The first comprehensive insight into the matter was provided by Adam Smith, through the development of the notion of absolute advantages (Smith, 1776) followed, a half-century later, by the complementary theory of comparative advantages developed by David Ricardo (Ricardo, 1817).

The abundance of production factors and the consequent differences among nations provided the basis of the Heckscher-Ohlin theorem. This theorem characterized the trade flows as being directed from one country to another based on their particular endowment in production factors. Thus, countries with a significant stock of capital would export goods which are intensive in capital and import those intensive in labour. The initial Heckscher-Ohlin model of trade was later complemented by the Stolper-Samuelson theorem that identified the relation between changes in the prices of output goods and the relative prices of the factors used to produce them (Stolper, Samuelson, 1941), and the Rybczynski theorem that helped explain the effects of labour mobility and foreign capital investment (Rybczynski, 1955).

The existing mainstream thinking came into serious scrutiny with the work of Wassily Leontief who studied the structure of the United States foreign trade and asserted that the previous principles and assumptions did not hold. Thus, the Leontief paradox was generated, as the United States, with the greatest endowment of capital, exported mostly labour intensive goods, while importing capital intensive commodities.

A genuine and lasting possible solution to the paradox was suggested by Staffan Linder, under the hypothesis that similar demand structure determines the tendency to engage in more trade. Consequently, the trade flow is stronger between countries which have similar industries and consumption, rather than being directed by differences in production factors.

This paper strives to determine if the trade pattern experienced by Romania (Costea, 2008), in relation to other countries, falls under this latter theorem, and if not, what other model can more appropriately be employed in evaluating and predicting future trade flows.

## 2. Literature review

Following a long development of models that tried to construe trade based on production advantages and production factor endowment and subsequent to the onset of the Leontief paradox, the theory, first proposed by Staffan Burenstam Linder in 1961, asserted that the structure and similarities of demand found in world economies dictated larger flows of trade (Linder, 1961).

Though lacking a formal model, Linder's theorem seeks to explain the formation of trade by establishing the main trade-creating forces around the structure of the demand in individual nations, rather than a simple question of supply and relative prices (Fillat-Castejon and Serrano-sanz, 2004, p. 325).





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The trade-breaking forces recognized by Linder incorporate the relative distance between the trade participants, the trade obstacles and the scarcity of certain production factors, the latter, creating a common ground between the theory and the Heckscher-Ohlin theorem. When tested for particular European economies, for data ranging from 1959 to the 1980s, the hypothesis holds firm, identifying demand as a major driving force of trade, while distance as the main stumbling block (Fillat-Castejon and Serrano-sanz, 2004, p. 344).

Systematic empirical connections have been found to exist between the share of intra-industry trade between pairs of countries and the similarity in average income, expressed in GDP per capita (Bergstrand 1990, p. 1228).

Though the trade flows are influenced by a series of economic and political factors such as tariffs, subsidies, differential exchange rates or other barriers, a single variable, in the form of income per capita, is generally considered as representative of the aggregate conditions of the economy and consequently used on its own (Blejer, 1978, p. 555).

By studying the relations between the structure of exports and the income per capita, the findings suggest that goods intensive in human and physical capital tend to replace those intensive in labour and natural resources, as the average income increases. The equivalent aspect holds true in the case of high income elasticity goods replacing low income elasticity commodities in relation to income (Blejer, 1978, p. 560). The same study indicates that the Linder theorem has a better prediction success than the Heckscher-Ohlin theory.

The particularities generated by scale economies are addressed by previous studies, stating that the size of the markets in countries dictate the exporter or importer status, seeing that, if the demand characteristics are similar, the economy with the largest domestic market will benefit from diminishing marginal costs and become the dominant exporter. Hence, the Linder theorem remains valid, in providing the general pattern for international trade (Krugman, 1980, p. 958).

Another key aspect that had to be addressed by the international trade studies was represented by the proliferation, after the early 1990s, of the regional trade agreements. These have also been taken into consideration when discussing the Linder theorem. Recent studies have indicated that the hypothesis can be successfully tested either in trade agreements between emerging economies or amid highly developed countries, forming a type of trade arrangement, with relatively insignificant differences in incomes (Tang, 2005, p. 263). Globalization and the expansion of free trade agreements, as observed in the last decades, have strengthened the Linder hypothesis, as richer and more similar countries have the tendency to trade more among themselves (Choi, 2002, p. 604).

The theory is better suited when discussing trade in differentiated products, while in the instance of homogeneous goods, the factor endowment arguments are more representative (Bohman and Nilsson, 2007, p. 16). Product differentiation is generally associated with intra-industry trade, a particular type of trade that has been assessed in certain studies as being relatively low between Western Balkan countries





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and the European Union, while the contrast being true in the case of Romania and Bulgaria, under the onset of the European Agreements (Mardas and Nikas, 2008, p. 522).

By assembling the nations in groups, first, on a North-South division and second, by an East-West separation, the trade flows that were observed provide further information. The intra-industry trade, generated by similarities in demand structure, can be seen in East-West relations, whereas inter-industry trade is predominant in North-South relations (Markusen, 1986, p. 1010). Thus, the Linder theorem would prove stronger if the analysis is constructed around the first situation, while the factor endowment models would prevail in the latter.

Nevertheless, the Linder theorem has not been a perfect solution for explaining trade patterns in every region or during any period. There are several discussion points that spark questions on the applicability and the usefulness of the hypothesis. Similar countries, while they have the tendency to trade more with each other, might do so as a consequence of political and cultural closeness that determines a reduction in transaction costs and bureaucracy (Batra, 2006, p. 336). The Linder theorem was developed in the early 1960s during a significant growth in trade and cooperation (Mihoreanu et al., 2014) between the United States and the, then, newly created European Economic Community. An important criticism to this hypothesis has been that the geographical, historical and cultural proximity outweighed the similarities in demand structure and average income in establishing the direction of trade flows (Chow and Yochanan, 1999, p. 175). When the theory was tested for a region such as East-Asia, therefore, eliminating the bias generated by other possible factors, the results were weak. By using a time series stretching from 1965 to 1990, the income similarity as a factor had a very low influence on the pattern of trade formation. It seemed that as trade-partner income converged, the gains from trade systematically decreased (Chow and Yochanan, 1999, p. 179).

The Linder hypothesis has been proven to be a useful tool in determining the trade patterns among developing economies, nevertheless, the studies have not generated conclusive results for all the countries analyzed (McPherson et al., 2001, p. 655). Thus, while providing a useful insight into the way in which trade can form, before adopting its conclusions, the applicability has to be tested for each particular economy.

While Linder's findings were mostly abandoned by researchers in favour of analytical models based on the hypothesis that countries share identical preferences, authors such as Markusen (2013) and Arvis et al. (2013) consider that Linder's assumptions regarding the relationship between per-capita income and trade patterns provide valuable insight in contemporary economic studies.

In the paper on trade costs, Arvis et al. (2013) present four trade models having as main components the relation between intra and international trade:

$$X_{ij} = \frac{Y_i E_j}{Y} \left( \frac{\tau_{ij}}{\Pi_i P_j} \right)^{1-\sigma} \quad (1)$$





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$$X_{ji} = \frac{Y_j E_i}{Y} \left( \frac{\tau_{ji}}{\Pi_j P_i} \right)^{1-\sigma} \quad (2)$$

$$X_{ii} = \frac{Y_i E_i}{Y} \left( \frac{\tau_{ii}}{\Pi_i P_i} \right)^{1-\sigma} \quad (3)$$

$$X_{jj} = \frac{Y_j E_j}{Y} \left( \frac{\tau_{jj}}{\Pi_j P_j} \right)^{1-\sigma} \quad (4)$$

Where:

$i, j$  represent the two countries considered for the model

$X$  represents the trade flows between countries  $i$  to  $j$  or  $j$  to  $i$ ; or within countries (goods produced and sold in  $i$  and  $j$ )

$Y$  represents total production in a country

$\Pi$  represents the trade costs

$\Pi$  and  $P$  represents multilateral resistance of the countries  $i$  and  $j$

Evidence has been suggested in previous studies that the Romanian export pattern has shifted away in the last years from labour and resource intensive goods towards technology and human capital based products. As a consequence, the intra-industry trade has begun to increase (Haar 2010, p. 802). Thus, the applicability of the Linder theorem on the Romanian trade patterns remains a matter of exploration and study.

### 3. Research description

Establishing the evolution and pattern in the Romanian trade, and ultimately deciding on the applicability of the Linder theorem, will be addressed as a multi-pronged undertaking, first by using a descriptive statistical analysis of the trading activity, followed by an assessment of the dependency that exists between the volume of trade experienced by Romania in relation to its main economic partners and the similarities in income.

The first part of the analysis is used to determine the structure of exports and imports, by identifying the proportion of labour-intensive, resource-intensive or capital-intensive products in the overall volume of trade.







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As a first step in testing the Linder theorem and concurrently averting other explanations such as the factor endowment provided by the Heckscher-Ohlin-Samuelson model or country advantages in a Ricardian manner, the structure of exports and imports should point to a predominant intra-industry trade.

Provided Romania trades with other countries based on similarities in market conditions, demand structure and, more crucially, similarities in average income, then, the exports and imports should have a relatively balanced evolution and configuration. Otherwise, if the prominent economic relations are based on inter-industry trade, by exporting labour-intensive goods and importing predominantly capital-intensive products, the factors of production are more likely to be the explanation for the formation of trade flows.

By taking into account the structure of imports and exports for the period between 2003 and 2010, as provided by the Romanian Ministry of Economy, Trade and Business Environment, the commodities have to be separated into capital-intensive on the one hand, while, labour plus resource-intensive on the other. For the purpose of this analysis, the predominant capital-intensive products are to be considered those from the machinery, automobile and electronic industry alongside those generated in the chemical and plastic industry. Therefore, the remaining products, resulting from the stone, cement and glass industry, timber and furniture industry, common metals and derivatives, agriculture and food industry, mineral extraction, leather and textile industry, are to be considered predominantly labour-intensive or resource-intensive.

The data indicate that the Romanian international trade has shifted significantly from one predominantly based on labour and resource commodities towards that of capital and technology intensive products.

Table 1. The evolution and structure of the Romanian exports and imports between 2003 and 2010

	2003	2004	2005	2006	2007	2008	2009	2010
Labour and resource intensive exports	70.2	67.3	64.8	60.6	56.0	53.2	46.6	46.4
Capital intensive exports	29.2	32.2	34.7	39.1	43.7	46.6	53.0	53.3
Labour and resource intensive imports	53.6	51.2	50.9	48.4	45.9	47.8	46.0	45.2
Capital intensive imports	46.3	48.6	48.8	51.4	53.9	52.0	53.8	54.5

Note: The values are expressed in percentages

Source: Computed based on data provided by the Romanian Ministry of Economy, Trade and Business Environment, <http://www.dce.gov.ro/>.

Both in imports and in exports, the percentage of the latter category of goods in overall volume of trade has surpassed 50 percentages. If the factor endowment theory would be valid in the case of Romanian trade, than the evolution of trade in recent years should have seen a divergence between the exports and imports. Since the inflow of technology and financial support would have created an advantage in capital-intensive commodities for export, a relative deficiency in labour-intensive items would emerge, ushering in an increase in imports for these particular goods. However, the data indicates that the exports and imports shifted in the same direction, as the significant correlation coefficient shows.





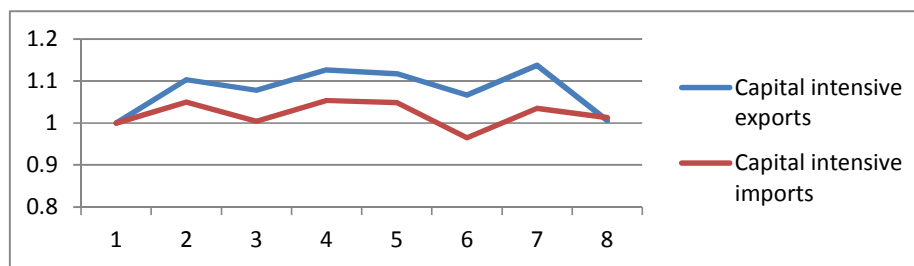
Table 2. Correlation between the labour and resource intensive commodities and the capital intensive commodities traded by Romania from 2003 to 2010

2003-2010	Labour and resource exports	Labour and resource imports
Labour and resource exports	1	
Labour and resource imports	0.407	1
2003-2010	Capital intensive exports	Capital intensive imports
Capital intensive exports	1	
Capital intensive imports	0.614	1

Source: Computed based on data provided by the Romanian Ministry of Economy, Trade and Business Environment, <http://www.dce.gov.ro/>.

The correlation coefficient between the capital intensive exports and the capital intensive imports, calculated for period 2003-2010, is approximately 0.6, meaning that the yearly variations of the two indicators have been interrelated.

Figure 1. The evolution of the capital intensive imports and exports after eliminating the trend component



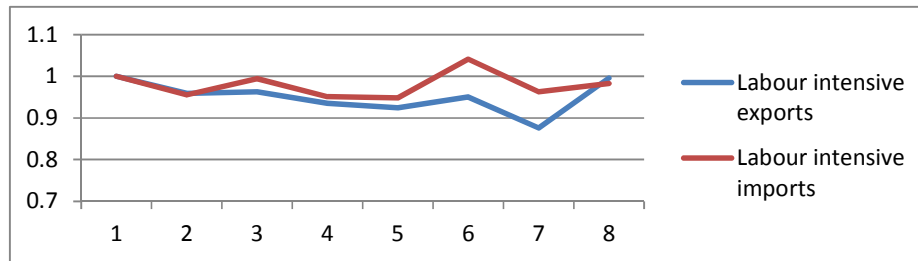
Source: Computed based on data provided by the Romanian Ministry of Economy, Trade and Business Environment, <http://www.dce.gov.ro/>.

The same observation can be drawn after studying the following figures, representing the evolution of imports and exports after subtracting the trend component.





Figure 2. The evolution of the labour intensive imports and exports after eliminating the trend component



Source: Computed based on data provided by the Romanian Ministry of Economy, Trade and Business Environment, <http://www.dce.gov.ro/>.

This result supports the notion that the Romanian intra-industry trade has amplified in the last years, providing a good starting ground for testing the Linder theorem.

The second part of the analysis is constructed around the testing of the Linder theorem for Romanian commerce, by calculating and subsequently studying the correlation coefficient inherent to the relation between trade and income similarity. The database constructed for this undertaking incorporates the exports and imports of Romania to and from its main commercial partners, their GDP per capita and the calculated variation between this last indicator and the GDP per capita of Romania. The data is structured as a cross section, the years on which the analysis is focused, 2006 and 2007, representing the pre-crisis commerce, and afterwards, 2009 and 2010, representing the commerce during the crisis. Thus, the changes and shocks brought forward by the onset of the financial crisis would not bias the results of the trade study. The data corresponds to 38 observations for each year, corresponding to the main commercial partners of Romania, their selection and hierarchy being computed based on volume of trade, steadiness of the relation, availability of data and lack of events that would undermine the credibility of the data (Serbia and Georgia have not been included, due to relatively recent military upheaval and the subsequent lack of data).

As a necessary step to test the direct applicability of the Linder hypothesis on the international trade formation of Romania, the correlation coefficient has to be calculated among the trade flows and the similarity of income (represented by the absolute value of the variation in GDP per capita between Romania and each of its main trading partners). For the four years included in the data, the correlation coefficient resulted at 0.02, 0.01, 0.03 and -0.025 respectively, pointing to a very low relation existing between the two variables. Thus, as far as linking the commerce values to the GDP per capita, the Linder hypothesis does not apply to the Romanian foreign trade before or during the recent financial crisis.





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Table 3. Correlation between the trade flows and the differences in income registered by Romania in relation to its main economic partners

2006	Trade	Income
Trade	1	
Income	0.021116	1
2007	Trade	Income
Trade	1	
Income	0.012521	1
2009	Trade	Income
Trade	1	
Income	0.038496	1
2010	Trade	Income
Trade	1	
Income	-0.025	1

Source: Computed based on data provided by the Romanian Ministry of Economy, Trade and Business environment, <http://www.dce.gov.ro/> and the data provided by the WB, <http://data.worldbank.org/indicator>.

#### 4. Conclusions

The theorem expressed by Linder could help predict trade in certain situations and under very different restrictions. However, in the case of Romania, the conditions ushered in by the integration into the European Union, the relative proximity of some of the largest and most dynamic markets in the world while at the same time the presence and influence in the region of one of the most important gas and oil exporters work together to create a distinct economic space, for which previous theories have to acclimatize and ultimately evolve.

Thus, one can interpret that other, stronger forces play a more crucial role in determining the direction and the volume of trade for certain countries.

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## Active Social Programs and Their Strategic Advantages in Labour Market Development

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*Abstract. The active programs and measures on the labour market are the subject of increasing interest and comment not only because of the expectations for tangible effects, but also because of the relatively significant financial resources necessary for their implementation. The paper discussed the active social programs and their strategic advantages in labour market development considering the methodology of their development and emphasising the role of human resources and innovative technologies.*

**Keywords:** labour market, social policies, active programs, social programming.

**JEL Codes:** E2, A13, L31, M14

### 1. Introduction

The so called active programs and measures on the labour market take a special place among the macroeconomic policies and resources (Terziev, 2015b). They are subject to an increasing interest and comment not only because of the expectations for tangible effects, but also due to the relatively significant financial resources needed for their implementation. In the practical assessment of active programs and measures, researchers often face a number of problems arising from their multipurpose and multifaceted nature: lack of a unified and well-established evaluation methodology; measurement errors and lack of adequate statistical information; objective impossibility to track persons and to determine the benefits of participation in such programs. More than a hundred studies have been carried out on various active programs in the world and they have given ambiguous and often contradictory results as regards the effectiveness of these programs. The results are strongly influenced by the peculiarities of the country, the term and the manner of the program implementation (Terziev & Arabska, 2015a).

The starting point for the evaluation of active programs and measures is the clarification of the goals, the tasks and the expected outcomes of the program. Active programs have multiple effects on the labour market. Appeared as a means of reducing unemployment, today they are associated with very broad anticipated effects of their application. Generally, active programs can be regarded as a tool for supporting the effective functioning of the labour market (Terziev & Arabska, 2015b). They provide assistance to removing the obstacles and the problems for the functioning of the market economy.

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## 2. Contemporary problems in social management

Active programs are a means of enhancing the competitiveness of the workforce, mobilizing the labour resources and increasing the economic activity of the population (Terziev, Dimitrova & Arabska, 2015a). In the absence of credit funds, microcredit schemes become real and often the only means for the development of small and medium-sized business in the country. Active policy performs a very important socio-distribution function, especially in the presence of disadvantaged groups in the labour market. For the latter, the participation in active programs is often the only chance for employment, thus preventing them from falling into extreme poverty and social deprivation (isolation). Last but not least, the proper definition of the objectives and the expected results from active programs and measures and their appropriate disclosure in the public space determine the extent, the trust and the support for the socioeconomic reforms in the country.

In the conditions of building an information society, new theoretical approaches originate, a new model of active, dynamically self-developing social programs is formed – programs that can be actively self-improved and adapted to the dynamically changing social life conditions (Terziev & Dimitrova, 2015). In the new conditions, there is also an increasing actual need for targeting the social programs towards a solution of the problems of intellectual and educational development, but at the same time the characteristics of health and physical development do not lose their social significance. Today, public health is a real indicator of the country's wealth, a reflection of the quality of life and the level of development of human resources. The health state is directly related to the income per capita and the maintenance of the health care system.

In summary, we can say that, in the conditions of a market economy, the contemporary social programs can occur in many forms, which in turn have specific principles, methods, technologies for identifying and reaching social goals, ways and means for the realization of human resources development. The general trend in the development and implementation of social programs for human resources development lies in the fact that their main target orientation is related to solving the problem of health and physical development of the population, the intellectual and educational development of human resources.

The application of social programs in a modern market system of production requires not only deep knowledge and understanding of its nature and essence, but also creative skills for using the specific forms of the method of social management, elaborating detailed technical procedures for the drawing up of social programs and their implementation in accordance with the principles of the systematic social management (Terziev, 2015c).

Objectively, the population prefers to participate in active social programs synthesizing active projects as a complex of flow projects at the heart of which lie social processes directed towards human development (Terziev, 2015a). The social processes based on active programming and projecting have an unbalanced, dynamic nature and this is why they are in the forefront of active social programs.

In the new conditions, the development of programs requires an active research and innovative work for setting its self-development in the mechanism of its implementation. The adequacy of the program-targeted social management (Stoyanov, 2015) in an unstable and constantly changing way of life is







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manifested in its orientation towards an active examination of the results from the social program implementation (social evaluation of the implementation results), attracting large groups of the population for its development. Active social programs are a system of social projects with a direct and a reverse link of social interaction, which determines the opportunities for adaptation of the program components to its changing demands. Moreover, in connection with the implementation of the social program there can be a change in its social objectives, implementation deadlines, partly in the participants and there can be a transformation of the attracted social resource.

### 3. Development of active social programs: strategic advantages and challenges

Nowadays, in their essence, the active social programs reflect the transition from a traditional to an innovative model of social development. It is this transition that determines the complex utilization of social programs within the innovative creativity, the partner relations of the participants in the program, the delegation of auxiliary functions to lower structures, but also the wide participation of the population in the implementation of the programs.

The methodology of the development of an active social program requires focusing on the following theoretical components (Terziev, 2015b):

- Establishment of the social problem. Apprehending a clearer understanding of the problem and a more reasonable control over certain key processes, we can turn the crisis into an opportunity, thus helping people not just to survive, but also to reach the tops of the waves of change and gain a new sense of mastery over their own destinies.
- Determining the social objective of the program is the starting point for programming the process of the human resources development. The external social environment provides an objective characteristic of the surrounding conditions, the parameters and the structure of external objects, interacting with the subject in one degree or another.
- The design of the planned trajectory for human resource development takes place within and by taking into account the comprehensive set of federal and regional programs, approved for implementation in line with predetermined social criteria.

The design of the trajectory of human resources development is related to the solving of the following objective tasks: *first*, determining the initial coordinates of the process of the human resources development; *second*, description of the conditions and the parameters of its extreme states (the final coordinates of the movement trajectory); *third*, setting the criteria for qualitative and quantitative indicators of the human resources development.

It should be noted that the most important goal of *modern social programs* is determined by the proactive level of knowledge, foresight and achievement of socially significant consequences from the future within the shaping of the general education process. Reaching a goal can serve as a criterion during the implementation of the model for proactive education as a basis of social construction of anticipatory human development. In its essence, this social construction is a synthesis result of the implementation of complex active social programs in society. Proactive educational development of human resources at society level reflects the transition of individuals from one socio-professional layer to another, accompanied by the development of the capabilities and the needs of individuals through the utilization of





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one or another set of universal cultural items – language, symbols, customs, traditions, social norms, general and specialized knowledge – translational with the education and self-learning system of the society and providing an opportunity for continuous objectification of personal skills, habits, experience in the system of social professional action (Terziev, 2015b).

The central axis in the search for optimal forms of social construction is a dynamically developing system of education and a new type of dynamically developing intelligence, a new personality, corresponding to it. This position can be argued with the fact that the educational system is a social industry which prepares specialists in one or another type of thinking, this is a spiritual targeted development of this or that type of personality, i.e. it is essentially a system of expanded reproduction of the spiritual culture of society members. The society transforms and evolves rapidly and the system of educational institutions, pedagogical practice is an obstacle to this process. Educational institutions of a different rank record a quantitative growth of graduate specialists, without taking into consideration the conformity of their qualities with the growing needs of the current social development. This contradiction can only be overcome by providing conditions for competition of the structural elements of the education system, which is oriented in a targeted way to the development of the literacy of different population layers. Namely the educational development of human resources, defining the totality of the acquired systematic knowledge, skills and professional habits, but also the acquired skills for further learning and analysis of knowledge, the exchange and the use of information in the course of professional activity are the most important factors and social objectives of the entire social policy (Terziev, Dimitrova & Arabska, 2015b).

An active social program also features dynamic adjustment regulation through the including of feedback upon its implementation. The functions of the adjustment regulator are a kind of solution to the task of optimization of its components as a result of the changes in the conditions of the activity of the population – bringing under control the disturbing external social impulses arising upon the social program implementation.

The adjustment regulator of the program consists of three interrelated parts: a system for social research, an organic system for planning and an organic regulatory system. The system for social research is executed by methods for studying the social interests of the population. As a result, the social studies reveal the needs and the population's preferences for certain social benefits: housing, health promotion, sport and cultural needs, advanced training and retraining. Social planning is implemented for the purpose of addressing a social problem caused by the mismatch between the social program components and the changed requirements.

Social regulation is a process of creating conditions for active realization of the social program. The successful implementation of the social regulation contributes to the unification of the participants in the program, the approximation of their interests and the interests of the population being targeted by the program.

The specified components are completely identical in structure and consist of the following interrelated parts: forecasting (anticipatory reflection of reality); planning of the social changes in the components of the system; simulation model for the formation of the program implementation process;





immediate internal adapter of the program management system; external adapter of the program management system; internal adapter of the program management system.

The principle of anticipatory reflection of reality expresses the possibility of adaptation of society to changing environmental conditions and the actual possibility of existence, the ability of realization of the current and future reality. The anticipatory reflection of social reality is one of the forms of reflecting the future social development, which is a historical foundation for the emergence of all higher forms of the forecasting of future events and above all the emergence of conditioned reflex. In the social program the principle of anticipatory reflection of reality is expressed in the considering of the determination of the future features of the project impact: social forecasting, social prognosis, social design, social programming, social planning, social construction, social engineering. Based on the principle of anticipatory reflection of the social reality, "in this dimension one can formulate the principle of anticipatory reflection of the social reality as a fundamental principle of social design" (Terziev & Dimitrova, 2015).

In the new conditions, the theoretical paradigm of social programs requires a synthesis with the theory of active systems, which must objectively lead to the provision of conditions and motivational activity among the participants of the targeted social program. Namely, the activity feature of a system element mostly corresponds to the model of an active targeted social program, for the implementation of which individual actors were attracted: the population, the state and the public social institutions.

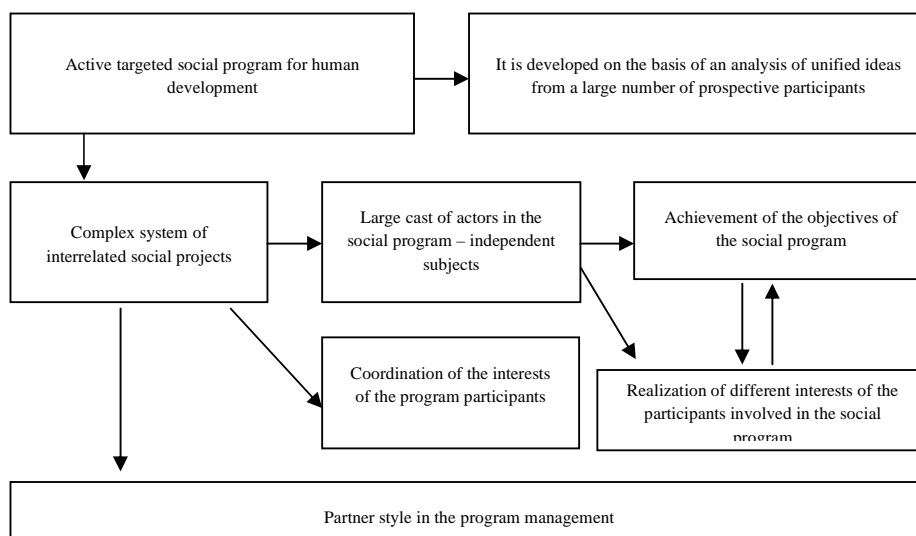


Fig. 1. Characteristics of an active social program of human development (Terziev & Arabska, 2015c)

The theory of active systems is transformed into a part of the theory of social program management determining the social adaptability of social programs, the use of more participants in the program, the realization of their activity. Namely, the property of the system element activity mostly corresponds to the active model of the social program. Activity is manifested in the partners' autonomy and the interest of the





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participants in the program. The coordination of the efforts directed towards achieving the social objectives of the program must be combined with the obtaining of social benefits by the participants in it.

Social programs acquire an active character as a result of the expanding of the members and the systematic unification of the participants in the program on the partnership principle, but also as a result of economic stimulation, activation of their social actions, i.e. the opportunities for a strategic choice of the participants in the program are targeted, but within the realized social program. In the development of social programs this means that each participant in it, on account of his/her participation, solves some kind of social task that is of present interest to him/her. The active model of the social program implies the development of conditions for obtaining benefits from the participation in the social program. In the active program targeted systems, the manageable subjects are placed in conditions and have increased active management powers. What is of importance here are the conditions and the opportunities for freedom of choice of one's own state, the possibility to express one's own interests and preferences, i.e. deliberately choosing one's state, but in the priority system of the executed social program. The active model of the social program reflects the network structure of social management in the program implementation, within which the participants in the target social program have a high degree of freedom of action, aim at a choice of such strategies, which appear to be optimal in terms of their target results, with the preset or predictable meanings of the social potential used.

*The development of an active targeted social program* presupposes four components of its activation mechanism (Fig. 2).

*First*, the participants in the program have a wide range of choices of action to implement the objectives of their interests. This means that, on account of his/her participation in the program, each participant is interested in solving some social task that is of importance for him/her.

*Second*, the presence of a body of the social program, with broad composition of managers, with broad involvement of the public. This body must not only study the social results of the program implementation, collect data, evaluate the stages of the program implementation as a whole, but also develop guidelines for the correction of the program elements.

*The third* is determined by the system for motivation of a broad composition of participants in the program. The development and implementation of a social program requires a special form of motivation for an actively liberated, proactive, scientific style of work, determining self-education, creativity and innovation development in any workplace.

*The fourth* – the necessity for a constantly operating innovation centre for innovative improvement of the social program, for activation of the processes of its renovation.





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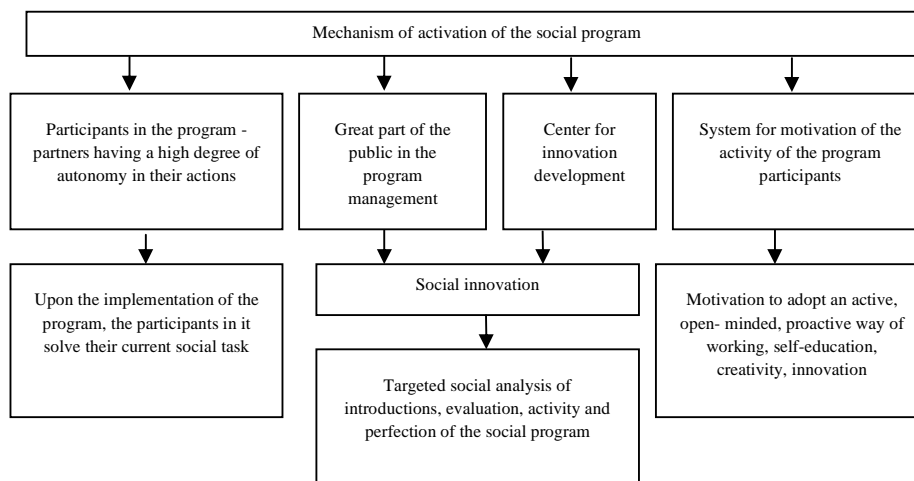


Fig. 2. Components of the mechanism of social program activation (Terziev & Arabska, 2015c)

The highly qualified intellectual labour is a potential opportunity for self-improvement of the social program. The scientific innovative activity of the participants in the program – that is a self-increasing resource, having cultural and assessed value and determining the potential for active adaptation to the changing social conditions. "People performing mental labour possess their own means of production, i.e. the knowledge stored in their heads. This is an absolutely portable and unusually voluminous type of fixed capital. As the employees of mental labour are in control of their means of production, they are very mobile. Figuratively speaking, the employees of physical labour are more interested in the work than they are interested in them. But in most cases the relationship of the employees of intellectual labour with the organization providing work to them are characterized by the fact that they are equally interested in each other. "

In this way, active social programs aim at solving social problems through the implementation of breakthrough, innovative social technologies, attraction of investments, optimization of social resource flows, and integration of the social systems. Social program development rejects the principle of an end of the carried out social events. Above all, every active social project is an innovation as its main objective is to be found in the development and the use of new ideas which may be new social technologies aimed at providing social services, ensuring the dynamic social development of the population.

Active social programs are created as a set of social projects on the basis of a unifying idea for social interaction guaranteeing the coordination of the interests of the population in the conditions of an unstable social environment of impact. An active social program is a system development. Taken separately, each component of an active social program is interconnected and interdependent on the other parts of the program. As a rule, the isolated realization of the individual elements of the social program, cut off from one another, creates conditions for a sharp reduction in the effectiveness of its implementation.

The unifying social idea of the active program is the optimal synthesis of thoughts, ideas and objectives of the program participants, among whom there are representatives of the public. Moreover, the





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participants in the social program are relatively independent, they act proceeding from their own interests – upon their participation in the social program, each one makes decisions in his/her own interest. The program is developed on the basis of the creation of a socially important unifying idea, so that the interests of the participants in the active social program can be consistent with the objective of the active program itself. The social program is developed based on the study of ideas and innovative thinking of the participants, based on a comprehensive analysis in the field of realization of the active social project, through the formation of a unifying idea and the design of schemes about the interests of the participants and the population. Then, taking as a starting point the obtained data, the structure of the active social program is formed, a network of organizations with the program participants is created around the representative of the unifying social idea, who enters into the role of a coordinator and supervisor of the program implementation.

Active social programs share a number of common characteristics: they are aimed at achieving specific objectives; incorporate the coordinated execution of interrelated actions; they have an action limited in time with a defined beginning and a specified period for drawing up of a new program or its completion; to a certain extent they are unique.

#### **4. Conclusion**

The result of active social programming allows the realization of complex programs with maximum efficiency in a rapidly changing social environment. Moreover, the unifying ideas ensure the involvement of relatively independently functioning social institutions by coordinating their needs and interests. The active approach primarily aims at obtaining effective development of the social object of the program by introducing disruptive technology innovation, attracting the public to the management, optimizing the resource flows, integrating the social systems of the participants in the program. The term "active programming" emphasizes on the continuous process of adaptation of the developed program to the conditions of the social environment in the system. Therefore, an active social program is open for system self-development. The success of its management implementation is largely determined by the factors of the interaction of the social program elements with its constantly changing impact environment. Unlike conventional social programs, the active form of social programming is a creative self-developing project with transformable final social goals, means and tasks of the process of social changes, with rejection of the rigid static schemes of the classical social programming. Active social programs are aimed at local social stabilization in unstable, dynamically changing conditions of the environment for social impact. Active programming is mainly oriented towards the effective development of social objects through development of innovations; optimization of financial, resource and innovation flows; integration of socioeconomic projects in the global economic relations.

The information obtained as a result of social research on the conditions for program implementation is the basis for the formation of any significant, systemically interrelated factors for social changes, reflecting the nature of the ongoing processes and phenomena. The participants in an active social program have and realize skills for an active creative conduct related not only to the development and organization of the social program implementation, but to the ability to accumulate and to reasonably apprehend different kind of innovations. The realization of the social program largely depends on the professionalism





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of its realization. In the modern conditions of professionalism, this is a major criterion for the qualities of the program.

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## The Effects of Right Offering Announcements on Returns of Shares of Deposit Banks Traded in Istanbul Stock-Exchange

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*Abstract. In this study, the impacts of right offerings announcements on the returns of shares are analysed. The right offerings means to have the right of receiving new shares in proportion to shares on hand when the corporation issues new shares for outsourcing capital increase. In this study, before and after the right issue announcements, the abnormal returns (AR) of shares of the banks in Istanbul Exchange Market-100 calculated and the return changes are analysed.*

**Keywords:** right issue, event study, abnormal returns.

**JEL Codes:** D53, G23, G24, E22

### 1. Introduction

Companies which traded on the Stock Exchange announce important events and changes that affect their investment decisions. These statements cause to increase or decrease in the value of the shares due to the effects on the investor's decisions.

One of these announcements is the right issue announcement. Right issue defined here as having the right of receiving new shares in proportion to shares on hand when the corporation issues new shares for outsourcing capital increase. Prior to the issuance of new shares, companies make an announcement in the case of right issue and these announcements affect the decisions of investors.

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The study consists of four parts. In the first part of the paper, after a definition of the right issue, we will talk about the right issue as defined and specified in the new Turkish Commercial Law. In the second part, a literature review about the studies regarding the impact of the rights issue announcements on stock prices will be conducted. In the third section, the methods of analysis will be reported; the last part of the study is about the findings of the research.

## 2. Right Issue Definition

Right issue can be defined as the right of existing shareholders that entitles them to buy new shares at a specific price in order to protect the interest rates. With right issue shareholders can buy new shares in proportion to their existing holdings (Adıgüzel, 2014: 4).

Companies generally increase their capital by ensuring assets in cash or in kind from external resources. On the other hand, in increasing capital from internal resources, shareholders do not pay any cash or in kind resource, capital increase is fully met with internal resources. Therefore, internal capital increase does not provide an additional financial source, does not increase the assets of the company and does not affect the total market value. However, capital increase from internal resources facilitates company's reputation increase; helps strengthen the financial structure and update the capital in addition to some tax advantages (Yavuz, 2013: 129).

Shares that are issued with a new commitment or payment, meaning right issue may be issued in the establishment or public offering phase. Right issue is a right related to shares in hand, and it can only be used by shareholder. It is also a subjective and proportional right. However, it is not a vested right because of the fact that it can be restricted or eliminated. The aim of this right is to protect the number of shares of the existing shareholders after capital increase. Thus, it prevents the reduction of financial and administrative rights such as vote in plenary session and participation in profits. The removal or restriction of this right is possible only in certain circumstances (Adıgüzel, 2014: 3).

The restriction of right issue can be in the form of limiting a portion of the shares that they deserved to receive; limiting the rights of some shareholders; prohibiting the transfer of rights to others and inhibiting shareholders from getting some categories of shares. The removal of right means to prohibit the right to buy new shares completely (Adıgüzel, 2014: 7).

In the new Turkish Commercial Law, capital increase can be implemented in three ways. These are capital increase with capital commitment, internal resources for capital increase and contingent capital increase. Right issue is analysed as a type of contingent capital increase in that law. The regulations in the new Turkish Commercial Law have intended to solve various problems related to right issue and to answer the requirements of Article 29 of the Second Company Law Directive. The provisions about right issue in Turkish Commercial Law are as (New Turkish Commercial Law Article. 461):

“(1) Every shareholders has the right of receiving new shares in proportion to shares on hand.

(2) If there are justifiable reasons, the right issue can be limited or removed with the affirmative vote of at least sixty percent of equity holders in board of directors. Especially, initial public offerings,





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acquisitions of company sections and affiliates and the joining of company's workers are the justifiable reasons. With the limitation and elimination of right issue, no one can be given advantage or taken a knock. This article is valid for register capital system and board decision except quorum. Board of directors explain with a report the reasons of limitation or elimination of right issue; causes of issuance of new shares with or without premium; the calculation method of premium. This report is registered and announced.

(3) The board of directors sets the essentials of right issue with a ruling and allows, at least fifteen days, to the shareholders for issuing in that ruling. This ruling is registered and published in a national newspaper that has at least a circulation of fifty thousand. Moreover, it is put on the website of the company.

(4) Right issue can be transferred.

(5) Company cannot prevent the right issue by suggesting that the transfer of registered shares is limited by articles of association."

### 3. Literature Review

There is a wide range of studies about the impacts of announcements such as company mergers and transfers, dividend, capital changes, macroeconomic data on the returns of shares. In the same way, there are several studies about the impacts of right issue announcements on the share prizes in different countries.

Hansen (1989) and Eckbo & Masulis (1992) reported a stock price decline in US. In United Kingdom, it has been discovered that a 2-day excess returns reductions of 1.3% (Levis, 1995) and 1.88% (Slovin et al., 2000). A decrease on stock prices has also been observed in France (Gajewski and Ginglinger, 1998), New Zealand (Marsden, 2000), Netherlands (Kabir and Roosenboom, 2003) and Hong Kong (Ching et al., 2001).

However, an increase on stock prices has been reported in Japan (Kang and Stulz, 1996), Greece (Tsangarakis, 1996) and Singapore (Tan et al., 2002). On emerging markets such as Korea (Kang, 1990 and Dhatt et al., 1996), Malaysia (Salamudin et al., 1999) and China (Shen and Xiao 2001), a significant rise on stock returns has been stated. V.B. Marisetty et al. (2008), however, observed insignificant increase on stock prizes in Indian firms and have reported insignificant positive abnormal returns in Indian firms (cited by Shahid et al., 2010: 163).

C. Chen, X. Chen (2007, cited by Shahid et al., 2010: 163) have analysed 205 right issue announcements in China. They observed a decrease on stock returns around the announcements and an increase during post-announcement period (in +10 to +20 days expiration period).

Suresh and Gajendra (2012) have analysed the right issue announcement effect on share returns, by using event study methodology for Nifty 50 stocks from 1995 to 2011. They reported a statically insignificant negative abnormal return (ARR of -0.048) on announcement day. The event has also reported that there is no significant change in trade volume of analysed stocks during announcement period. In the study, it was concluded that right issue announcements have a negative effect on Indian market (Ramesh and Rajumesh, 2014: 154).





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Adnan Bashir (2013), in his study that analysed the effects of right issue announcement in Karachi Stock Exchange Market from 2008 to 2011, found positive abnormal returns on announcement day. However, the study concluded that the right issue announcements have no effect on Karachi Stock Market and shareholders' wealth (Ramesh and Rajumesh, 2014: 154).

Even if the right issue is not widely utilized in US, a negative impact of approximately 2% has been observed in studies. There are few studies about the right issue announcement effect on emerging markets. Corporate characteristics of emerging markets are: (1) companies use the right issue only in the second issue of shares; (2) there are no organized secondary markets; (3) property is not widespread; (4) commercial stock market is weak; (5) there are limited financial alternatives. With these characteristics, Istanbul Stock Exchange is also an emerging market in Europe (Adaoğlu, 2006: 250).

Cahit Adaoğlu (2006: 250) analysed the effects of "unsweetened" (plain) and "sweetened" (with simultaneous distribution of bonus issues) rights issues on the Istanbul Stock Exchange Market. He reported in that study that there is a significant negative return (-7.1%) in "unsweetened" right issues while there are positive returns (2%) in "sweetened" right issues.

The studies about the impact of right issue on share returns are shown in the table below Table-1):

Table-1: The studies about the impact of right issue on share returns

Hansen	1989	US	Negative Impact on Stock Prices
Eckbo and Massulis	1992	US	Negative Impact on Stock Prices
Levis	1995	UK	A reduction of 1.3% on 2-day excess returns
Slovin et al.	2000	UK	A reduction of 1.88% on 2-day excess returns
Gajewski and Ginglinger	1998	France	Negative Impact on Share Prices
Marsden	2000	New Zealand	Negative Impact on Share Prices
Kabir and Roosenboom	2003	Holland	Negative Impact on Share Prices
Ching et al.	2001	Hong Kong	Negative Impact on Share Prices
Kang and Stulz	1996	Japan	Positive Impact on Share Prices
Tsangarakis	1996	Greece	Positive Impact on Share Prices
Tan et al.	2002	Singapore	Positive Impact on Share Prices
Kang	1990	Korea	Significant Positive Returns
Dhatt et al.	1996	Korea	Significant Positive Returns
Shen and Xiao	2001	China	Significant Positive Returns
Salamudin et al.	1999	Malaysia	Significant Positive Returns





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Marisetty ve Diğ.	2008	India	Insignificant Positive Returns
C. Chen and X. Chen	2007	China	Increase During Post-announcement Period
Suresh andGajendra	2012	India	Negative Returns From 1995 to 2011
Adaoglu	2006	Turkey	Significant negative return in “unsweetened” right issues; positive returns (2%) in “sweetened” right issues

#### 4. The Impacts of Right Issue Announcements

##### 4.1. Method of Study

In this study, the data is analysed using the event study method. Event study is used in the measurement of unusual response of market when an event occurs. Event study examines the changes on corporate value caused by a specific event (Mutan and Topçu, 2009: 1).

Event study determines the impact of an event on firm value by using specific data from financial market. The effects of an event impact rapidly the share prices, thus it is possible to test these effects through the prices of the stocks (MacKinlay, 1997: 14).

In the case study, event window is defined; the criterion is selected; normal and abnormal returns are calculated; hypotheses are developed; estimation window is determined and the results are interpreted respectively. With the assumption that abnormal returns reflect the response of stock prices to events, abnormal returns are calculated as: (Koçyiğit ve Kılıç, 2008: 170):

$$AR_i = Rit - Rmt$$

AR<sub>i</sub> – abnormal return of share i in t day,

Rit – actual return of share i in t day,

Rmt – expected return of share i in t day.

Getting the average effect of the announcements of all companies rather than evaluating each company separately provides a better result. Because “averaging across all companies should minimize the effect of other events” (Prakash, 2013: 11). Average abnormal returns (AAR) are calculated by taking abnormal returns of different companies in the same time period.

In this study, cumulative abnormal returns and cumulative average abnormal returns around event are calculated as:

$$CAR(t_1, t_2) = \Sigma AR$$





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$$CAAR (t1, t2) = CAR (t1, t2) / N$$

N is the sample size.

For testing the significance of AAR and CAR, t test is used.

The basic evaluation period is the day of announcement (0). Price performance of before and after the announcement (20, -20) and each share's changes in returns of will be analysed.

#### 4.2. Empirical Evidence

In this study, the impacts of right issue announces on the share price of trade banks traded in Istanbul Stock Exchange Market are shown. These trade banks are Akbank Inc., Alternatifbank Inc., Denizbank Inc., Finansbank Inc., Fortisbank Inc, Şekerbank Inc., Tekstil Bankası Inc, Türk Ekonomi Bankası Inc., Türkiye Garanti Bankası Inc., Türkiye Halk Bankası Inc, Türkiye İş Bankası Inc., Türkiye Vakıflar Bankası Inc., Yapı ve Kredi Bankası Inc., Tekstilbank Inc.

In the survey, there are five right issue announcements. Two of these right issues were announced by Şekerbank Inc. on June 3<sup>rd</sup>, 2009 and June 6<sup>th</sup>, 2014. Two of them were announced by Finansbank Inc. in October 20<sup>th</sup>, 2010 and October 25<sup>th</sup>, 2011. The last one was announced by Alternatifbank Inc. on February 13<sup>th</sup>, 2014.

Table 2: Average Abnormal Returns Around the Announcement Date

Gün	AAR	T-İstat.	P-Değeri	Negatif Ars %
-20	-0,011203	-0,542952	0,307986	60
-19	-0,012299	-0,619635	0,284416	80
-18	0,006779	0,309817	0,386085	20
-17	0,004874	0,151985	0,443278	80
-16	-0,004333	-0,383284	0,360602	80
-15	0,006538	0,268771	0,400700	40
-14	-0,005819	-0,180088	0,432919	60
-13	-0,004391	-0,432428	0,343862	60
-12	0,030322	0,511925	0,317836	40
-11	0,031238	0,396393	0,356026	40
-10	0,015088	0,344760	0,373819	60
-9	0,012629	0,130910	0,451083	80
-8	0,036592	0,364785	0,366870	60
-7	0,013369	0,388578	0,358692	40
-6	-0,018160	-0,422281	0,347265	60





-5	0,012007	0,241408	0,410555	60
-4	-0,003331	-0,333896	0,377614	80
-3	-0,017655	-0,665774	0,270992	60
-2	0,019050	0,538897	0,309275	40
-1	-0,002834	-0,207916	0,422726	60
0	0,008384	0,288692	0,393580	40
1	-0,014431	-0,217434	0,419255	60
2	-0,024380	-0,523628	0,314104	100
3	-0,027397	-1,409383	0,115759	80
4	-0,008386	-0,281712	0,396069	20
5	-0,006040	-0,221744	0,417687	80
6	0,000371	0,022355	0,491618	60
7	-0,011881	-0,934558	0,201462	80
8	-0,016963	-1,079132	0,170628	80
9	-0,008091	-0,938706	0,200514	100
10	-0,005956	-0,320972	0,382151	60
11	0,001157	0,050160	0,481200	60
12	-0,023847	-1,095071	0,167499	100
13	-0,008135	-1,329735	0,127183	100
14	-0,002686	-0,497382	0,322509	60
15	0,015072	0,272298	0,399435	40
16	-0,024159	-1,567432	0,096042	100
17	0,025907	0,300225	0,389481	80
18	0,017837	0,590047	0,293440	40
19	-0,035644	-0,690030	0,264061	100
20	0,006228	0,249177	0,407748	40

As it can be seen from the table (Table-2), there is no significant finding about the impact of right issue announcements on share prices of deposit banks traded in Istanbul Exchange Market.

However, when Abnormal Returns (AR) before and after event day are analysed separately, significant abnormal returns are detected in some periods. During the period of forty days (20, -20), we can observe that 100% of the abnormal returns of six days; 80% of the abnormal returns of ten days and 60% of the abnormal returns of twelve days are negative.

Table 3: Cumulative Average Abnormal Return to Obtain Different Window

Day	CAAR	T-Stat.	P-Mean	Negative Ars %
[-20,20]	-0,03458	-0,12040	0,45499	80





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[-20,-1]	0,10846	0,43274	0,34376	20
[-20,0]	0,11685	0,49416	0,32355	20
[-10,-1]	0,06676	0,31153	0,38548	40
[-5,5]	-0,06501	-0,80074	0,23407	80
[-1,1]	-0,00888	-0,15133	0,44352	40
[-1,0]	0,00555	0,29429	0,39159	40
[0,1]	-0,00605	-0,10855	0,45939	60
[0,2]	-0,03043	-0,58724	0,29430	80
[0,10]	-0,11477	-2,70826	0,02681**	100
[0,20]	-0,14304	-1,43350	0,11250	100

Table 3 shows the information regarding right issue announcements impound in the share price returns in different periods. Cumulative Average Abnormal Return (CAAR) is found to be negative during post-announcement period of 10 days (0, 10) in 5% significance level. Moreover, as in the table 2, the percentages of negative abnormal returns in the same periods are shown in the Table 3.

## 5. Conclusion

Cumulative Average Abnormal Returns (CAAR) is found to be negative in a ten days period after the announcement date (0, 10). This means that investors of deposit banks can yield abnormal returns in the period of ten days after the announcement.

Even if it is not statically significant, the other finding of the study is that 100% of the abnormal returns of six days; 80% of the abnormal returns of ten days and 60% of the abnormal returns of twelve days are negative.

More significant results can be observed by analysing wider samples. Moreover, all the important events in the announcement day that can affect the share price should be analysed together.

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## **Contributions to the Analysis of Amendments of the Crime Stipulated in Article 43 of Law no. 255/1998 on the Protection of New Varieties of Plants Made by Law no. 187/2012 for the Enforcement of Law no. 286/2009 on the Criminal Code<sup>1</sup>**

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*Abstract. The article brings into question the criminal protection of new varieties of plants. The author presents certain judicial norms, as previous issues, concerning the occurrence and protection of the rights over new varieties of plants through the granting of the variety patent. Furthermore, the study indicates the amendments made by Law no. 187/2012 on the enforcement of Law no. 286/2009 on the Criminal Code, concerning the counterfeiting crime incriminated in Law no. 255/1998 on the protection of new varieties of plants. Finally, the author underlines the specific elements of the contents of the investigated crime, thus providing the concerned parties with a table enabling, through the implementation thereof, the detection of the determining factors in the establishment and holding of the criminal liability of individuals infringing the rights of the plant variety patent holders, through counterfeiting.*

**Keywords:** counterfeiting; variety patent; propagating material; manufactured and sold; day-fine system.

**JEL Codes:** K29

### **1. Introductory notions on the protection of new plant varieties**

The legal protection of the new plant varieties in Romania is provided by the provisions of Law no. 255/1998<sup>3</sup> with further amendments and supplements.

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<sup>1</sup> The article was previous presented at International Conference on Economic Sciences and Business Administration 2015

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The law protects, acknowledges and defends the rights of the breeder on the new plant varieties belonging to all plant genera and species, on the Romanian territory, by granting a variety patent<sup>4</sup>.

The variety patent is granted by the State Institute for Variety Testing and Registration (ISTIS), the national authority for the performance of vegetation tests, a specialized body subordinated to the Ministry of Agriculture and Rural Development.

Within the meaning of the Law, a breeder is either the person creating or discovering and developing a new variety, or the person employing the abovementioned person or the person ordering the creation of new varieties.

Moreover, a breeder also includes the successor in rights of the abovementioned persons.

In order for the ISTIS to issue the variety patent, the variety shall meet certain patentability requirements, such as: novelty, distinctiveness, uniformity, stability and name.

*Novelty* is ensured by a variety that, on the registration date of the variety patent application or on the date of invoking the priority of the breeding or harvested material, was not sold or made available to third parties in any other way, by the breeder or with the consent thereof, for the commercial use of the new variety.

A variety meets the *distinctiveness* requirement if it clearly sets itself apart, through one or several relevant characteristics (resulting from a specific genotype or from a combination of genotypes), in relation to any other variety whose existence is notoriously known on the submission date of the patent application with the ISTIS (the State Institute for Variety Testing and Registration) or, as applicable, on the invoked priority date.

The *uniformity* of the variety is met if the plants subject to foreseeable variations during the breeding cycle remain sufficiently uniform in terms of their relevant characteristics, including the characteristics used to determine the distinctiveness of the soil, as well as in other characteristics used for the description of the variety.

Finally, a variety is *stable* if, following repeated breeding or in special cases, at the end of each breeding cycle, the relevant characteristics for the establishment of the distinctiveness or any other characteristics used to describe the variety remain unchanged.

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<sup>3</sup> Law no. 255 of 30 December 1998 on the protection of new plant varieties was republished in the Official Gazette of Romania no. 926 of 28 December 2011. *Brevitatis causa*, any time we shall use the notion of Law in this study or any time we shall indicate any article of law without specifying the normative act it is part of, we shall refer to Law no. 255/1998.

<sup>4</sup> Under the Law [see art. 2par. (1) letter a], variety refers to a group of plants belonging to a botanical taxon of the lowest known rank, that can be: 1) defined by the expression of the characters resulting from a specific genotype or from a specific combination of genotypes; 2) separate from any other group of plants, through the expression of at least one of the characters stipulated in section 1; 3) deemed an entity in terms of its capacity to be bred as such.





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In order to be identified, the variety shall have a generic *name*. It shall vary from any other name indicating a variety belonging to the same plant species or to a species that is closely related to it.

The right over the variety patent is held by the breeder, the assignee<sup>5</sup>, the person developing the variety<sup>6</sup> or a different person holding the respective right together with the breeder<sup>7</sup>.

In accordance with art. 30 par. (1) of the Law, the variety patent holder shall benefit from the exclusive right to use the new variety and from the right to prohibit any person from performing the following actions concerning the propagating material or the harvested material belonging to the protected variety, without its authorization:

- a) manufacture or reproduction;
- b) conditioning during breeding;
- c) offering for sale;
- d) selling or any other form of trading;
- e) import;
- f) export;
- g) storage for one of the cases stipulated under letters a)-f).

The variety patent applicant shall benefit from the same rights as the variety patent holder, as stipulated in art. 30 par. (1) of the Law, for the period starting on the publication date of the variety patent application (in the Official Gazette for the Protection of New Plant Varieties) and ending on the granting date of the variety patent<sup>8</sup>.

The variety protection duration<sup>9</sup> is 25 years and it shall be calculated from the granting date of the variety patent to the end of the 25<sup>th</sup> calendar year following the granting year. For varieties of fruit trees, trees and ornamental shrubs, vines, potatoes and hops, the protection term is 30 years and it shall be calculated from the granting date of the variety patent to the end of the 30<sup>th</sup> calendar year following the granting year<sup>10</sup>.

In fact, unless the variety patent is granted on December 31<sup>st</sup>, in all other cases concerning the granting thereof, the protection duration shall exceed 25 years, respectively 30 years, and the difference consists of the period following the date when the respective period of years shall be met, to the end of the respective current year. For example, if the variety patent for vine is granted on 01 March 2000, and,

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<sup>5</sup> See art. 10 par. (1) of the Law

<sup>6</sup> See art. 10 par. (3) of the Law.

<sup>7</sup> See art. 10 par. (4) of the Law.

<sup>8</sup> See art. 22 par. (1) of the Law.

<sup>9</sup> See art. 29 par. (1) of the Law.

<sup>10</sup> See art. 29 par. (2) of the Law.





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therefore, 30 years will have passed on 01 March 2030, the protection period shall be extended until 31 December 2030.

Considering the abovementioned ascertainment, we would like to propose, *de lege ferenda*, that the legal text regulating the variety protection term (art. 29) be restated, within the meaning that the variety protection period should be 25, respectively 30 years, added to the time interval from the date when the respective period of years has been met, to the end of the respective current year.

In certain cases, explicitly stipulated by the Law, there is no infringement of the rights granted to the variety patent holder. This refers, for example, to cases where the variety is used for personal and non-commercial use, for experimental purposes, including the creation of new varieties from the initial material, for the creation, discovery and development of other varieties, the use of the variety in the period starting on the date when the holder is stripped of its rights and ending on the revalidation of the patent, on the exhaustion of the variety patent holder's rights, etc.

## **2. Amendments made to the crime consisting of the counterfeiting of new plant varieties**

Art. 69 of law no. 187/2012 repealed art. 22 par. (3) and amended art. 43 of the Law no. 255/1998.

The *repealed text* (art. 22 par. (3)) concerned individuals that, during the interim protection period, committed, without the holder's authorization, the deeds stipulated in art. 30 par. (1) of the Law, equivalent to the committing of the crimes stipulated in art. 43 par. (1) and (2) of the Law.

The repeal of the incriminating text was required due to at least the following reasons:

- par. (3) of art. 22 was, in fact, a resumption of par. (2) of the same criminal law article; therefore, par. (2) of art. 22 regulates the duty of compensation, in accordance with the common law, of third parties infringing the rights stipulated in art. 30 par. (1), and the title for the payment of compensations shall be payable following the granting of the variety patent.

Therefore, had a final ruling been made to this extent, it would have been enforced on the criminal side, and it would only have been enforced on the civil side if the variety patent had been granted.

An unnatural event could have occurred, where a third party might have been criminally convicted and the decision might have been enforced, while the variety patent could have subsequently not been granted by the ISTIS.

In other words, it was possible for a third party to be criminally convicted for the infringement of certain rights of the variety patent application applicant, whereas the applicant had not benefitted from the respective rights, and therefore, for the infringement of non-existing rights.





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This is why we believe the legislator has deleted the deeds stipulated in art. 30 par. (1), committed by third parties, from falling under the incidence of criminal incrimination during the interim protection period.

- par. (3) of art. 22 of the law, repealed, contained an unenforceable requirement, i.e. the requirement for the deeds to have been committed “without the authorization of the holder”. It referred to the variety patent holder, however, in the interim protection period, the respective person is not the holder of the variety patent, but the applicant of the patent, according to the contents of par. (1) of art. 22 of the Law, indisputably stipulating that “...the applicant shall temporarily benefit from the same rights granted to the variety patent holder, as stipulated in art. 30 par. (1)”.

The rights of the variety patent holder occur on the patent granting date, and the applicant’s rights, which are the same as those of the patent holder, stipulated in art. 30 par. (1), shall be valid starting with the publication date of the variety patent, up to the patent granting date.

Therefore, the requirement stipulated in the repealed legal text (par. (3) of art. 22) should refer to the committing of deeds “without the authorization of the variety patent applicant” and should in no case specify “without the authorization of the holder”, as the latter shall only exist following the granting of the patent.

In terms of the actual *amendments* made to art. 43 of the Law, for easier identification thereof, in their analysis, we shall provide the text of art. 43 below, before and after the amendment.

Prior to the amendment, art. 43 read as follows:

**“Art. 43”**. *Counterfeiting and disclosure crimes*

(1) *A counterfeiting crime consists of the intentional performance, without the authorization of the variety patent holder, of any deed stipulated in art. 30 par. (1).*

(2) *Moreover, the intentional committing of the following deeds shall be deemed a crime:*

a) *the use of a name other than the registered name, for the propagating material that is manufactured and sold;*

b) *the use of a registered name of a new variety for the propagating material that is manufactured and sold, that does not belong to the respective variety;*

c) *the award, for the propagating material that is manufactured and sold, of a name that is very similar to the name of the protected variety, so as to cause confusion;*

d) *the sale of propagating material under the false statement that it belongs to the variety for which the variety patent was granted, thus misleading the buyer;*

e) *the forgery on the registration of a variety with the National Registry of Variety Patents;*





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*f) drawing up false reports, as well as forging the documents required by this law;*

*g) the submission of documents containing false information.*

*(3) The deeds stipulated in par. (1) and (2) are punishable by imprisonment from 3 months to 2 years or by a fine from lei 10,000 to lei 30,000. The attempt is subject to sanction.*

*(4) The disclosure of data or information representing a trade secret concerning a new variety for which an application for the granting of a variety patent was submitted, shall be punishable by imprisonment from 6 months to 2 years or a fine from lei 10,000 to lei 30,000. The attempt is subject to sanction.*

*(5) If the crimes stipulated in par. (1), (2) and (4) are committed by a clerk exercising its work duties, the sanction shall consist of imprisonment from 6 months to 5 years. The criminal action shall be initiated on the prior complaint filed by the injured party.*

*(6) For prejudice caused to the patent holder, it shall be entitled to compensation, in accordance with the common law provisions, and it can request the court to rule the seizure or, as applicable, the destruction of the counterfeit products.*

Following the amendment, art. 43 now reads as follows:

#### **“Art. 43”. Counterfeiting crimes**

*(1) A counterfeiting crime that is punishable by imprisonment from 3 months to 2 years or by a fine consists of the committing, without the authorization of the variety patent holder, of any deed stipulated in art. 30 par. (1).*

*(2) The sanction stipulated in par. (1) shall apply for the committing of the following deeds:*

*a) the use of a name other than the registered name for the propagating material that is manufactured and sold;*

*b) the use of the registered name of a new variety for the propagating material that is manufactured and sold, that does not belong to the respective variety;*

*c) the award, for the propagating material that is manufactured and sold, of a name that is very similar to the protected variety name, so as to cause confusion;*

*d) the sale of propagating material with the false mention that it belongs to the variety for which the variety patent was granted, thus misleading the buyer.*





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Having compared the contents of the two incriminating texts, of the amended prior article and of the text following the amendment, it can be concluded that the respective crimes have undergone the following amendments:

- 1) the rewording of the fine sanction in accordance with the day-fine system;
- 2) the deletion from the material element contents of the objective side of the counterfeiting crime concerning the actions incriminated in par. (2) letters e), f) and g), respectively: forgery on the registration of a variety with the National Registry of Variation Patents; the drawing up of false reports, as well as the forgery of the documents required by this law and the supply of documents containing false information;
- 3) the deletion of par. (3) of the incriminating text concerning the sanctions applicable for committing the incriminated deeds and the decriminalization of the attempt;
- 4) the deletion from the contents of the incriminating text of par. (4) concerning the crime consisting of the disclosure of data or information representing a commercial secret concerning a new variety for which an application was submitted for the granting of a variety patent;
- 5) the deletion of par. (5) of the incriminating text concerning the aggravated form when the counterfeiting and disclosure crimes regulated in par.(1), (2) and (4) were committed by a clerk exercising its work duties;
- 6) the deletion of par. (6) of art. 43 concerning the right of the patent holder to claim compensation for the damage caused to it, in accordance with the common law, and to request the court to rule the seizure or, as applicable, the destruction of the counterfeit products.

*The first amendment* of art. 43, respectively *concerning the redrafting of the fine sanction*, was established in order for the incriminating text to observe the provisions of the Criminal law in force, concerning the enforcement of the fine punishment in accordance with the day-fine system<sup>11</sup>.

In summary, in order to establish the total amount of the fine under the current system, the amount afferent to a day-fine, ranging between lei 10 and lei 500, shall be multiplied by the number of day-fines.

The special limits of the fine depend on the total amount of the imprisonment sanction stipulated by the special law. Therefore, based on the analyzed crimes, the special limits of day-fines range between 120 and 240 day-fines<sup>12</sup>, while the imprisonment sanction consists of no more than 2 years.

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<sup>11</sup> See art. 61 of the Criminal Code.

<sup>12</sup> See art. 61 par. (4), letter b) of the Criminal Code.







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Based on such data, we can easily calculate the special limits of the total amount of the fine, in the analyzed case. They amount to lei 1200 (lei 10 x 120 day-fines) – the lower limit, and, respectively, lei 120,000 (lei 500 + 240 day-fines) – the upper limit.

In terms of the *second amendment* consisting of *the deletion* from the material element of the objective part of certain alternative actions (the forgery on the registration of a variety with the National Registry of Variety Patents; the drawing up of false reports, as well as the forgery of the documents required by this law; the supply of documents containing false information), we believe the legislator has taken such a measure, as the abovementioned criminal actions are included in the contents of the crimes concerning forgery of documents incriminated by the Criminal Code<sup>13</sup>. Therefore, the interference of the same incriminations and of the difficulties concerning the legal classification and the criminal sanctioning of the respective deeds was deleted.

The *third amendment*, i.e. *the deletion* of par. (3) regulating *sanctions applicable* to the committing of the incriminated deeds and the *attempt* related to crimes concerning the counterfeiting of the plant variety, was required, as the applicable criminal sanctions are included in the current regulation in par. (1) of art. 43, as the incrimination was redrafted.

In terms of the deletion of the sanction for the attempt concerning the crimes consisting of the counterfeiting of the new plant variety, the measure that was taken falls under the general criminal conception of the legislator on the adoption of the current Criminal Code.

We believe that the *fourth amendment* consisting of *the deletion* of the incriminating text of par. (4) regulating *the crime consisting of the destruction* of data or information representing a *trade secret concerning a variety* for which an application was submitted for the granting of a variety patent, is fully justified.

We have no reserves concerning the deletion of the disclosure crime, as the Criminal Code incriminates a crime to which the legal classification of such deeds can relate<sup>14</sup>.

On the other hand, we cannot fail to notice that there is no difference of an unjustified sanctioning treatment between the disclosure deeds committed by the ISTIS staff, punishable in accordance with the Criminal Code, by imprisonment from 3 months to 3 years or by a fine<sup>15</sup> and the disclosure actions of the data included in the patent applications committed by the State Office for Inventions and Trademarks (OSIM) staff, that are also punishable by imprisonment from 3 months to 3 years or by a fine<sup>16</sup>.

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<sup>13</sup> See art. 320 (“Forgery of official documents”), art. 321 (“Intellectual forgery”), art. 323 (“Use of forgery”) of the Criminal Code.

<sup>14</sup> See art. 304 (“The disclosure of secret work or non-public information”) of the Criminal Code.

<sup>15</sup> See art. 304 par. (1) of the Criminal Code.

<sup>16</sup> See art. 62 of law no. 64/1991 on invention patents.





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In relation to the abovementioned observations, we conclude that *de lege ferenda*, due to legal symmetry reasons, the disclosure crime by the OSIM staff, as well as by the persons carrying out works related to the inventions, of the data included in the patent applications, should also be deleted from the other special law, until the publication thereof (art. 64 par. (1)).

*The fifth amendment* of art. 43 concerns *the deletion* of par. (5) on the *aggravated form of the counterfeiting and disclosure crimes* regulated by par.(1), (2) and (4) when committed by a clerk exercising its work duties.

We conclude that the reason for the deletion of the aggravated form of the evoked crimes consists of at least the following reasons:

- first of all, as, even though par. (5) incriminated the aggravated form of the two crimes, the initiation of the criminal action was made on the prior complaint of the injured party, which is an institution that was not stipulated for the actual crimes, which irrationally lead to the situation where the provisions on the aggravated form were more favourable than the provisions incriminating simple crimes. In other words, there is a contradiction in the area of the aggravated form, between the more serious punishment applied to aggravated crimes (from 6 months to 5 years) compared to simple crimes (from 3 months to 2 years), on the one hand, and the more favourable provisions on the implementation of the criminal action, on the other hand.

Concerning the last aspect, even though we are in the aggravated form area, in the absence of a prior complain, the criminal liability of the clerk would have been removed, while any other infringer would have been held criminally liable. It would have been an unjustified difference of legal treatment in favour of the clerk exercising its work duties.

- second of all, the deletion of the aggravated form of the crime consisting of the disclosure of data or information was naturally established following the deletion of the simple crime stipulated in par. (4). The aggravated form could not have remained incriminated without the existence of the incrimination of the simple crime.

Lastly, the *sixth amendment* consists of the deletion of par. (6) concerning the right of the patent holder to claim *compensation* for the damage that was caused, in accordance with the common law provisions and to request the court to rule the *seizure* or, as applicable, the *destruction* of the counterfeit products.

The deletion of the incriminating text of the abovementioned provisions was required by the fact that they are included in the contents of the criminal procedure code in force<sup>17</sup>. The maintaining thereof would have led to the useless doubling of such provisions, in full disagreement with the actual orientation of the

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<sup>17</sup> See art. 249 and art. 574 of the Criminal Procedure Code.





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legislator and of the doctrine<sup>18</sup> on the imperative requirement to simplify the legal institutions and norms, including on a criminal level.

### 3. The elements specific to the crimes stipulated in the amended art. 43

*The legal subject* of the crimes stipulated in art. 43 consists of the social relations formed around and due to the variety patent threatened by the counterfeiting deeds stipulated by law.

*The material subject* of the crime stipulated in par. (1) is the propagating material or/and the harvested material belonging to the protected variety against which the actions were directed, concerning manufacturing or reproduction, conditioning for breeding, offering for sale, sale or any other form of trade, import, export, as well as storage for one of the scopes stipulated in the previous actions.

Within the meaning of the Law<sup>19</sup>, *propagating material* refers to seeds, whole plants or various plant parts with the ability to breed whole plants.

*The material subject* of the crime stipulated in par. (2) is the entity against which the deeds are directed, concerning the use of a name other than the registered name, the use of the registered name of a variety that does not belong to the respective variety, the award of a name that is very similar to the name of the protected variety and the sale with the false mention that it belongs to the variety for which the variety patent was granted: *the propagating material*.

*The active subject* of the investigated crimes can be any natural or legal person that meets the general requirements stipulated in the Criminal Code for the committing of its criminal liability.

*The passive subject* of the current infractions is the variety patent holder or the variety patent applicant, on the period starting on the publication date of the patent application and ending on the granting date thereof.

*The material element* for the crime stipulated in par. (1) of art. 43 consists of the performance of any deed concerning the propagating material or the harvested material belonging to the protected variety stipulated in art. 30 par. (1), respectively: the manufacturing or reproduction, conditioning for breeding; offering for sale; selling or any other form of trading; import; export; storage for one of the scopes mentioned in the preceding paragraphs.

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<sup>18</sup> See the “Acad. Andrei Rădulescu” Legal Investigation Institute of the Romanian Academy, “Simplification – an imperative of the modernization and improvement of the quality of law”, scientific session, Bucharest – 17 April 2015, Universul Juridic Publishing House.

<sup>19</sup> See art. 2 par. (1) letter c) of the Law.





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For the counterfeiting crime in par. (2), *the material element* is any of the actions concerning the propagating material that is manufactured and sold: the use of a name other than a registered name for it; the use of the registered name of a new variety that does not belong to this variety; the award of a name that is very similar to the name of the protected variety, so as to cause confusion; the sale of propagating materials with the false mention that it belongs to the variety for which the variety patent was granted, thus misleading the buyer.

*The immediate effect* consists of the state of hazard created by any of the actions alternatively forming the material element of the objective side of the crimes stipulated by the analyzed text.

There is a *causality relation* between the actions establishing the material element of the crime and the immediate effect that theoretically results from the materiality of the deeds, where the causality relation performs the unity of the elements of the objective part.

Both for the counterfeiting crime stipulated in par. (1), and for the crime stipulated in par. (2) an *essential condition* is attached to the material element, for the existence of the crimes, i.e. that the incriminated deeds should be committed without the authorization of the *variety patent holder*.

*The subjective part* of the crimes stipulated in the two paragraphs implies the committing thereof with direct or indirect intention.

*The committing* of the crime occurs on the committing of any of the normative ways of carrying out the material element of the subjective side.

*The sanction* for committing the crimes is, as shown above, imprisonment from 3 months to 2 years or a fine.

#### 4. Conclusions

The law on the protection of the new plant varieties is less studied in the legal doctrine, perhaps also due to the fact that it is not included in the analytical curriculum or in the course syllabus of the intellectual creation right in law schools. The general belief may be that law students and specialists continue to have more general knowledge in the area of intellectual property law, thus ignoring the fact that having general knowledge of the matter does not automatically lead to the adequate interpretation of the legal norms, but, in certain cases, to even less meanings. This is why we believe it is necessary to analyze the amendments and the contents of the crime on the forgery of new plant varieties, which we are certain will be of interest to specialists. The crimes falling under the investigated area have specific characteristics that can impact ethics in the specific universe where they are committed.

#### 5. References





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