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CONTENT

SUMMER and AUTUMN MESSAGE

The world today is at a serious crossroad. The global pandemic, the geopolitical tension – especially the Russian-Ukrainian war, the tension between China and Taiwan as well as other wars in the world wide -, the economy challenges, especially growing number of the EU sanctions against Russia – which basically ruin the individual countries in Europe -, the uncontrolled migration, rapid inflation, have exacerbated challenges to global security, food security and global trade.

In the general debate of the 78th session of the UN General Assembly, Hungarian President Katalin Novák stressed that "there is no alternative to peace. This war also directly affects us Hungarians. The war is not just in our neighbouring, but on the territory of Ukraine, many Hungarian fathers and sons are giving their lives in a senseless war in the trenches. That is why we create peace in our country, Ukraine and the world. Peace and the security that comes from it."

On the other hand, substantial competitiveness subsidies and ever-increasing protectionism are upsetting the decades-old traditions of free trade, as well as the well-accustomed globalization. The world's largest economies are offering massive subsidies and freeing up resources in the fight to win the industries of the future. Smaller countries may fall behind because of this. The European Union has prepared its own aid package, tried to respond with its own green energy support package and Japan also announced a USD 150 billion plan to support the wave of investment in green technologies. However, it seems that the USA is on the winning today.

We kindly invite our Readers to the **2023 SME WORLD FORUM** will bring together some of the business world's most inventive and passionate leaders from academia, policy, and the youth sector. The Republic of Azerbaijan's Small and Medium Business Development Agency- KOBIA **-** will spearhead the event, serving as the principal host. **This World Forum is scheduled from November 13 to November 16, 2023, in Baku, Azerbaijan.**

We are sadly informing you that the ERENET Members suffered serious lost, because **FATIMA AGHAMIRZAYEVA**, the first female entrepreneur of Azerbaijan, winner of the United Nations Economic Commission for Europe' Excellent Woman-Entrepreneur of the Year 2002 passed away.

Last but no least I wish to express our acknowledgement to **Dr Hima Parameswaran** has been admitted to the International Board of the quarterly journal ERENET PROFILE.

As the Autumn season already set in, I wish all our ERENET Members, Friends and all our readers safe return to the schools and working places

Dr. Antal Szabó

Scientific Director of ERENET

PAPERS

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AN INFORMAL LOOK AT 'TECHNOLOGY OVER THE AGES AND LESSONS LEARNED'.

"Learn from yesterday, live for today, and hope for tomorrow."
Albert Einstein

ANNEX

The article informally traces the technology of humans from their earliest beginnings about 70,000 BC until today in three parts from 70,000 BC to 1500 AD, from 1500 to 1960 and finally from 1960 to 2022. Basically, following humans from hunter and gathers, to farmers, to factory workers and finally to service providers. It looks at the tools (technologies) mankind has used for work and for war. The article also touches on his technologies as they effect his social and economic life and the harm it has done to his environment.

Key words: tools, technology, social and economic development, war, peace.

JEL Classification: O30, O33, O50

PART A: 70,000 BC TO 1500 AD.

INTRODUCTION

A very simple definition of technology is that it refers to tools developed by humans for humans. It is suggested that technological change has been and will continue to be the driver of global change for many years ahead. We benefit from new technologies to confront social, economic, and environmental challenges but we also suffer from these technologies when it is misused. Today we see it misused to mobilize mobs, carry out drone attaches and in biotechnology warfare to name but a very few. Today there is a sudden awareness of the disruptions to come, and inequalities caused by technologies such as artificial intelligence, robotics, and the rapid replacement of human jobs. Solutions to these disruptions and those in the future may lay in better understanding technology's history and seeing if there are lessons to be learned from the past. *"Those that fail to learn from history are doomed to repeat it." Winston Churchill.*

In these brief reviews of technology's history, the author draws on the escalation of technology and its application to our societies (including warfare), economics and our environment. Humans, for whatever reason, have always fought among themselves and the consequence has always been the same – death and destruction not only to us but also to our economies and natural environment. To sustain ourselves and create a better life for us and those that follow we must think back, reflect, and learn how to use technologies for the betterment of humans rather than for commercial gain and tools of destruction.

1- PALEOLITHIC PERIOD (70,000 – 10,000 BC)

Creation of various hand tools and weapons was the main technological advancement of the Paleolithic Age. The earliest tools were just clubs, stones and rocks used to kill animals, prepare food and for defense. Stones were chipped to create a sharpened edge that could be used for spearing, cutting, chopping, or scraping. Later humans learned to create composite tools (combining 2 things) like sticks and stone for axes, spears, harpoons and bows and arrows (sticks, raw hide strips and sharpened stone). The bow and arrow became the main tool of hunting as well as warfare.

Later in the period there is ample evidence that early humans used materials other than stone - such as bones. The long bones (limb bones) of animals could be split and shaped into tools for awls (punching small holes through wood or skins to secure sharp stones onto sticks and to secure hides together for clothing.

What lesson learned (70,000 – 10,000 BC)?

The main lesson is that humans can learn to survive with the barest of resources. From the basics of stick and stones humans can hunt and scavenge the land for food and shelter. But that improvement in chances of survival and advancements in societal living comes from collaboration with other families and clans. Further with collaborations comes knowledge by sharing ideas of how better to do things. By nature, these early humans were egalitarian in believing all people were equal and basically non-hierarchical. They worked together (collaborated) among clans for foraging, but they can also have small wars among competing clans. There were not too many small wars as the population was relatively sparce and there were ample resources of small animals to be hunted. But as resources became limited and humans began to travel to other areas then there is evidence of organized raiding parties into neighboring areas. A secondary lesson was that these small wars only led to injury and death on both sides as well as a decrease in economic activity and social advancement.

2- NEOLITHIC PERIOD & EQUESTRIAN PERIOD (10,000 – 1000 BC)

As humans slowed their nomadic ways of hunting and scavenging, they started to settle in more temperate areas. Their pursuits turned to agriculture and their technology switched to using tools for building more permanent shelters for themselves and pens for animals. Tools switched to blades to cultivate the earth (adzes and hoes) and sickles to harvest the grains. Another major tool (technology) was 'mortars and pestles' to grind and pulverize grains. These were basically large smooth stones rolled on other large flat stones.

One of the remarkable technological achievements of the Neolithic Period was the invention of wheel (about 4000BC in Mesopotamia - modern Iraq). It brought rapid progress in human society. The wheel was used in horse-carts and oxcarts that helped humans carry heavy loads enabling transport to become easy and quick. Chariots became a favorite weapon of war to carry soldiers into battle and quickly strike with sword, spear, or bow.

Metals were first discovered in this age probably by having certain stones too close to the fires which then melted to form liquids. Copper, silver, and gold were probably discovered this way and these metals attracted the interest of the Neolithic producers due to their bright colour. Their benefit was that they could easily be shaped by simple hammering. Their brightness led to one of their first uses as jewelry. Finally, they discovered how to melt different metals together to make new materials called alloys, such as bronze which was much stronger than copper and could be used in tools (bronze was an early mix of copper & tin). This technology made better tools for agriculture, hunting, and war.

The Egyptians invented and used many simple machines, such as the ramp and the lever, to aid construction of their large structures and the pyramids. They also used rope trusses to stiffen the beam of ships and in their building of homes. Egyptian paper, made from papyrus, and pottery were mass-produced and exported throughout the Mediterranean Basin.

The Mesopotamians (modern day Iraq) also made many domestics technological discoveries. They were the first to use the potter's wheel to make better pottery from clay and this pottery was widely traded. They were also first to use irrigation to get water to their crops and used looms to weave cloth from wool. The Mesopotamians were the earliest people to create writing – one of the most important developments of human history and a basic tool of education. Further they developed the concept of time with the 60 second minute and the 60-minute hour.

Technological advances were happening all around the world at the time. Beer was being made in Sumerians (Iraq) about 8000 years ago and then 6000 years ago wine was first produced in Europe (Georgia). Further south the Phoenicians development an alphabet circa 1000 BC and the Egyptians invented sailing ships to move grains up and down the Nile for trade.

What lessons learned (10,000BC – 1,000 BC)?

Humans learned that a more sedentary lifestyle gave time to think. They also learned, as real estate people around the world say - "location is everything". The better the location with respect to water, moderate climate and fertile land came a better life. They switched occupations from hunters and gathers to farmers. This agrarian lifestyle would stay for at least the next 5000 years.

As humans ventured 'Out of Africa' they came to geographies that were rich in wild grains and animals. In Eurasia this meant the rich valleys of the rivers, what is now Ukraine, North India, and south China. In the Americas it included Mesoamerica (the modern-day countries of northern Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Belize, and central to southern Mexico). With a more settled lifestyle and regular healthier foods the populations grew and prospered, and family clans became villages. Specialization of crops were grown, and animals raised led to trade between villages. Village life led to lessons on governance, greater collaboration and ultimately cooperation with other villages and ultimately to emergence of small states.

During this period there were three major technology breakthroughs: the development of writing for sharing knowledge and facilitating commerce; the domestication of horses for agriculture, transportation, communication, and war; and the advancement of metallurgy for stronger agricultural tools and weapons. But advances were not just in technology. We also witnessed the beginning of public administrations, religions, philosophies, and formal education leading to enhanced technologies. However, territorial differences continued, and these led to more wars. Early in the period wars were attributed to scarcity of resources, the taking of women and others as slaves. Soon village fortifications were being built and soldiers were being trained to defend as well as conquer. Humans did not just learn to transform from hunter and gather to farmer but also to soldiers. Soldiers learned to strategize on new weapons, fortifications, and captivating others to become slaves. As time passed so did the loss of humanity.

3- CLASSICAL & MEDIEVAL PERIOD (1000 BC- 1500 AD)

The period saw major technological advances, including the adoption of gunpowder, the invention of vertical windmills, eyeglasses (spectacles), mechanical clocks, and greatly improved building techniques such as Gothic architecture and medieval castles. Further agriculture itself advanced with three-field crop rotation, new varieties of grain and cross-breeding of animals.

Mechanical technologies that are credited to the ancient Greeks include the gear, the screw, rotary mills, bronze casting techniques, water clocks, water mills, the torsion catapult, and the use animals to operate mechanical devices. On the social levels there were: a basic numbering system, modern philosophy, earliest practice of medicine, basics of geometry, cartography, and the Olympic games.

Early Roman technical advances include aqueducts, stone roads, concrete buildings, medical tools, and central heating in homes. From a social perspective their technologies included the Julian Calendar, newspapers, books, and state governments as rule of law. One cannot forget pizza. The ancient Romans wouldn't have recognized the pizza we have today (not least because the tomato wasn't introduced to Europe until the early 16th century) but they did produce flatbread topped with cheese, honey, fruits and vegetables.

Later, in the Medieval period (500-1500 AD) technology continued to develop around the world and humans started to focus on skills needed in their communities and this skill focus led to the development of craft guilds. There were guilds of weavers, dyers, masons, architects, painters, blacksmiths, bakers, butchers, leatherworkers, and soap makers. Guilds were influential producers' unions that educated craftsmen, retained output control, regulated competition, set prices, and limited the introduction of new people into the trade. The monopoly right to manufacture and trade was given to them by the rulers and was the first-time technology and politics combined.

Perhaps one of the greatest technology thinkers of the time to convert thought into technology was Leonardo da Vinci 1452-1519. He was an engineer, architect, inventor, and student of all things scientific. His scientific interests in flying led him to early designs and models of today's helicopter, a plane with moveable wings and the parachute. But da Vinci was also aware of the need for weapons of war and thus he designed a tank and a machine gun. In civic society he designed and build a self-supporting bridge and a diving suit to explore under rivers and lakes. And he was a renowned painter having completed the Mona Lisa, the Last Supper, and the Vitruvian Man to name but a few.

What lessons learned (1000BC-1500AD)?

A great lesson learned in this period was the importance of good governance. This period ushered in four great civilizations, that grew and prospered economically and socially, for a period, thanks to good governance. These included the Greco-Romans, the Persians, the Islamic and the Chinese. At the same time, across the Atlantic we see various ingenious tribes in North America and the Mayans, Incas and Aztecs of Central and Southern America contributing greatly to much more civilized society.

Whilst there were long periods of peace and many examples of friendly alliances, the powerful motives of territorial expansion, war booty, revenge, honour, and the defence of religion ensured that throughout the classical period man was regularly engaged in warfare to build their empires. The greater the empire the greater the perceived need for war and the greater losses in humanity. Humans had not yet learned that they need peace to prosper. As Nelson Mandela stated, *"If you want to make peace with your enemy, you must work with your enemy.*

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TRANSITION TO THE KNOWLEDGE- BASED ECONOMY AND THE DIGITAL ECONOMY – THE CONTEXT OF THE COMPANY MANAGEMENT, STAKEHOLDER, AND SOCIAL RESPONSIBILITY APPROACH[1]

ANNEX

The main objective of the book "Stakeholder Management and Social Responsibility" is to provide an innovative set of concepts and tools regarding company management, internal and external stakeholders and social responsibilities, reflecting the necessities and opportunities generated by the digital transformation, the transition to a knowledge-based economy, and the COVID-19 crisis. The book, based on a holistic vision and contextual approach of business, contributes to the development of company management and stakeholder and social responsibility theories and practices, being structured in 12 chapters. In this issue and the coming ones based on the agreement with the authors we shall the most important chapters relating to enterprises and enterprise management.

The original company management vision, approaches, and tools are based on three pillars: a new "manager–relevant stakeholder", a new type of company social responsibility and a new concept of company-relevant stakeholder

KEYWORDS

stakeholder management, sustainability diamond, new organizational paradox, managerial relationship, knowledge based economy, pandemic crises, COVID19.

JEL Classification: D21, L16, M14, M21

Knowledge Revolution

The formulation **"knowledge revolution",** although increasingly used in recent decades, is not sufficiently well known and utilized at international level. Certain people could see it as just a replacement for the "information revolution" or a "tautology", while others could replace "knowledge revolution" with "digital revolution". Although there is a close connection between the information revolution and the knowledge revolution, the latter is quite different from several points of view: genesis, scope, foundation, nature and economic, social, scientific, education, and ecologic performances (Burton-Jones, 1999). In the last few years, the "formula industrial revolution 4.0" has frequently been used. In this book, we continue to utilize the term "knowledge revolution", because we believe that it suggestively reveals the new essential element involved in the present revolution – knowledge. The term "industrial revolution 4.0" hides the new content of the knowledge revolution and does not help to seize, understand, and take it into consideration.

Essentially, the **knowledge revolution** refers to a fundamental change from an economy based mainly on physical resources to an economy based predominantly on knowledge (Foray, 2009; Nicolescu & Nicolescu, 2011; Stewart, 1998b). This revolution is based on the determinant roles of knowledge within the modern economy. During the last few decades, we have noticed and taken into consideration the increasing economic impact of technology, information, economic processes, human capital, organizational capabilities, and competences, all very closely connected to knowledge. Each of these

[1] This paper is the second Chapter of the Book "Stakeholder Management and Social Responsibility: Concepts, Approaches and Tools in the Covid Context".

factors separately approached reveals the extremely valuable elements with huge pragmatic implications. Their common denominator is represented by knowledge, and these factors are actually being the ways to individualize and operationalize that knowledge.

From ancient times, wealth and power have been associated with the possession of physical resources. Traditional production assets – land, machinery, buildings, etc. – were predominantly of a physical nature.

For this reason, the need to have comprehensive and deep knowledge has been limited. Industrial revolutions in previous centuries were based to a large extent on steam power, the physical strength of human beings, and financial capital.

In recent decades, this situation started to change significantly, and the wealth and power of the twenty-first century – especially in the developed economies – are generated mainly by intangible intellectual resources, by knowledge capital. The knowledge revolution is a com- prehensive and profound process generating essential mutations in all components of social activities, similar as intensity with those produced by industrial revolution.

Today, we are in the first stages of a knowledge revolution. The products and services are – from the knowledge point of view – more intensive than in the previous periods. Knowledge tends to become the main characteristic of many activities, more than the products and services produced (Cairncross, 1997). The impact of the knowledge revolution becomes visible through the market's volatility, the uncertainties regarding the direction of economic activities, the change in the knowledge structure of product costs and prices, the modification of jobs and careers, the perceived uncertainties of many people, and so on.

A knowledge-based economy is the result of the knowledge revolution, which is rapidly growing in the developed countries and – gradually – in other countries.

The knowledge revolution fulfils the change from a capitalist economy to a knowledge-based economy,[1] and it is, according to experts from the Denmark Ministry of Economy and Public Finance, a very complex process (Burton-Jones, 1999). In their opinion, informational technology and communication have an essential role in fulfilling the knowledge revolution. The new information and communication technologies determine radical changes in economic and social activities and, concomitantly, in the ways to acquire, create, disseminate, and use the knowledge. The new informatics and communication technologies determine the substantial modifications in organizations and in the methods used by producers of goods and services. The proliferation of these new technologies and the changes in the role and function of knowledge generate profound mutations in the modalities in which people work, learn, entertain, and communicate. In the economy, as a general result of the changes mentioned, knowledge becomes the essential factor in the attainment of high productivity and competitivity by companies, industries, national economies, and the world economy.

According to the renowned specialist Hamel (2002), the economic revolution in the twenty-first century is characterized by complex and non-linear behaviour in technology, competition, and global markets, which are very closely interconnected and demand continued innovation in order to create competitive wealth. In his opinion, the transition in the last few decades from an industrial-type economy to the new economy has involved three stages: innovations in products and services, in- novation in business processes, and innovation in the entire economic thinking.

In the rich literature dedicated to the knowledge economy and knowledge society, the approach of causes generating a knowledge re- volution is – in our opinion – only sporadic and not comprehensive, usually indicating mainly the new information and communication technologies. According to our analysis (Nicolescu & Nicolescu, 2005; Nicolescu & Nicolescu, 2011), the knowledge revolution is generated by **three categories of causes .**

A **Technical and technological causes** refer to the essential changes made in the material factors of production, both in the hard equipment and in the soft technologies. In our opinion, the profound technical and technological changes contributing to the generation of the knowledge revolution deal with:

a **Mutations in information processes**, based on informatic technologies, are often digital, which generate a huge increase and acceleration of the information and explicit knowledge collection, recording, transportation, dissemination, use, and deposit. In the economy, informatization determines the

co-evolution of the demand and offer and radical changes in the business nature and dynamics (Mertens, 2004).

b **Profound changes in communication processes,** which have as a consequence, greatly increased the capacity to transmit and to receive complex information and knowledge, despite distance, frequently in real time and often in ways similar to direct human communication, among a large number of individuals and organizations. Telecommunication has become more and more important, effective and efficient in the present economy.

c **Atoms process mutations, mainly by using new technologies – nanotechnology** – generating new materials, intelligent raw materials, micro mechanisms, etc., having amazing properties and performances. Nanotechnologies influence the economy and social development in multiple ways.

d **Living cells process mutations, through biotechnologies**, which are able to generate genetic changes in all components of the animal and vegetable kingdom. As a consequence, the yelling of plants and animals is substantially increased, and new superior plant varieties and animal breeds are created. All these biological products, which are very productive, incorporate quantities of big knowledge.

e **Unconventional energy (ubiquitous energy) production and use** – solar, wind, geothermal, and green energy, which are unlimited, cheaper, a cleaner than the classical energy.

Recently, the study "An MIT SMR Executive Guide" by Segars (2018) was disseminated, which deals with the content and impact of new technologies. It announces "**the universal technological revolution,** one that is fundamentally altering four key realms of our world: commerce, health care, learning and environment". In this study, seven classes of technology that are driving by a universal revolution are revealed:

- Pervasive computing: embedded proactive, networked digital pro- cesses;
- Wireless mesh networks: high bandwidth, dynamic, wireless, smart connectivity;
- Biotechnology: technologically created and enhanced life forms and system;
- 3D printing: digitally designed, chemically manufactured objects;
- Machine learning: augmented, automated data analysis;
- Nanotechnology: engineered atoms, super-materials;
- Robotics: precise, agile, intelligent mechanical systems.

According to the author, each of these technologies exhibits three distinctive and rapidly evolving capabilities:

> intelligence – the ability to sense or predict an environment or situation and act on that knowledge; natural interface – the ability to align with the actions, traits and intuitive schemes of humans, as well as the physics of nature; ubiquity – the ability to be omnipresent in previously discrete transactions, objects, machines and people. (Segars, 2018)

All presented elements regarding the new technical and technological mutations indicate an increase in their influence on the society and the economy, based on the high incorporation of new productive and sophisticated knowledge.

B **Human nature causes**, which reflect major changes in human resources, in work processes, in the capacity, and modalities to innovate and to generate value added in organizations. We synthesize these mutations in the following manner:

a **Quantitative and qualitative changes in the human resources level of education and knowledge.** From a quantitative point of view, we can see – especially in the developed countries – that the entire population is involved in the education system and in the lifelong learning process. From a qualitative point of view, we can see the radical changes in the teaching and learning processes at every level of the educational system. The theoretical dimension of education is decreasing, concomitantly with the amplification of the methodological pragmatic dimension, with active training methods becoming, gradually, predominant in all educational system components.

b All the aforementioned changes in the educational processes have, as a direct effect, the acquisition by all people – albeit to different degrees – of a **higher capacity to create, assimilate, use, and valorize knowledge**. As a consequence, the productive capacity of human resources is much higher than in the last century, concomitantly with the transformation of knowledge into the main economic "fuel", and it determines decisively the productivity and the performance of individuals and organizations.

c **In this context, the innovation availability and capacity of human resources are increasing**. Innovative people represent one of the three determinant factors that contribute to innovation (Manso, 2017). New types of education, new technologies, and actual market demands generate simultaneously extremely high possibilities and necessities for innovation. In all fields – technical, commercial, production, finance, education, ecologic, legislative, social, etc. – innovation is quasi permanent.

d **Intellectual work becomes, in almost all economic activities, predominant and/or makes a decisive contribution to achieving performance.** As a result, major challenges are taking place regarding jobs, social composition, the structures, and institutional mechanisms in the economy, science, education, administration, politics, etc.

Because of all these causes, the nature of work is radically different to the work done in the previous millennium. To an increasing degree, work means collection, combination, generation, and use of knowledge, while the percentage of physical processes is decreasing. Work tends to be based predominantly, both quantitatively and qualitatively, on knowledge and information becoming intellectualized.

C **Managerial causes** that reflect the major changes produced in the managerial processes and relationships in the ways used in order to combine and to utilize the material production factors and the human resources. The professional management practised in the last few decades contributes to the knowledge revolution and to building a knowledge-based economy and knowledge-based society through its new dimensions and operational modalities (Nicolescu, 2001):

a **Provisional management,** consisting in the anticipation of changes and in the designing of managerial solutions, allowing organizations to deal with these changes and to valorize their potential for enhancing performance.

b **Methodological-applicative management,** practising decisions and actions using to a large extent management systems, methods, techniques, etc. that increase the organization's rigour and efficacity.

c **Innovational management,** which consists in the permanent renewing of the managerial processes and relationship content and the modalities to implement them, having many and substantially direct and indirect positive effects on the functionality and performances of the entities involved (companies, clusters, networks, regions, countries, etc.) (Mitra, 2017). A 2017 PwC poll of 1,379 CEOs in 79 countries indicated that innovation was the aspect of their business that they most wanted to strengthen (PricewaterhouseCoopers, 2017).

d **Flexible management,** acting through quasi continued and intensive modification of the constructive and functional para- meters of organizations' management, generating dynamism and efficacity in the organizations.

e **Motivational management,** managers' decisions, actions and behaviours taking into consideration permanently and at a high level, using special concepts, methods, and techniques, the interests of the organization's components and the other stakeholders, with a direct and significant positive impact on the organization's functionality and performance.

f **Informatized and digitalized management,** reflected in the use to a large extent, and intensively, of modern informatics, hard and soft, in designing and operating managerial solutions in organizations, having direct and substantial effects on the speed, rationality, and efficacy of the business and social processes in these organizations.

g **Formative management,** consisting in managers taking into consideration, in practising their managerial processes and relationships, the specific formative requirements, through adoption and

implementation of decisions capable of increasing the level of knowledge and the potential of employees, seen as major vectors of the organization's development.

h **Participative management,** through the implication of the organization's employees and other stakeholders, directly and indirectly, using certain managerial bodies, methods and approaches, in the analysis and in the solution of many complex and important problems of the organization, generating more efficiency. Certain specialists already believe that today there is a collaborative revolution (Adler, Heckscher, & Prusak, 2011).

i **Systemic management,** consisting in the approach to, and solution of, problems faced by organizations taking into con- sideration their interdependences, placing in a central position the organization's strategic objectives, and considering the principal endogenous and exogenous variables involved, generating high multidimensional efficiency.

j **Internationalized management,** by using in the design, adoption and implementation of managerial solutions, knowledge and information regarding managerial, commercial, financial, educational, fiscal, scientific, ecologic, etc. evolutions of the world economy and its important components, and managerial concepts, methods or approaches from other countries.

All these types of causes presented determine the knowledge revolution, which is generating profound and rapid changes in society and the economy.

Knowledge: Main Characteristics and Roles

The knowledge revolution and the new knowledge economy are based on knowledge, information, and data. American specialist Burton-Jones (1999) believes that these three concepts are related as illustrated in Figure 2.2.

Data is defined as a signal that can be sent from a transmitter to a receiver – human beings, computers, etc. **Information** represents - intelligent data for a receiver, which brings something new to them. According to Stewart (1998b), **information is different from knowledge** in four respects:

- **Size**, information is usually smaller than knowledge, representing its components;
- **Nature**, because knowledge always contains "expertise", elements that could be used, generating solutions;
- **Temporal**, since knowledge "expertise" involves time-consuming implementation, giving it a processual character;
- **Intelligence**, because knowledge makes the objects in which it is incorporated smart and quite frequently smaller and slighter. The modern mobile phones are a very good example in this respect.

Despite all these differences, in an organization, separation between information and knowledge is not always easy to fulfil in practice, especially when there are more persons involved who interact. There are situations when what is information for one person represents knowledge for another, as they have higher intellectual capacity and/or operational capabilities.

Taking into account the elements presented above, we can assert that in order to be correct, the **delimitation between information and knowledge should be done contextually**, taking into consideration the framework, the factors involved, and the results generated. In this regard, the specialist Cairncross (1997) demonstrated that distance plays an important role in the generation and use of knowledge and it "did not die", despite the statements made by numerous informaticians.

Burton-Jones (1999) defines knowledge as "cumulative stocks of information and abilities generated by the receiver's use of information". In our opinion, this definition should be completed with two aspects. When the receiver is a human being, knowledge reflects his/her perception and judgment on information received as raw material. Knowledge is also different from information because it depends on the intellectual capacity of the receiver, on his/her competencies regarding the perception, understanding, and use of the information (Bouchez, 2012; Ichijo & Nonaka, 2007). Knowledge incorporates information as its main input. Knowledge and information are substantially complementary (Foray, 2009). The second specification refers to the fact that knowledge is always different from information due to its **capacity to generate value added** (Adler et al., 2011; Bouchez, 2014; El-

Korany, 2007; Mertens, 2004; Russ, Fineman, & Jones, 2010; Seeley & Davenport, 2006). It is not easy to identify this capacity, but it is always present in knowledge. Without this capacity, we are dealing with information or data.

Based on the previous elements, we can say that knowledge has **two dimensions – human and economic**. In a company, there is knowledge in human resources (human capital), in clients' preferences and demands (clients' capital), and in its products, processes, organizational cap- abilities, and system (structural capital). As a result, the value of knowledge assets could significantly surpass the value of company tangible assets (Burton-Jones, 1999; El-Korany, 2007).

A few years ago, a group of researchers from several North American universities (Russ et al., 2010, p. 8) defined knowledge using a mathematical formula:

$K = P \times (P + S + P \times S)$

in which:

K = knowledge, P = people and S = systems

P × S = synergy generated by people and systems.

This formula indicates that the processes and systems multiply everyone's capacity to create knowledge.

Analyses carried out by many specialists have revealed that in the present economy, knowledge achieves four essential roles or functions (see Figure 2.3).

Knowledge as **raw material** contributes to a large extent to producing modern products. It is obvious that in manufacturing a computer or TV, besides metal and plastic, a lot of knowledge is involved. Moreover, knowledge represents a major part of the value of these products.

Knowledge also represents an **essential production factor**, because together with classical production factors – labour force and production means – knowledge, often structured as technology, plays a part in all production and commercial phases. Of course, the more modern a company is, the more contributions the knowledge used makes as a production factor.

Knowledge represents very frequently a **finished product itself**, such as software, a technical project, card, patent, quality standard, marketing analysis, business plan, ecological project, management project, etc. In recent years, we have witnessed in the fast diversification of knowledge products, concomitantly with an increase of their weight in companies' turnover and in countries' GNP.

It is worth mentioning that at the same time, the majority of physical products incorporate much more knowledge. High-tech products – computers, telephones, satellites, TV sets, drones, robots, etc. – are "richer" in knowledge, which determines "de facto" their high performance and value.

In the total value of modern companies, **knowledge capital** tends to represent a high weight. Although intangible, the knowledge of companies, human resources, technologies, commercial management, financial know-how, etc. has high value, which is more frequently evaluated and taken into consideration in the companies' value on the stock exchange.

All the elements presented in this section demonstrate the multiple and essential roles of knowledge in companies, national economies, and the world economy. In practice, without knowledge none of the socio-economic entities – micro, mezzo, macro, international – could survive and work successfully. Knowledge represents in the modern economy the main stock of accumulation and the major source of wealth (Bouchez, 2014). Moreover, "knowledge not only makes for a more productive and resilient economy but it can also lead to the kind of agility and problem-solving ability that is especially needed in the face of sudden unanticipated shocks" (Mokyr, 2020), like the COVID-19 pandemic.

Knowledge-Based Economy Concept

Before defining and characterizing the knowledge-based economy, we consider it useful to present the three elements that in the opinion of Stewart (1998a, pp. 14–18) represents **the pillars of this type of economy**:

a **Knowledge becomes the main content of the purchase, sale and production processes.** In order to demonstrate this, Stewart presents numerous figures regarding the economy of the USA.

b **The knowledge asset – a component of intellectual capital** – becomes more important than financial and techno-material assets. In the past, when we referred to a company we indicated the building, deposits, etc. – mainly physical assets. In the present we usually indicate its brand.

c **In the process of valorizing the knowledge and the intellectual capital**, and obtaining **the intellectual property are needed new terminology, new managerial methods and techniques, new technologies, and – not the last – new strategies.** In other words, the knowledge-based economy is a new type of economy that needs new concepts and approaches in order to be able to describe, explain, understand, and – against this new background – valorize its huge potential.

Of course, we may have some doubts about these three pillars, especially regarding their capacity to synthetize the quintessence of the knowledge- based economy. We consider them very useful, as they are able to bring to the foreground the essential features of the knowledge-based economy, which is very necessary to understand its content.

Specialists' opinions regarding the **definition of the knowledge-based economy or the new economy are rather different**. For example, Soete (2002), in a very well-known book edited by Archibugi and Lundvall, defines the knowledge-based economy as an economy dominated to a large extent by global influence and information and communication speed, often in real time despite the distance. They believe that its main features are globalization and digitalization, which confer intangibility on international transactions, both commercial and direct investment. The knowledge-based economy involves the emergence of new companies and new industries.

Examination of this definition reveals that actually the specialists approach the new economy almost entirely from informatization and internationalization perspectives. They do not realize the essential difference between information and knowledge, and without this land- mark, the "new economy" refers less to the economy (except its inter- national dimension) and more to the development of communication

within the economy. Although their approach contains valuable elements, it is not satisfactory because it does not grasp and take into consideration the major changes in the business processes. We appreciate that their approach represents a very interesting and useful definition of the "new economy" in the transition phase towards a knowledge-based economy.

Stewart approaches the knowledge-based economy in greater depth, always using this denomination without referring to the "new economy". He specifies that the knowledge-based economy has money in view – because it is an economy – in the context of purchasing, producing, and selling knowledge. The knowledge-based economy has its background intellectual capital (Stewart, 1998a). Knowledge – the foundation of the knowledge-based economy – is important not only for high-tech companies but also for companies with a low technical level, non-profit organizations, governmental agencies, etc. Stewart's definition outlines the fact that in the knowledge-based economy, the elements of an economic nature, reflected in the priority given to business performance, remain essential. This is changed only for obtaining business performance. Stewart's second major contribution is "knowledge debunking", outlining that knowledge is not limited only to high technologies, sophisticated software or hardware etc. Knowledge is an approach with an emphasis on economic finality, on its capacity to generate value added, despite its nature, modernity or incorporated information.

The knowledge-based economy also means the development of a new culture in the society, which determines profound changes in our way of thinking, working, and living (Caspar, 2014). The very well-known international organization the **OECD** has formulated the following definition of a knowledge-based economy: "an economy based directly on the production, distribution and use of knowledge and information". This definition has been adopted in many countries and also by the European Commission. It was included in a study edited by the European Union (European Commission – Directorate-General for Enterprise and Industry, 2004, p. 5). In such an economy, there is a high degree of connectivity among the involved agents, and knowledge is used and exploited in all ways possible in business activities (Atkeson & Kehoe, 2007).

World Bank specialists have elaborated another definition: "[A] knowledge economy is one where organizations and people acquire, create, disseminate and use knowledge more effectively for greater economic and social development" (World Bank, 2017). It calculates the knowledge index, which evaluates countries' ability to generate, adapt, and diffuse knowledge.

We have started from these definitions; we have analyzed other approaches to the knowledge-based economy (Castells, 2010; Dumova &Fiordo, 2010; Foray, 2009; Jouyet & Lévy, 2007; Mallovan, Liquète, & Verlaet, 2015; Powell & Snellman, 2004); we have taken into con- sideration certain definitions of previous economic types (capitalism, feudalism, etc.); and, based on these, we have formulated **another definition for the knowledge-based economy**. Essentially a knowledge-based economy is characterized by the transformation of knowledge into essential raw material, capital, product, and production factors of an economy, and by economic processes within the knowledge generation, purchase, sale, learning, use, development, sharing, storage, and the protection become predominantly, and decisively determine the productivity, the profit, and the long-term sustainability.[2]

We believe that this definition of a knowledge-based economy brings **some important supplementary elements compared with the previous variants of definitions**:

a It indicates the role and economic functions of knowledge within economic processes, outlining its multidimensionality and comprehensive character never found so far for other elements involved in economic processes;

b It specifies that knowledge transformation represents the main content of economic processes, the types of knowledge operations, and their major contribution to the generation of value added;

c It asserts the conditioning relationship between the obtaining of economic performance and sustainability on the one hand, and the carrying out of the set of knowledge processes and the using of intellectual capital on the other, integrating, of course, classical resources (technical-material, labour force, financial, etc.).

The highlighting of the superior qualitative nature and the specificity of the knowledge-based economy does not mean a unilateral approach to the economic system. Naturally, a knowledge-based economic system could not be reduced only to knowledge. All inputs necessary for eco- nomic activities are maintained. They changed their weights in the economic circuits and partially their nature and manifestation ways because of the major impact of the knowledge.

Without any doubt, although the economic processes will change, they will always need human, technical-material, and financial re- sources, but in superior configurations and mechanisms, determined by the progress in previous periods by new elements. It is very important that political factors from numerous countries have picked up on the need to construct a knowledge-based economy. At the Lisbon Summit in 2000, EU countries decided through the Lisbon Strategy to build a knowledge-based economy (The Lisbon European Council, 2000). Ten years later, in the EU Strategy 2020 for 2010–2020, it is planned to develop a knowledge-based economy or smart economy (European Council, 2010). Today's engine of economic growth, re- presented by the knowledge-based economy, "may lessen the long- term economic impact of the COVID-19 pandemic" (Mokyr, 2020).

Knowledge-Based Economy Features

The identification and presentation of the main characteristics of the knowledge-based economy contribute to the better understanding of its specificity and of the many and major impacts on all economic and social elements in the society. In Figure 2.4, we have indicated what the **most relevant characteristics of the knowledge-based economy** are, according to our research (Nicolescu & Nicolescu, 2019), which are largely different from the characteristics established by other specialists (European Commission – Directorate-General for Enterprise and Industry, 2010; Garmise, 2006; Grant, 2007).

Of course, these features of the knowledge-based economy are not exhaustive and some of them are more difficult to fully understand due to their specific nature. But all together, they provide valuable

elements in order to grasp the specificity of the knowledge-based economy and the essential differences compared with the economy that is still predominant at present.

Digital Revolution and Digital Economy

The digital revolution started a few decades ago, and there are many and very diversified approaches. Recently, the specialists Unruh and Kiron (2017) proposed a framework for understanding digitalization and its implications, which in our opinion is very helpful.

In fact, in this framework, **the three phases of the digital revolution** are presented:

- **The first phase is digitization, which refers mainly to the products and services changed** from analogue to digital format. Digitization has happened first in sectors where products and services rely just on information (publishing, music, finance), and it has been slower, for more tangible, physical products. **The main result of the first phase of digital revolution has been digitized products and services**.

- **The second phase – digitalization – has focused on organizational level**, involving industries in which have been developed new business models and business processes capable of valorizing the benefits to the newly digitized products. In this phase, new types of companies, like Apple, Amazon, etc., have started and developed rapidly. Digitalization has not been limited only to the business sector but spreading to the public sector too. **The main result of this phase is new organization models and processes.**

- **The third phase – digital transformation – has occurred at the level of the entire economy and society**, because of the large-scale diffusion to the new technologies. Digital technologies alter individual and group values, decisions, actions, and behaviours. Digital technologies transform everything (Nicolescu & Nicolescu, 2005) at the individual, organizational, and societal level. They even trans- form the human genome (Unruh & Kiron, 2017). The main results of this phase – which is continuing rapidly – are the **major changes in the economy and in the society**, **structures, mechanisms, behaviours, and performances**. These transformations are both positive and negative.

The technologies that make a major contribution to digital transformation, and will have a tendency to increase their impact in the next decade, are the following: the Internet of Things (IOT) and connected devices, artificial intelligence (AI), big data analysis and cloud, custom manufacturing and 3D printing, robots and drones, pervasive computing, biotechnology, machine learning, nanotechnology, social media and platforms and autonomous vehicles (Ben-Ner & Siemsen, 2017; Fisher, 2017; Pigni, Piccoli, & Watson, 2016). According to a recent study (Segars, 2018), combining the capabilities of these technologies will give rise to even more powerful super-technologies that will open a new digital frontier.

The digital revolution has multidimensional effects, not only techno- logical but also economic, ecologic, human, etc. Certain specialists, like Becerra (2017) from the Boston Consulting Group, in his speech at the Davos Forum in 2017, believe that the digital revolution is not about technology, but it is about people.

We present a selection of the **major effects** of the digital revolution based on the works of representative specialists and organizations in the field (Bukht & Heeks, 2017; Dahlman, Mealy, & Wermelinger, 2016; Meyer, 2017; Rifkin, 2016; Schwab, 2016; World Economic Forum & Accenture, 2018):

- change of consumer expectations;
- cheap and better technologies;
- falling cost of advanced technologies;
- product enhancement;
- development of collaborative innovation;

- cheap connection and a more connected world;
- rapid proliferation/extension of networks;
- three big impacts on the labour markets: substitution, augmentation, and creation; disruption of existing economic processes, systems, and sectors;
- reshaping of existing consumer behaviour, business interaction, and business models;
- restructuring of the economy and society;
- deepening inequality in society;
- decreased trust in all technology sectors;
- positive contribution to the decoupling of economic growth from an increase in emissions and resources;
- increased productivity in many sectors;
- new opportunities for leisure, artistic expression and a healthier future;
- generation of new risks, challenges, and opportunities for individuals, organizations, economies, and societies.

The generic results of the digital revolution are – according to its three phases – a **digital sector, digital economy, and digitalized economy**, as we can see in Figure 2.6.

The figure reveals explicitly the content of each of them and the relationships among their content. **The digital economy** is defined as "that part of economic output derived solely or primarily from digital technologies, with a business model based on digital goals and services" (Bukht & Heeks, 2017, p. 1). The digital economy" encompasses both the core digital sector and also the broader range of extensive digital activity, without claiming that all digitized activity is part of the digital economy" (Bukht & Heeks, 2017, p. 13).[3] The dimension of the digital economy is huge: its total value reaches USD 2.9 trillion (Gada, 2016). **The digitalized economy** is the result of the digital transformation, and it is more comprehensive quantitatively j

.and higher from a qualitative point of view than the digital economy.

Digital business is different from traditional business in many respects. According to a recent investigation (Kane, Phillips, Copulsky, & Andrus, 2019), the biggest six differences are the following: pace of business (speed, rate of change), culture and mindset (creativity, learning risk taking), flexible, distributed workplace (collaboration, decision-making transparency), productivity (streamlined processes, continuous improvement), improved access to use of tools (greater data availability, technology performance), and connectivity (remote working, always on). During the recent period, within COVID-19 context, digital business development has accelerated, proving again its unique features and ad vantages.

Relationships Between Digital/Digitalized Economy and Knowledge-Based Economy

In the previous paragraphs, we presented the main elements that characterize the knowledge-based economy: digital economy, digitalized economy, knowledge revolution, digitization, digitalization, and digital transformation. In order to better understand the complex relationships between them and their influence on management, economic, and societal processes, we analyze comparatively a digital–digitalized economy and a knowledge-based economy. We identified **five main differences** (Nicolescu & Nicolescu, 2019) as indicated in Table 2.1.

Based on these elements, we can state that the **relationships between the knowledge-based economy and digital/digitalized economy are relationships between the whole and the part**. A knowledge-based economy is more comprehensive, complex, and multidimensional than a digital/digitalized economy. The knowledge-based economy in- corporates entirely the digital and digitalized economy. At the same time, it is important to emphasize that the digitalized economy is an essential component of the knowledge-based economy, and it plays a major role in its development.

In the near future, the digitalization of the knowledge-based economy will increase, with many positive effects on it, but also with increasing challenges and risks. The present knowledge-based economy, according to reputed professor Jeremy Rifkin, is characterized by

> digital interconnectivity. Social capital is as vital as market capital, access is as important as ownership, sustainability supersedes consumerism, collaboration is as crucial as competition, virtual integration of value chains gives way to lateral economies of scale, intellectual property makes room for open sourcing and creative common licensing, GNP becomes less relevant and social indicators become more valuable in measuring the quality of life of society, and an economy based on scarcity and profit vies for a Zero Marginal Society Cost, where an increasing array of goods and services are produced and shared for free in an economy of abundance. (Rifkin, 2016)

In the last few decades, the knowledge-based economy has developed fast, especially in the developed countries. The European Union, in order to accelerate the construction of the knowledge-based economy, as adopted two strategies – the Lisbon Strategy in 2000 and the 2020 EU Strategy in 2010. Unfortunately, these were not very successfully implemented.

For the next period, it is necessary, using systemic and realistic approaches, not reactive but proactive, at the world and organization level, to harness the huge potential of all types of knowledge, of a digital transformation. The Davos Forum 2017 (World Economic Forum & Accenture, 2017) and many specialists (Bukht & Heeks, 2017; Dahlman et al., 2016; Kiron & Unruh, 2018; Meyer, 2017; Mosco, 2017; Schweer & Sahl, 2017; Unruh & Kiron, 2017) have provided many essential elements capable of unlocking knowledge value to society.

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INDIRECT FDI: SOME LESSONS LEARNED [3], [4]

Abstract

This review presents some lessons learned about indirect foreign direct investment (FDI), mostly over the past decade. Indirect FDI denotes investment projects, in which the ultimate owner is different from the immediate investor. The review categorizes the literature of the 2010s and early 2020s into three main threads: one focusing on the developmental aspects of the phenomenon, another one with a fiscal–legal–regulatory approach, and a third one raising questions about the quality and reliability of FDI data or special aspects such as the relationship between sanctions and outward FDI. This review also highlights improvements in FDI data collection on ultimate investors over the past decade, based on the example of three Visegrád countries. In this respect, important progress has been achieved. Prospects for future research on indirect FDI are quite promising, especially via interdisciplinary approaches and aiming at improving the coverage and the quality of relevant data. Ultimately, the quality of the evaluation of indirect FDI hinges, more than anything, on the availability of empirical evidence.

Keywords: indirect FDI, round tripping, transshipped FDI, ultimate investors, taxation, investment treaties

JEL*:* F21, F23, H26, H71

INTRODUCTION

Indirect foreign direct investment (FDI) is a widespread and complex phenomenon of the current world economy. Thinking it over logically, it is quite normal that multinational enterprises (MNEs) transfer their capital through third countries before investing it in the final destination, and for very different reasons: strategic, financial, regulatory or other. Indirect FDI has been present in the world economy for a while, though it took more time to notice than 'classical' FDI. In the initial stages, it seemed normal that going abroad itself was challenging due to the liability of foreignness, and investors would logically choose the most direct route to host countries, not transfers via third countries.

The world turned out to be more complex than that. In the 1990s, it became quite visible that at least some projects selected the indirect route. It had to be questioned what this phenomenon was and why it existed. This review attempts to sum up some of the answers found, especially in the past decade. The author aims to present the summary in a rather impartial way, though not avoiding own assessments of strengths and weaknesses of the literature when he feels that there is such a need.

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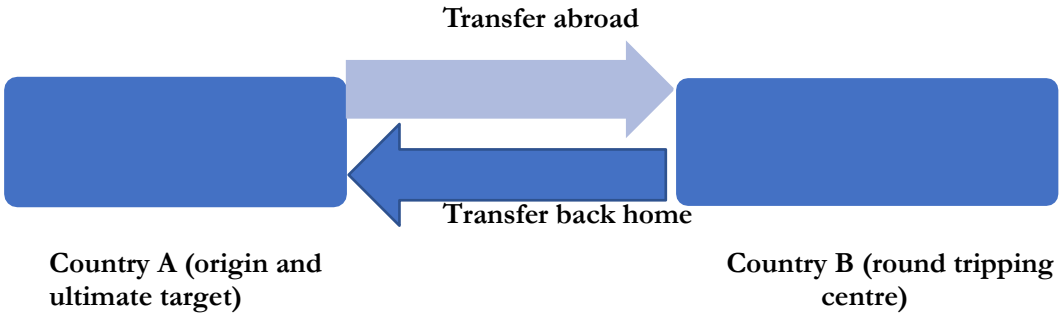
Of the concept of indirect FDI

The two main forms of indirect FDI are round tripping and transshipment. The number of 'transit' or 'transfer' countries may be one or various (figures 1 to 4). In fact, UNCTAD (2016) has found that the number of transfer centres can be as high as seven in some cases.[5] Transshipment can be realized either via existing affiliates or special purpose vehicles (SPVs) – also called special purpose entities (SPEs) – created explicitly to contain financial risk.

Simple round tripping has a very straightforward mechanism (figure 1). Capital leaves the country of origin (country A) to get the nationality of another country (country B), which in most cases has a more stable or more favourable regulatory environment, offers more protection, or offers more interesting fiscal treatment. Then, in a second phase, capital is transferred back to country A but as a 'national' of country B. If country A offers benefits to foreign investors, it is a plus, as the capital has become 'foreign' thanks to its round tripping.

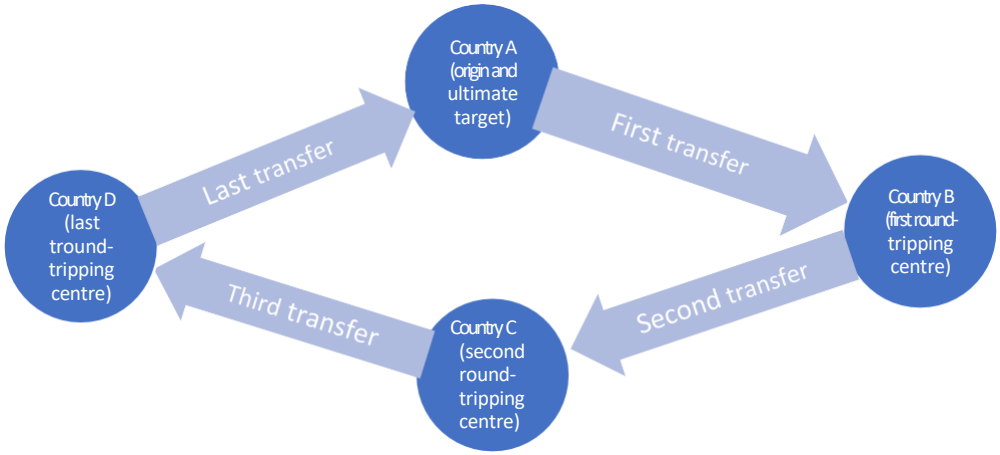
Figure 1. Simple round tripping



Source: the Author

The mechanism and motivation of complex round tripping is similar but the number of transfer countries is more than one. In figure 2, we show the case of three transfer countries (B, C, D). In reality, that number can be smaller or bigger. Complex round tripping is used in particular when it is important for the owner of the capital to blur its origin.

Figure 2. Complex round tripping



[5] See also Mintz and Weichenrieder (2010) for similar observations on German inward and outward FDI data. They use the term of tiers of ownership

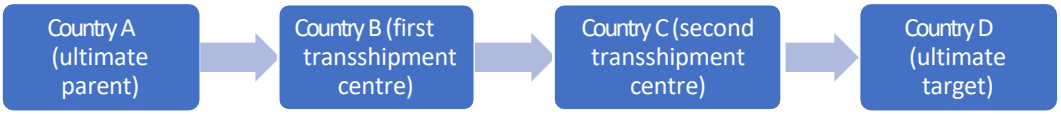
Source: the author

In simple transshipment (figure 3), capital leaves the country of the ultimate parent (country A) to enter the transit country (country B), from where it is reinvested in the ultimate country (country C). While the mechanism is simple, the reasons for the use of such mechanisms may be complex (see below).

Figure 3. Simple transshipment

Source: the author.

Figure 4. Complex transshipment



Source: the author.

Though this review focuses on the two main forms of indirect FDI presented in figures 1 to 4, it also refers to others such as the transfer of corporate headquarters abroad via corporate inversion, which changes the nationality and the location of the investor.

Of indirect investors' motivations

The *motivations* of MNEs for engaging in indirect FDI are complex, and in many cases multiple. The most important is corporate strategy delegating to affiliates decisions on investment in third countries (Kalotay 2012b). Ultimate owners may consider the use of geographically and/or culturally closer affiliates more beneficial by way of better understanding the local ways of doing business. There may be also logistical and organizational reasons for choosing the services of transfer countries.

Tax or regulatory advantages are another main consideration motivating indirect FDI. Transshipment or round tripping via well selected third countries results in lower taxes, so does investment through countries that have favourable double taxation treaties (DTTs) with the country of ultimate investment. Some firms, especially those undertaking capital-intensive and risky projects, may go for indirect FDI to get protected by the relatively strong bilateral investment treaty (BIT) of the transit country. For round tripping, in addition to tax advantages and treaty protection, motives also include escape from potential uncertainties in the country of origin, too.

There may be also political reasons for engaging indirect FDI. There are firms that wish to conceal their origins as much as possible in order to avoid unfavourable treatment or special scrutiny by the host country. This is particularly true to State-owned and State- influenced MNEs. If political relations between the host and home country are good, the umbrella offered by the home country may be an advantage.

However, when relations are tense, that relationship adds to the negative effects of the liability of foreignness (for the example of Russian MNEs, see Panibratov 2016).

Just like in any other activities, some indirect FDI may be related to semi-legal or illegal activities, including corruption (cf. Zander 2021). In some cases such as the Panama Papers scandal in 2016, the public had the impression that such motivations drive the bulk of indirect FDI. However, we have no evidence so far about the frequency of illegal activities within the phenomenon. In fact, most of the cases revealed under the Panama Papers fall outside the scope of indirect FDI. In this respect, we also need to stress that for indirect FDI to happen, there is not necessarily a need for the mediation of offshore financial centres; there are many transactions that take place through other non-offshore countries. It is also to be added that most of the offshore activities fall outside the definition of indirect FDI.

Of the emergence of the indirect FDI literature

Given such major reasons for the existence of indirect FDI, it is not surprising that the author of these lines was not the person who first put the spotlight on the phenomenon and gave a name to it. To our best knowledge, researchers at and around the Vienna University of Economics and Business Administration were, at the end of the last century and the beginning of the current one, who already asked what indirect FDI was, what its economic and employment effects could be (Altzinger and Bellak 1999) and how it affected the investing firms and their home countries (Altzinger et al. 2003). They suggested that the impact of indirect could be less strong than that of direct FDI.

If there had been earlier pathbreakers on the topic that he ignores, the author of these lines presents his excuses to them. What matters though is that, till 2012, the debate had been limited and the topic in general underresearched (Kalotay 2012b). [6]

The role of this author, almost a decade later, was an attempt to conceptualize and systematize what we knew about the phenomenon, prompting an international discussion about the phenomenon. He was requested by Karl P. Sauvant from the Columbia University, curious about what this indirect FDI meant, to prepare a succinct *FDI Perspective* (Kalotay 2012a), which he developed further in an academic article in the same year (Kalotay 2012b). To make sure that this time the effect would be there, Karl P. Sauvant had commissioned also another *Perspective* on the related issue of investor nationality (Hirsch 2012). As for the referees of the *Perspective* on indirect FDI, Christian Bellak and Andreja Jaklič of the first Vienna-centred research group were involved, alongside with Gábor Hunya and Magdolna Sass. Everything was done to control the quality of the analysis.

The *Perspective* (Kalotay 2012a) was found to be very interesting and thought provoking by some people, especially by Supachai Panitchpakdi, the then Secretary- General of the United Nations Conference on Trade and Development (UNCTAD), where the author of these lines passed most of his active life (1990–2021). That praise and encouragement was enough for him to continue and elaborate the topic (see Kalotay 2012b), despite the resistance of some colleagues who wanted him to withdraw the *Perspective*, arguing that they were just preparing a material for the upcoming (2012) *World Investment Report* (*WIR*), and the latter should get the full limelight when talking about the topic.

As the author of these lines suspected, there was no such material in the making.[7] *WIR2012* (UNCTAD 2012) focused on the renewal of investment policies. It would take four more years till a *WIR*

[6] There were nevertheless some studies such as Masso et al. (2008) that picked up the developmental impact (employment) question and concluded, similarly to Altzinger and Bellak (1999), and especially Altzinger et al. (2003), that the effects of indirect FDI are less pronounced than those of direct FDI, especially in the case of outward FDI.

[7] This workplace conflict had evidently negative effects on the author's post-2012 career prospects at UNCTAD. However, elaboration on that issue is beyond the scope of this review, focusing on the substance of indirect FDI.

would touch upon the issue of investor nationality; in fact the chain of investor ownership (UNCTAD 2016). It was thus the right moment to reinvigorate the international debate.

In hindsight, the author of these lines had good luck with the timing of his materials. They came out when people were more ready to discuss indirect FDI. It was indeed a period when the fiscal element of indirect FDI came to the fore of discussion (see Mintz and Weichenrieder 2010), making it possible to link together different threads of analysis. Readers should recall that the article (Kalotay 2012b) was published in a journal (*The Journal of World Investment & Trade*) whose majority audience was of the legal profession. By the end of May 2023, the *Perspective* had reached 14 independent citations and the journal article 95. [8]

Of the role of the Institute of World Economics

Authors and co-authors from the Institute of World Economics of the Centre for Economic and Regional Studies, Budapest, Hungary – cooperating with analysts from other institutions whenever necessary – have played an active role in analysing different aspects of indirect FDI over the past decade. As it will be mentioned later on, one of the issues that they picked up early on was the quality of FDI data, with implications for the conclusions of quantitative studies. The interest of the Institute was largely prompted by its focus on developments in the countries in transition, especially the Visegrad countries, in which indirect FDI plays a major role both in inflows and outflows. Without claiming to be exhaustive, one can mention among the landmark studies, Antalóczy and Sass (2015), Weiner (2015), Sass (2017), Weiner (2017), Sass and Vlčková (2019), S. Gubik et al. (2020), Sass (2021), and Sass and Tabajdi (2023).

The Institute of World Economics also played a leading role in highlighting cases of 'virtual indirect' investment (Sass et al. 2012), when the share of a foreign institutional investor exceeds 10 per cent, or even owns the majority of shares, and still the company does not become a foreign affiliate because no individual investor exceeds the 10 per cent

Of the main threads and recent advances of the indirect FDI literature

The literature of the 2010s and early 2020s on indirect FDI is typically interdisciplinary, involving economic, business, legal, social, and political aspects. It can be categorized into three main threads (table 1). The explanations for indirect FDI by different authors in different threads quite often reflect the motivations for MNEs engaging in such activities described in the relevant section above. The main threads are:

1. one focusing on the *developmental aspects* of the phenomenon, following what Altzinger and Bellak (1999) and Altzinger et al. (2003) initiated, including the productivity and employment question, but also the business strategy aspects and the human rights / social responsibility aspects of indirect FDI;
2. another one with a *fiscal–legal–regulatory approach*, following the footsteps of Mintz and Weichenrieder (2010); and
3. a third one raising questions about the quality and accuracy of *FDI data* or *special aspects* such as the relationship between sanctions and outward FDI, a hot topic in Russia, especially since the military attack on Ukraine started in February 2022, which in itself is a continuation of a conflict started back in 2014.

[8] As for citations with DOI, the Holy Grail of most metrics, the *Perspective* had 3 and the journal article 40. See https://m2.mtmt.hu/api/publication/2191222 and https://m2.mtmt.hu/api/publication/2182139. These are good numbers for such a highly specialized topic.

The author of these lines is surprised to note that the number of studies on the productivity and employment issue is rather limited and deals with relatively small case studies (see e.g., Sarwar and Mubarik 2014, and Shpak 2020). They nevertheless do indicate a difference between the effects of direct and indirect FDI, usually with a more pronounced developmental impact in the former. This is a thread that definitively needs more elaboration and studies in the future.

Another, more dynamic part of the literature deals with business strategy considerations, such as targeting regional markets, and geographical and cultural proximity. The author of these lines, when writing his *Perspective* (Kalotay 2012a), used the example of Adam Opel AG's investment in Poland, which at time belonged to General Motors (GM) and was used for reasons of regional strategy and cultural proximity to spearhead GM's entry in that market. The question has since then expanded to round tripping in a major World Bank study (Aykut et al. 2017), and the issue of transshipment in Asian FDI in the Visegrad Group (S. Gubik et al. 2020) and automotive outward FDI from the Visegrad Group and Austria (Sass and Tabajdi 2023). These studies have shown that the transshipment and round-tripping boxes of figures 1 to 4 are far from being empty. The play and important and active role in FDI flows and their management.

Table 1. Summary of selected advances in the indirect FDI literature in the 2010s and early 2020s

Main thread	Area	Examples of literature
Developmental aspects	Productivity and employment	Sarwar and Mubarik (2014), Shpak 2020
	Business strategy considerations (targeting regional markets, geographical and cultural proximity)	Aykut et al. (2017), S. Gubik et al. (2020), Sass and Tabajdi (2023)
	Human rights / social responsibility aspects, 'conduit FDI'	Suppa and Bureš (2020), Casella (2019)
Fiscal–legal–regulatory approach	"Phantom" interpretation of indirect FDI	Damgaard et al. (2019), Financial Times (2019), Zhan (2019)
	MNEs benefitting from tax competition	Gao and Liu (2021), Erokhin (2023), Fan et al. (2023)
	'Treaty shopping'	Lee (2015), Baumgartner (2016), Tomashevskiy (2021), Couet (2021)
FDI data issues and other special aspects	'Through a glass darkly'	Antalóczy and Sass (2015), UNCTAD (2016), Sass and Vlčková (2019), Hennart and Sutherland (2022)
	Sanction hopping (Russia)	Liuhto (2015), Bulatov (2017), Kalotay and Weiner (2022)

Source: the author's collection and evaluation of information

There are also studies that point out that indirect FDI has human rights / social responsibility aspects, or to be precise, some MNEs are motivated to avoid or at least limit such liabilities (see Suppa and Bureš 2020). It is linked to the outsource company issue, though the 'transit' company in principle could not be treated as an entity outside the MNE network.

There is also literature picking up Mintz's and Weichenrieder's (2010) terminology of 'conduit FDI' (Casella 2019), in which the transshipment centre is presented as a partly active agent of corporate strategies; at least more active than some of the fiscal–legal– regulatory literature (see below) presents it.

In the fiscal–legal–regulatory literature, the most visible and most discussed part deals with the tax avoidance or optimization issue. The debate touches upon the International Monetary Fund (IMF), the *Financial Times* and *fDi Intelligence*, to mention the most influential fora (see Damgaard et al. 2019, Financial Times 2019, Zhan 2019). It is not fully surprising as it is related in the current efforts of the Organisation for Economic Co-operation and Development (OECD) and the Group of Twenty (G20) for a global minimum tax (see more in Kalotay 2022). This thread prefers using the term "phantom FDI", which would suggest that the round-tripping and transshipment boxes of figures 1 to 4 would be (practically) empty. All decisions are taken by the corporate headquarters, and the units transit countries do only tax avoidance or undue exploitation of BIT protection.

Over the past years, the expression of phantom FDI has spread like bushfire in the popular literature, denoting both the "phantom" interpretation of indirect FDI and any investment project that claims to create value without manufacturing nuts and bolts – sometimes the combination of the two. [9] This is not fully surprising as the view that FDI must be manufacturing is one of the most stubbornly held among policy makers and the public at large. This also applies to the Hungarian strategy after 2010, under which automotive, and recently battery, projects are promoted by large amounts of public funds while investors in services and infrastructure are strongly encouraged to sell their assets to local owners close to the government.

One of the most often cited cases of "phantom FDI" chastized for claiming undue gains is the case of the British Virgin Island-registered Process and Industrial Developments Ltd. (owned by Irish nationals) against the Ministry of Petroleum Resources of the Federal Republic of Nigeria (Jus Mundi 2023). In 2017, an ad-hoc arbitration court awarded US$6.6 billion plus interest to the investor for the collapse of a project of a gas processing plant, on which physical work had not been started. In 2023, the case was still under appeal before a London court for annulment. The claim of the Nigerian party was that it is absurd to get compensated for a loss that does not include physical assets, only the collapse of a signed deal and a loss of expected income (signed back in 2010).

This insistence on attracting manufacturing FDI contradicts the theory of value chains according to which the smallest value creation is in the manufacturing phase, and the highest at the two ends of the chain. This idea has been popularized by the so-called smile or smiling curve, discussed since the early 1990s: the first mentions referred to case of the Taiwan-based electronics producer Acer. [10] If countries wish to avoid the middle- income trap and increase the value added, they would need to promote non-manufacturing FDI, in addition to blue-collar work.

Related to the major political debate is the literature on indirect FDI providing benefits to MNEs from tax competition. These studies, one of the youngest branches of the literature (see e.g., Gao and Liu 2021, Erokhin 2023, Fan et al. 2023), start with similar assumptions as the "phantom FDI" literature: indirect FDI is mostly or exclusively about fiscal optimization.

It is to be kept in mind that the aspects of indirect FDI represent a very small part of the vast literature on MNEs and tax avoidance. Most of those studies deal with the fiscal issue from a perspective different from that of indirect FDI, even when covering the issue of offshore financial centres.

[9] As a curiosity, in 2012 Dumitru Slonovschi from the Republic of Moldova suggested to call this type of FDI "false FDI" (Slonovschi 2012). That name did not stick.

[10] For an international business approach to the smile curve, see e.g., Mudambi (2008).

Yet another branch presents indirect FDI as an entry point to protection of BITs or DTTs (Lee 2015, Baumgartner 2016, Tomashevskiy 2021, Couet 2021). These legal studies elaborate on what Mintz and Weichenrieder (2010) coined 'treaty shopping'.

Indeed, there is no straightforward answer to the question if and to what degree the transshipped or round-tripped FDI is protected by the treaties. The global minimum tax is indeed an example where a plurilateral agreement limits the use of such treaties.

The authors of a third thread of literature have less a priori assumptions about indirect FDI. They simply wish to get a clear answer to the question of who invests in your country (cf. Kalotay 2012a). Hennart and Sutherland (2022) claim that, beside theory, data is the key challenge in international business research, and they refer to indirect FDI. As Antalóczy and Sass (2015) have pointed out, we have seen through a glass darkly. Or as Sass and Vlčková (2019) have invited us, we have to look behind the data. Investor nationality matters (UNCTAD 2016).

A special case of search for ultimate investors relates to sanction hopping, especially in Russia, the country most concerned by that measure since 2022 – but already functioning under them, though under a lesser intensity, after 2014 (see Liuhto 2015 and Bulatov 2017). [11] Work has already started on finding out how the indirect FDI or Russian MNEs adapt to the new wave of stronger sanctions, for example through the inversion of corporate headquarters, but also the reconfiguration of foreign assets, with unavoidable shrinking in certain foreign presence, even after using the indirect FDI techniques (cf. Kalotay and Weiner 2022).

One can observe with keen interest the burgeoning literature on indirect FDI. In general, one should not discard any new approach, although one may have critical remarks about those, such as the school on "phantom FDI", that aim to simplify that analysis of an otherwise complex phenomenon to purely fiscal considerations.

OF THE EFFORTS TO GET BETTER DATA ON ULTIMATE INVESTORS

At the end of the day, we need to know who invests in a country and how much if we want to gauge the developmental impact of the given project(s). Round tripping inflates the FDI numbers, both inflows and outflows, in addition to giving false information about the

nationality of the investors. Transshipping does not increase the volume of FDI but distorts its geography.

Under these circumstances, statisticians can do two things: Either they resort to additional data (especially operational data on MNEs), or try to improve existing data collection. In the case of indirect FDI, both happens, and naturally efforts started well before the publication of the two studies of this author in 2012 (Kalotay 2012a and 2012b).

One public effort includes the so-called FATS statistics, denoting originally Foreign Affiliates Trade in Services, part of the international trade in services, and now Foreign AffiliaTes Statistics in general. These data, rich in details, have the advantage of covering both inward and outward FDI but present the inconvenience that they are not directly comparable with original FDI data. Collection of FATS data started in the early 2000s, and now covers a broad range of developed countries, in particular.

Another way of improving the veracity of public FDI data was offered with the release, in 2009, of the sixth edition of the Balance of Payments and International Investment Position Manual (BPM6) of

[11] As Alexei Kuznetsov (2022) has noted it, these Russian MNEs follow 'non-classic' strategies in their investment projects abroad.

the IMF, in collaboration with the OECD and UNCTAD. This revision targeted, among others, the breaking down of the sequence of ownerships at offshore financial centres as confidentiality limited identification of ultimate beneficial owner. Most of the confidentiality has been since lifted, and quite often, but not always, the chain of ownership can be followed.

The main advantage of the BPM6 data on ultimate investors is that they are comparable with the data on immediate investors. The main limitation is that they are only reported on the inward FDI side (flows and stocks). Those who need outward FDI numbers for outward investment, need to resort to the mirror data of the partner countries, provided that they are available, and hoping that they are comparable.

To be noted is that there are also private data sources from which it is possible, at least to some degree, follow the chain of ownership in multinational groups. These days many researchers use for instance the Orbis database, property of Bureau van Dijk, A Moody's Analytics company (since 2017), which claims having data on more than 450 million companies worldwide.10 However, these data banks cannot either overcome the confidentiality issue. In fact, confidentiality can more easily invoked in case of private entity data collection than in case of official information requests.

In this section, focus is on FDI data on ultimate investors. We ask how data collection has improved for the Visegrad group, as in this group of countries, indirect FDI plays a prominent role. Luckily, three of the four countries (Czechia, Hungary and Poland) have such data, and for relatively recent times. These circumstances allow us to draw conclusions from statistics available as of May 2023 from the OECD and UNCTAD (see tables 2 to 4).

As a context, we have to keep in mind that the number of countries of the world reporting inward FDI positions by ultimate investing economy is relatively small, and covers mostly developed economies. They include the United States, Canada, the United Kingdom, and also at least 14 of the 27 EU members: Cyprus, Czechia, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Hungary, Italy, Poland, Portugal, and Romania. However, coverage outside the OECD membership is very limited.

Let us be optimistic: the glass is already half dim, not more fully. Despite remaining and persistent shortcomings, most of the data make sense. The author of these lines is leading his readers through the data of the 20 largest ultimate investors in the three countries. He does make a difference between those countries for which the ultimate investment is much higher than the immediate investment and those for which the reverse is true. Wherever ultimate investment dominates, the country is supposed to be the source of technology and jobs, but using transshipment centres to arrive to the Visegrad countries. This may be so because of the considerations described in the previous section, or their combination. These countries usually have relatively high corporate taxes at home. Conversely, the 'transit centres' provide less ultimate and more immediate investment. They are often offshore jurisdictions. Finally, this review is also showing the reader the round-tripped part of investment, which is quite high in Czechia, a bit less in Poland, and not among the top 20 sources in Hungary. It is also focusing on the so-called counter-intuitive cases because the most probably indicate a failure in lifting the veil of confidentiality.

In Czechia and Poland, national investors show the largest and second largest difference between ultimate and immediate investment (the latter being logically zero), proving the importance of round tripping. In Hungary, national investors do not figure in the top 20. With a stock of US$1 122 million only, they arrive only to the 30th position. Naturally that does not exclude the possibility of Hungarian firms using foreign countries for transhipping their outward FDI, although again in this respect, they may be behind the Czech multinationals (see Sass and Vlčková 2019).

As for transshipped FDI, Germany, the United States, Italy and Japan are the most frequent sources of investment using transit countries to target Czechia, while in Poland, United States, Germany, Japan, United Kingdom and France are the most frequent ultimate investors going through third countries. In the case of Hungary, the United States and Canada dominate, indicating very probably SPV

investment. On the other extreme, the most popular transshipment centres with the largest difference in favour of immediate FDI are for Luxembourg, the Netherlands, Cyprus and Austria in the case of Czechia, for the Netherlands, Austria and Belgium in the case of Hungary, and for Luxembourg, the Netherlands, Belgium and Austria in the case of Poland.

Let us highlight also the cases in which the chain of ultimate reporting is almost surely broken. That applies to investment from Jersey to Czechia and Poland, in which ultimate investment is reported to be higher than immediate investment. The same applies to investment from the British Virgin Islands, Ireland and Malta to Hungary, which are not likely centres for ultimate investment as the statistics would suggest. Also among the Czech data, Korean, Swedish and Spanish immediate investment is reported to be smaller than ultimate investment, while these nations are usually not perceived as offshore, transshipment centres. The same observation applies to Danish and Italian investment in Poland.

Table 2. Czechia: Inward FDI stock by immediate and ultimate investor country, ranked by ultimate investor, US$ million, 2020

Rank	Economy /territory	By ultimate investor	By immediate investor	Ultimate - immediate
1	DEU: Germany	42 639	29 027	13 612
2	CZE: Czechia	31 115	0	31 115
3	AUT: Austria	17 147	20 120	-2 973
4	USA: United States	13 379	2 284	11 095
5	FRA: France	13 101	12 676	426
6	NLD: The Netherlands	8 096	32 865	-24 769
7	ITA: Italy	7 913	5 602	2 311
8	CHE: Switzerland	6 919	8 025	-1 106
9	BEL: Belgium	6 900	6 307	593
10	GBR: United Kingdom	6 257	5 576	681
11	SVK: Slovakia	5 194	5 967	-774
12	JPN: Japan	4 778	2 491	2 287
13	POL: Poland	3 939	4 034	-96
14	CYP: Cyprus	3 550	9 169	-5 619
15	KOR: Korea, Republic of	3 455	4 063	-608
16	SWE: Sweden	2 977	3 471	-494
17	LUX: Luxembourg	2 017	31 226	-29 209
18	JEY: Jersey	1 452	-42	1 494
19	ESP: Spain	1 357	1 743	-387
20	TWN: Taiwan Pr. of China	1 220	248	972

Table 3. Hungary: Inward FDI stock by immediate and ultimate investor country, ranked by ultimate investor, US$ million, 2020

Rank	Economy /territory	By ultimate investor	By immediate investor	Ultimate – immediate

1	USA: United States	175 457	946	174 511
2	CAN: Canada	21 965	311	21 653
3	DEU: Germany	21 549	19 729	1 820
4	CHE: Switzerland	18 971	5 711	13 259
5	IRL: Ireland	11 730	-1 607	13 336
6	AUT: Austria	9 894	12 395	-2 502
7	MLT: Malta	9 580	394	9 185
8	KOR: Korea, Republic of	6 773	4 502	2 271
9	FRA: France	5 987	4 983	1 004
10	GBR: United Kingdom	5 529	3 659	1 870
11	JPN: Japan	4 051	1 857	2 193
12	ITA: Italy	3 750	2 927	822
13	VGB: British Virgin Islands	3 720	146	3 574
14	TWN: Taiwan Pr. of China	3 492	35	3 457
15	CHN: China	3 479	420	3 059
16	IND: India	3 308	0	3 307
17	NLD: The Netherlands	3 303	19 301	-15 998
18	ISR: Israel	2 899	-296	3 195
19	JEY: Jersey	2 422	1 452	970
20	BEL: Belgium	2 244	2 917	-673

Source: the author's calculations, based on UNCTAD data and OECD data, accessed in May 2023

Table 4. Poland: Inward FDI stock by immediate and ultimate investor country, ranked by ultimate investor, US$ million, 2020

Rank	Economy /territory	By ultimate investor	By immediate investor	Ultimate – immediate
1	DEU: Germany	54 261	45 322	8 939
2	FRA: France	27 728	23 107	4 621
3	NLD: The Netherlands	26 706	53 375	-26 668
4	USA: United States	24 901	4 294	20 608
5	GBR: United Kingdom	15 425	9 664	5 761
6	ESP: Spain	13 752	13 601	152
7	POL: Poland	13 370	0	13 370
8	AUT: Austria	9 171	10 862	-1 691
9	CHE: Switzerland	7 527	8 137	-610
10	JPN: Japan	7 453	1 196	6 257
11	ITA: Italy	6 244	6 548	-304
12	SWE: Sweden	6 046	4 981	1 066
13	KOR: Korea, Republic of	5 753	4 555	1 198
14	DNK: Denmark	4 862	5 696	-834
15	BEL: Belgium	4 006	8 804	-4 798
16	PRT: Portugal	3 821	1 844	1 977
17	FIN: Finland	2 767	1 822	945
18	LUX: Luxembourg	2 575	33 916	-31 341

19	CAN: Canada	2 235	367	1 868
20	NOR: Norway	2 169	1 969	201

Source: the author's calculations, based on UNCTAD data and OECD data, accessed in May 2023.

Data from the three Visegrad countries indicate that we can already draw valuable lessons from a comparison between ultimate and immediate investor statistics, at least for those countries that provide regular and relatively reliable (credible) reporting. However, we still need to watch them with a critical eye and spot those irregularities in which the chain of reporting is still broken. In sum, the dimness of the glass has not yet fully dissipated.

Of the indirect FDI aspects of sectoral analysis

For both the analysis of immediate investment and of ultimate investors, the cross cutting analysis of sectors and geographical sources of FDI are among the most challenging but also most promising avenues of science. This is particularly true to the Visegrad countries where the priorities of investment promotion are often limited to a handful of activities, such as electronics and automotive. Analysts in this context have to decide which thread they are following. In most cases, the fiscal–legal–regulatory paradigm offers less guidance as the main question for these countries is not the maximization of fiscal revenues but the creation of jobs and the improvement of skills. In this context, the business-strategy oriented approaches are more relevant, as well as the search for a 'statistical' answer to the question of who invests in the country, as that determines to a large extent the developmental impact.

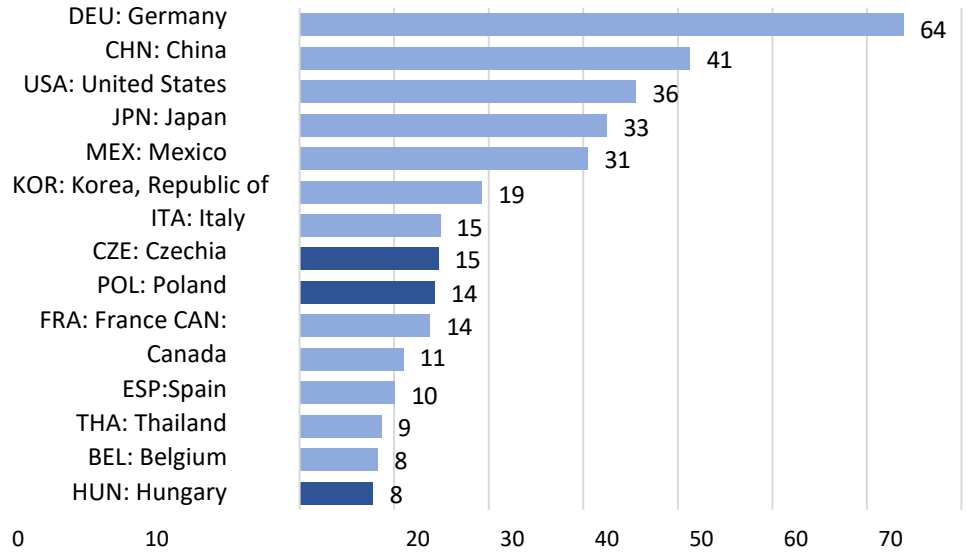
In the Visegrad group, one possibility is to look at the case of electronics industry as probably the most salient example of what Sanjaya Lall (2000) classified as high- technology sector (for a case study, see Sass 2015). However, it is even more interesting to analyse the automotive value chain as an example of a middle-technology sector, which is otherwise closely related to electronics and dominates investment promotion for blue- collar jobs in the four Visegrad countries.

As a result of vigorous investment promotion, [12] three Visegrad countries figure among the world's largest automotive parts exporters (Czechia is 8th, Poland is 9th, Hungary is 15th), closely integrated with the world's number one supplier, Germany (figure 5). The combined exports of the three Visegrad countries amounted to almost US$37 billion in 2021, representing more than 9 per cent of the estimated world total of US$400 billion. [13] They also have investment links with large automotive markets other than Germany, especially China, Japan, and the Republic of Korea, in particular via inward FDI from those countries.

Figure 5. Three Visegrad countries figured among the world's 15 largest automotive parts exporters in 2021 (US$ billion)

[12] For a recent analysis of the Hungarian government's efforts to attract battery production, see Éltető (2023). Naturally these red-carpet projects do not involve indirect FDI.

[13] Source: https://www.worldstopexports.com/automotive-parts-exports-country/, accessed 9 June 2023



Source: the author, based on data from https://www.worldstopexports.com/automotive-parts-exports- country/, accessed 9 June 2023

From the angle of indirect FDI, it is particularly relevant to compare the tiers of ownership (see Mintz and Weichenrieder 2010, and UNCTAD 2016) with the tiers of suppliers in automotive manufacturing. The 1st and 2nd tier suppliers are typically foreign affiliates, which sometimes arrive via transit countries, and in the automotive outward FDI of the Visegrad countries, these affiliates, and not so often the indigenous firms, that are at the source of going abroad (see Sass 2000, and Sass and Tabajdi 2023, for pathbreaking studies). To be added a complication of the analysis: The analysis of the cases involving outward FDI requires a multiple methods and data because ultimate investment is reported only on the inward FDI side, not on the outgoing one.

The Visegrad group is just one possible example where the cross-cutting issues of indirect FDI and value chains can provide us interesting policy conclusions in the automotive sector. Similar exercises could be done at least in the case of large and dynamic emerging-market players with important foreign presence in their sector, such as China, Mexico or Thailand, to mention a few (cf. figure 5). In case of a lack of statistics on ultimate investors, FATS data, information from private databases and company level data can also be used to follow the link between tiers of investment in the automotive sector and tiers of ownership in FDI.

In a similar vein, indirect FDI and value chains could be analysed in other global sectors, such as textile and garments, focusing on the key emerging-market players of Bangladesh, Brazil, India, Indonesia, Pakistan, Thailand, Turkey, and Viet Nam, to name them in alphabetical order, seeking again signs of interaction between indigenous firms, inward foreign investors and outward foreign investment.

OF THE FUTURE OF RESEARCH ON INDIRECT FDI

Looking into the future, it is quite safe to predict that in the upcoming years, indirect FDI will remain a very exciting interdisciplinary topic for research, and in many countries of the world, including the ones not covered in this succinct review. These studies may offer the possibility of blending different approaches and different threads. For instance, as mentioned above, the tiers of ownership in indirect FDI can be compared with tiers of supply chains, highlighting both the similarities and the differences.

Fruitful future research will always have to be open to interdisciplinarity and cross-cutting methods, even if they are more complex and less welcome by those who insist on staying in the framework of already set methodological circles. There would be also a need for more interaction between the different threads of indirect FDI analysis. At the current stage, research in the different threads does

not always speak to the others, or at least not sufficiently. It seems to be particularly true to the fiscal–legal–regulatory literature, which often uses highly specialized legal approaches and methods.

The quality of future research on indirect FDI may also hinge on the capacity of scholars to avoid the temptation of explaining the phenomenon through the lens of "phantom FDI" only. Beside the fact that not all projects named "phantom" are related to indirect FDI, which can lead to confusion, it is a way to simplify the complexities of indirect FDI. In general, it would be more exact to talk about the 'financialization' of FDI as a result of indirect flows (cf. Kalotay 2020, pp. 24–27), which still recognizes an active role for the affiliates and units involved in those 'financialized' transactions. This is particularly evident in the case of SPVs/SPEs, which do not produce any nuts and bolts but are still far from being empty boxes.

Still, there should be no illusion that "phantom FDI" will remain in the political and popular discourse as a colourful metaphor. However, we need a more nuanced approach from science, which should stick to the more neutral indirect term.

The most promising avenue for future research would be the improvement of data reporting. On the one hand, as highlighted in this review, the reduction of confidentiality could lead to more reliable conclusions of the real ultimate investors in existing statistics. On the other hand, the coverage of reporting could be extended to many more economies, especially the relatively less developed ones, for which those types of statistics are sorely missing. And in the long term, the big black box of outward FDI by ultimate target would need to be tackled, in parallel with improvements in the inward FDI statistics of ultimate beneficial owners.

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NEW EVENTS

EUROPEAN INVESTMENT BANK WORKING PAPER 2023/05: WHICH EUROPEAN FIRMS WERE HARDEST HIT BY COVID-19?

06 September 2023

34 Pages (PDF/EN)

ISBN: 978-92-861-5608-3 (PDF/EN)

The COVID-19 shock had a strong negative effect on aggregate economic performance, with the average firm taking a hit on sales revenues and financial performance. However, the effects varied from firm to firm. Were already-struggling firms hit hardest, threatening their very survival? Or did the COVID-19 shock disproportionately deter tomorrow's superstars at the upper end of the distribution, thus sacrificing future growth potential? This paper investigates where the COVID-19 shock hit the firm growth distribution, using graphical techniques and quantile regressions to analyse the full distribution of firm growth rates. We investigate how the COVID-19 shock relates to growth outcomes for four dependent variables: growth of sales, value added, employment, and labour productivity. Our results confirm that COVID-19 policy support reached its intended recipients.

This analysis is based on the data created by merging the European Investment Bank Investment Survey (EIBIS) with the ORBIS dataset maintained by Bureau van Dijk. The EIBIS contains information collected from 12 500 firms annually between 2016 and 2020.

Source:
https://mail.google.com/mail/u/0/?tab=rm&ogbl#inbox/FMfcgzGtxKPHdRpsPqrwJmRpCnxdfSvW

20 September 2023 - ITC News

THE INTERNATIONAL TRADE CENTRE'S PARTICIPATION AT WTO'S PUBLIC FORUM 2023

The World Trade Organization (WTO) Public Forum 2023, themed ***IT IS TIME FOR ACTION,*** examined how trade can contribute to a greener and more sustainable future.

"Climate change exacerbates existing issues. A just and inclusive green transition must involve the active participation of small businesses, especially those led by youth, women, Indigenous communities, and marginalized groups," said **Pamela Coke-Hamilton**, the Executive Director of the International Trade Centre (ITC) at the Public Forum's kick-off session.

Sharing the stage with WTO Director-General **Ngozi Okonjo-Iweala**, United Arab Emirates' Minister of State for Foreign Trade and Chair of the 13th WTO's Ministerial Conference **Thani AI Zeyoudi**, and COP28 Director-General Ambassador **H.E. Majid Al Suwaidi**, Coke-Hamilton emphasized that small businesses are key to driving the green transition. Therefore, their voices need to be heard at negotiation tables, including at the two major forthcoming global events, the 2023 UN Climate Change Conference (COP28) and the 13th WTO Ministerial Conference in early 2024.

Small businesses often lack information, skills, technology and finance to take climate action. In ITC's SME Competitiveness Survey 2022, conducted among African firms, only 38% of micro, small and medium-sized enterprises reported to have taken at least one measure to reduce exposure to environmental risks while the equivalent figure for large firms was 60%.

What do small businesses need to not only mitigate and adapt to climate change but also to take advantage of emerging green business opportunities and participate in relevant decision making?

A closer look at ITC-hosted sessions

The International Trade Centre brought practitioners from Africa, the Caribbean and the Pacific to amplify the voices of those most affected.

In a session co-hosted with the Caribbean Development Bank, **Tasneem Essop**, the Executive Director of Climate Action Network, **Marike de Peña**, the President of the Latin American and Caribbean Network of Fair Trade Small Producers and Workers (CLAC) based in the Dominican Republic, and **Jerry Spooner**, the Executive Director of Regenerative Vanua shared their recommendations for a '**A just and inclusive climate transition for small business'**.

"Greater collaboration is needed to advocate for a paradigm shift in the international financing system, and for the need to measure better, build resilience, and adopt better measures for sustainable development," said **Hyginus 'Gene' Leon**, President of the Caribbean Development Bank in Saint Lucia. "Helping small businesses in the climate transition, demands that Multilateral Development Banks and International Financial Institutions strengthen their advocacy as well as their financing, policy advice, capacity building, technical assistance, and other institutional support."

Marike de Peña emphasized the importance of small holder farmers for food systems and food security. Therefore, they should be at the heart of policy development, as they are the ones

affected by changing regulations and landscapes and receive more support to comply with new requirements regarding climate change adaptation and mitigation.

From an indigenous perspective, Jerry Spooner shared the success of Vanuatu's new tourism strategy, that involves indigenous communities as business people – while preserving climate, culture and food and building resilience.

Making up 90% of businesses in most countries, small businesses are a transformative force. In ITC's session **'Small businesses Driving Africa's Green Transition: The AfCFTA as a catalyst for environmentally friendly production, trade and consumption'**, Deputy Executive Director Dorothy Tembo shared these three messages:

1. Sustainable and resilient value chains are central to deliver on the UN Sustainable Development Goals and the AU Agenda 2063
2. The African Continental Free Trade Area (AfCFTA) offers an opportunity to advance sustainable production and trade in Africa – small businesses must be the driving force.
3. ITC places environmental sustainability at the heart of its interventions to promote small business competitiveness.

The Ambassador of The Gambia in Geneva, **H.E Muhammadou M.O. Kah** replied by saying that climate crisis was a reality and greening a must. "We cannot do this as individuals, we must partner, and we have to make sure that we make it right. Multilateralism is the only hope, it must work," he said.

Peter Nyeko, co-founder and CEO of Mandulis Energy from Uganda believes that small businesses can swiftly deliver solutions on a small scale and take advantage of international initiatives through the AfCFTA. However, communication was key to understanding the range of offers in the Free Trade Area.

Colette van der Ven, Founding Director of TULIP Consulting, added that the AfCFTA could be a lever for Africa's green transition. Governments could look at implementing existing national provisions, including on non-tariff barriers, and to capitalize on value chains.

Jayasurya Kalakkal, Expert in Environment and Trade at the UN Environment Programme emphasized the importance of cooperation at the trade and environment nexus and that UNEP, as a partner, stood ready to support.

Artificial Intelligence for Greener Trade

At ITC's booth 'AI for Greener Trade', Senegalese entrepreneur Babacar Birane demonstrated how entrepreneurs can make their green business idea a reality by using artificial intelligence. His company Concree is supported by ITC's FastTrackTech project that is part of the Netherlands Trust Fund, Phase V.

ITC was also proud to offer more examples of small business capacity-building tools, including ITC's diagnostics tool for tech start-ups, the SME Trade Academy, and the Climate Smart Network, a directory of businesses with climate smart credentials.

Find the full programme of ITC's participation at the WTO Public Forum ont he https://intracen.org/news-and-events/events/itc-wto-public-forum-2023.

Source: https://intracen.org/news-and-events/news/it-is-time-for-action-putting-small-business-first-for-a-just-and-inclusive

INSTITUTIONAL PROFILE

EUROPEAN ACADEMY OF SCIENCES AND ARTS AND ALMA MATER EUROPAEA

Alma Mater Europaea – European Center Maribor is an accredited non-profit research and higher education institution in Slovenia and part of an international university Alma Mater Europaea of the European Academy of Sciences and Arts based in the Austrian city Salzburg, which unites about 2000 leading scholars, 37 of which are Nobel Prize laureates.

Since the early 2000s**, the European Academy of Sciences and Arts** - see at www.euro-acad.eu - has been planning the establishment of the university, occasionally with the subtitle of European University for Leadership.

In 2010, Alma Mater Europaea was officially established, with Prof. Dr. Felix Unger being appointed as its first president, while the German political scientist prof. Dr. Werner Weidenfeld became the first rector, and the Slovenian lawyer and diplomat prof. Dr. Ludvik Toplak the first prorector.

At a meeting in Munich in February 2011, under the patronage of the presidents of 12 member states of the European Union, the board determined which courses the university would provide. These were to be taught in various cities across the union, in several languages, including English, German, and Spanish. In line with the international nature of the university, students, teachers, and prominent European thinkers would meet at an international symposium at the graduation. It was also decided that Alma Mater Europaea would be incorporated in European and international networks of universities through cooperation agreements.

The university board stated that Alma Mater Europaea would be based on three so-called "W principles": Wissenschaft, Wirtschaft, Wirken. In German, this means: Science, Economy, Effect.

In 2011, the university opened in Slovenia its first campus, located in the Slovenian city of Maribor.

Laurence Hewick ERENET Member and one of our writers has been with them for 10 years. Under the faculty banner you will find him as Head of Program (they use head, chairman and director - all interchangeable). Dr. Ludvik Toplak is the President.

Source: https://en.almamater.si/european-academy-of-sciences-and-arts-and-alma-mater-europaea-s86

ARE YOU WORRIED ABOUT CYBERSECURITY? YOU'RE NOT ALONE.

It's time to hit the ground running, and what better way to catch up than with our new weekly newsletter? Now streamlined and optimized for your busy lives, we'll deliver straight-to-the-point insights every Friday just a 5-7 minute read that'll keep you informed and empowered.

Digital transformation could grow the EU's economy by €2.2 trillion by 2030[i]

That sounds great, and the opportunities are vast, but this will only happen if the majority of small businesses make it happen, so what's in it for you and what are the risks?

First let's look at the risks:

- 43% of cyberattacks target small businesses.[i]
- Average cost of a data breach for a small business in the EU is €386,000[i]
- Cybercrime will cost $8 trillion globally in 2023, more than the GDP of Japan.[i]

If those figures don't terrify you, now consider that 60% of SMEs that are victims of cyber-attacks disappear within 6 months of the incident.[i]

So, what are the rewards and do they outweigh the risks?

- McKinsey found that small businesses can increase productivity by up to 20%
- Increase customer reach by more than 50% & satisfaction by over 30%
- And, critically, boost business sales by up to 20%

There are certainly benefits, but the biggest catalyst that will push small businesses into the digital economy will be competition.

Your business won't be undercut or sidelined by cloud computing or AI - *it will be undercut by another business using these technologies*.

The digital arms race is on, and most small businesses are a part of it, whether they

realise it or not.

If you are reading this in Europe, then you'll be pleased to hear European countries occupy 18 of the top 20 places in the global cybersecurity index.

We're also taking this very seriously at ESBA, but before we tell you what we are doing, lets look at what you can do to protect your business.

Tips from cybersecurity experts that won't cost a fortune:

- **Layer & Segment Security:** Combine firewalls, antivirus, and intrusion detection to segmenting your network & contain potential attacks.
- **2FA & Regular Scans:** Enable two-factor authentication & routinely scan systems to identify vulnerabilities.
- **Cyber Attack Response Plan:** Have a clear, actionable plan with steps for identification, containment, and data recovery in case of a cyber-attack.
- **Employee Education & Software Updates:** Keep staff updated on cyber threats & ensure all software is current.

What is ESBA doing?

ESBA has joined forces with the EU's **CYBERSPACE** project to secure Europe's digital frontier - take this quick 5–10-minute survey to boost your organization's cybersecurity know-how.

ESBA is a member of the Advisory Committee for **ENSURESEC**, a comprehensive solution tackling everything from website vulnerabilities to delivery fraud in the digital marketplace.

As part of the EU's SME Envoy Network, ESBA is pushing for a free, regularly updated online tool for SMEs to assess and improve their digital security. The tool aims to provide entrepreneurs with reliable evaluations of their ICT systems for risk mitigation.

LET'S BUILD A SAFER ONLINE EUROPE, TOGETHER.

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[i] https://tinyurl.com/34mnydfu
[i] https://tinyurl.com/bm74ufxt
[i] https://tinyurl.com/2aub6pd9
[i] https://tinyurl.com/445bb4km
[i] https://tinyurl.com/yckxm3wn

CALL FOR PAPER

EUROPEAN BUSINESS AND NATURE SUMMIT 2023

11-12 October 2023, Palazzo Lombardia, Milan

The 2023 European Business and Nature Summit (EBNS) – the largest conference dedicated to crafting sustainable business models working with biodiversity at their core. This year's edition comes one year before COP16 and will put special focus on empowering businesses to take decisive transformative action to implement biodiversity targets lead the way towards a nature-positive society.

With keynote speakers from the realms of policy and business, the Summit promises to inspire and guide you through the essential steps needed to improve your relationship with nature. Dedicated group sessions await you, designed to monitor, assess, and disclose biodiversity; reduce impacts and regenerate ecosystems; unlock financial resources through innovative mechanisms; and foster inclusive partnerships to accelerate action. Through these sessions, you will gain valuable insights, forge pre-competitive collaborations, and learn from the successes of leading businesses, financial institutions, entrepreneurs, NGOs, and policymakers. This year, the EBNS will put special focus on the Mediterranean region, a biodiversity hotspot where industries face significant nature-related risks.

We firmly believe that a whole-of-society approach is vital to shift the current economic paradigm in alignment with global goals for nature. Join us in recognizing the critical role of businesses, public authorities, NGOs, and other stakeholders in fostering collaboration. Together, we can safeguard our planet's biodiversity and shape a sustainable future for all. The Summit will allow you to discover innovative solutions to reshape business models and ensure the protection and restoration of biodiversity. By sharing our expertise and experiences, and showcasing tangible examples of effective action, we aim to inspire your positive change.

Don't miss this extraordinary opportunity to learn about concrete actions that businesses can take to protect and restore biodiversity. Be the catalyst for change and inspire others to join this urgent mission.

Registration will be open end of Summer.

Source: **https://green-business.ec.europa.eu/european-business-nature-summit-2023_en**

2023 SME World Forum:

Baku, Azerbaijan

The **2023 SME WORLD FORUM** will bring together some of the business world's most inventive and passionate leaders from academia, policy, and the youth sector. **The Republic of Azerbaijan's Small and Medium Business Development Agency- KOBIA -** will spearhead the event, serving as the principal host. **This World Forum is scheduled from November 13 to November 16, 2023, in Baku, Azerbaijan.**

The SME World Forum will focus on five main sectors: Private Sector Companies, Startups, Policy, Academia, and Education, with an additional emphasis on Tourism & Hospitality. The forum will also feature dedicated sessions highlighting youth and women in entrepreneurship.

Why Attend from the Private Sector?

Networking Opportunities: Connect with industry leaders, policymakers, and researchers.

Cutting-edge Insights: Access the latest trends, strategies, and opportunities shaping the SME landscape. **Influence and Collaboration:** Play an active role in shaping policies and best practices that impact the SME ecosystem globally.

Why Attend from Policy Sector?

Influence Policy Direction: Engage in critical dialogues with SME leaders, industry experts, and academics, contributing to formulating policies that foster small and medium enterprise growth, innovation, and sustainability.
Collaborate Across Sectors: Build partnerships with the private sector, educators, and legislators, promoting integrated approaches that align public policy with industry needs and societal goals, enhancing the effectiveness of regulations and interventions.

Access Global Perspectives: Gain insights from international thought leaders and policymakers, allowing for a comprehensive understanding of global trends and challenges.

This knowledge will inform more effective local and national policy decisions that can drive positive change in the SME landscape.

Why Attend from the Academic Sector?

Interdisciplinary Collaboration: Engage with professionals across various fields, including business, policy, and technology, fostering a rich environment for innovative research and interdisciplinary collaboration that can lead to new academic insights and breakthroughs.

Real-World Impact: Connect with practitioners in the SME sector to understand real-world challenges and opportunities, guiding research focus toward practical applications that can have tangible impacts on small and medium-sized enterprises.

Global Perspectives on SMEs: Participate in discussions and workshops led by international experts to gain a comprehensive understanding of global trends, regional variations, and cultural influences on SMEs, enriching your research and teaching methods with diverse and inclusive perspectives

Why Attend as Tourism & Hospitality Expert:

Industry Insights and Trends: Discover the latest trends, technologies, and innovative practices shaping the tourism and hospitality industry. Gain insights into consumer behaviour and preferences, sustainability initiatives, and the role of SMEs in driving economic recovery and growth.

Networking Opportunities: Connect with industry leaders, entrepreneurs, policymakers, and academics specializing in tourism and hospitality. You can eEngaging in meaningful conversations can lead to partnerships, collaborations, and new business opportunities.

Skill Development and Knowledge Sharing: Attend workshops, seminars, and panel discussions led by experts in the field. Enhance your professional skills, learn about best practices, and contribute your experiences and insights to shape the future of tourism and hospitality in a world increasingly influenced by SMEs.

Why Attend as Women & Youth:

Empowerment and Inclusion: Explore initiatives and strategies to empower women and youth in business. Understand how SMEs are providing platforms for gender equality and youth involvement, and learn how you can contribute to these efforts.

Entrepreneurial Development: Gain insights into entrepreneurial opportunities tailored to women and young entrepreneurs. Learn from successful women and youth-led SMEs, and get inspired to launch or grow your venture.

Networking with Like-minded Individuals: Connect with women and youth leading the way in various industries. Build a network that can offer support, mentorship, and collaboration, all vital for personal and professional growth.

Education and Skill Enhancement: Participate in workshops and training sessions designed to enhance skills and knowledge relevant to women and youth in business. Benefit from personalized learning paths that align with your career goals.

Voice and Impact: Have your voice heard on issues directly impacting women and youth in the business environment. Engage with policymakers, industry leaders, and academics to contribute your perspective and influence the policies and practices that shape the future of women and youth in SMEs.

Visit website at https://smeworldforum.org/?mc_cid=07c965c04d&mc_eid=7ad4531369

Remarks:

KOBIA was established by the Decree of the President of the Republic of Azerbaijan on 18 December 2017, in order to further enhance the investment and business environment in the country, improve the system of regulation of entrepreneurship and implementation of effective coordination, enlarge the role and competitiveness of small and medium enterprises in the country's economy, adapt the management system in this field to modern requirements, expand access opportunities for SMBs to financial resources and institutional support mechanisms, strengthen the legal guarantee of entrepreneurship.

KOBİA provides support and services to micro, small and medium enterprises and those seeking to launch their own business in the fields of information, advice, training, legal assistance, coordination with other state structures, boosting access to markets and financial resources, and protecting the interests of entrepreneurs.

Addresses of SMB Friend offices and other means of communication are placed on the website of KOBİA at **www.smb.gov.az.**

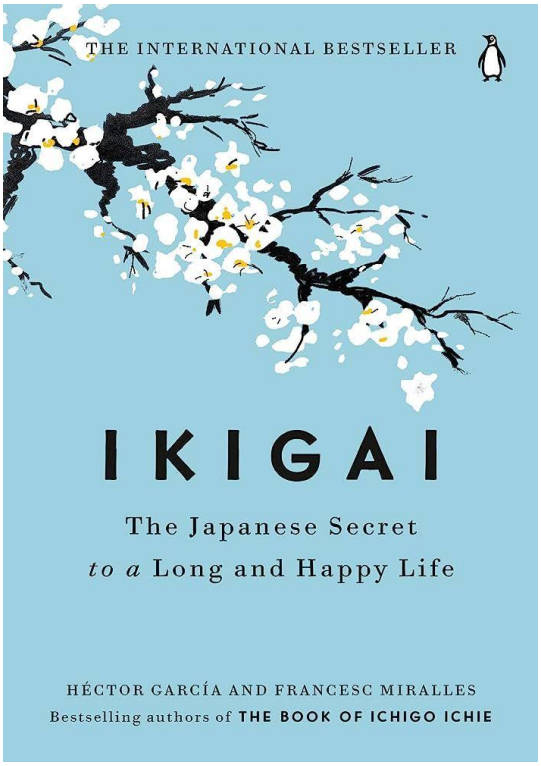
Workshop on "Development of women business and women business associations"
Baku 18 April 2017

Ragib Guliyev former Minister for Antimonopoly Policy and Small Business Development (above) and Sabit Bagirov President of EDF (right) Group photo of the participants at the Park Inn Hotel

© by Antal Szabó

BOOKs

THE JAPANESE SECRET TO A LONG AND HAPPY LIFE



Authors: Hector Garcia and,Francesc Miralles
Publisher: Random House UK Ltd, 2017

ISBN **178633089X**

GROW YOUR BUSINESS TO NEW HEIGHTS:
REVOLUTIONIZE YOUR MINDSET 10X!

Discover the Japanese secret to a long and happy life with the internationally bestselling guide to ikigai - 'a refreshingly simple recipe for happiness' (Stylist Magazine)

The people of Japan believe that everyone has an ikigai – a reason to jump out of bed each morning. And according to the residents of the Japanese island of Okinawa – the world's longest-living people – finding it is the key to a longer and more fulfilled life. Inspiring and comforting, this book will give you the life-changing tools to uncover your personal ikigai. It will show you how to leave urgency behind, find your purpose, nurture friendships and throw yourself into your passions.

Discover the magic of **Omotenashi, the new Japanese business concepts** that have the potential to elevate your business game to unprecedented heights!

Unveil the essence of Omotenashi, the art of wholeheartedly anticipating and fulfilling customer needs, going beyond expectations to create unparalleled experiences. Prepare to

witness customer loyalty soar to new heights as you master this cherished concept. Dive into the world of **Kaizen,** the philosophy of continuous improvement. Embrace the relentless pursuit of perfection, where even the tiniest enhancements lead to monumental achievements. Watch your business transform as every aspect reaches its peak potential.

Ikigai is the Japanese word for „a reason to live" or „a reason to jump out of bed in the morning". Embody **Ikigai,** the sweet spot where your passion, mission, vocation, and profession converge. Unlock the profound purpose that fuels your entrepreneurial journey, leading you to unparalleled fulfilment and success.

Embrace **Gemba,** the idea of going to the source to understand and solve problems firsthand. Step into the heart of your business, connect with your team, and revolutionize your decision-making process for unparalleled results.

Unleash the potency of **Mottainai,** the spirit of minimizing waste and maximizing resources. Witness efficiency skyrocket as your business optimizes processes, resources, and opportunities, paving the way for sustainable growth.

Ikigai, Kaizen, Gemba, Omotenashi and Mottainai - which concept resonates with your soul? Share your thoughts and let's embark on this transformative journey together!

With these powerful Japanese business concepts, get ready to revolutionize your mindset and witness your business soar to uncharted heights.

OBITUARY

The Azeri population and the ERENET Members suffered serious losses. **FATIMA AGHAMIRZAYEVA**, the first female entrepreneur of Azerbaijan, the author of carpet-sewing books, the President of the Azeri Carpet World Association, recognized by UNESCO as the best entrepreneur of folk art in Europe, has died.

Fatima Aghamirzayeva was born on 10 January 1953 in Guba, Azerbaijan and lived here in one of Azerbaijan's carpet centers. **She founded the Aygun Carpet Factory** in 1989, and was the first female entrepreneur in Azerbaijan. Her artisans choose their own schedules and use only natural dyes made on-site. Ilham Aliyev, the President of the Republic of Azerbaijan, awarded she the title of Artist of Azerbaijan. Fatima has represented Azerbaijan carpets at exhibitions in Turkey, Germany and later on in Kuwait and Iran at the same time providing workshops. In 2006 she founded the World of Carpets Association IB (Xalça Dünyası Assosiasiyası (XDA)) which is currently the official member of UNESCO.

Azerbaijan has a long history of carpet making mostly women. another. She also follows old rules of what kind of wool to use – like only using wool from live sheep, and not using the outer layers of wool that have been exposed to the sun. Her parents were both carpet weavers and she estimates that she has taught 5,000 women over her career.

In the recognition of the contribution of women-entrepreneurs to the economic development and social progress of their countries the United Nations Economic Commission for Europe has established an Excellent Woman-Entrepreneur of the Year 2002 in six categories. **Fatima Aghamirzayeva as President and Owner of the Aygun company** (Quba, Azerbaijan) jointly with Makhfuza Hamidovna, Director and Owner of Sadbard company (Bukhara, Uzbekistan) **became the winner of the The Best Entrepreneur in Craft.** The Award Winner list see at https://unece.org/fileadmin/DAM/press/pr2003/03ireedd_p06e.htm. I was honoured to take Fatima and other winner to my house following the closing ceremony at the Palais des Nations.

On 18 April 2017 I met Fatima at the **Workshop on Development of Women Business and Women Business Association** held in Baku. The Workshop was organized by the Entrepreneurship Development Foundation – EDF - and sponsored by the USAID. Following the Workshop Sabit Bagirov, President of the EDF took as the Aygun Carpet Factory. At the vestibule Fatima proud presented the Award Document on Best entrepreneur in craft received in Geneva at the UNECE women entrepreneurs ceremony. Her carpet workshop was clean, the weaver workers seemed to be happy. Guba for me represents an art-oriented activities. All carpets are hand-made from naturally dyed wool and not a machine made carpet production in the state-owned enterprise, Azərxalça,

Because of lack of teaching materials, Fatima created a book on “Learn to sew”, which was accepted for Government Program and was issued by Azerneshr, a major publishing house in Azerbaijan. Later, Fatima writes “Sewing Practice” and “Gözəllik ondur” books which were included into official education program.

Ms. Fatima was one of those hardworking women who devoted her life to the ancient art of carpet making in Azerbaijan, she did a great service in passing this art on to future generations, the art and work of thousands of women.

Fatima Aghamirzaeva was also a member of the Political Council of the Democratic Reform Party.

He remains in our memory as a wonderful person, a good friend, a dignified citizen and a caring businessman. Your lovely memory will always live on in our hearts!

We express our deepest condolences to the relatives, family members and relatives of Fatima Aghamirzayeva, especially her son Elkhan Agamirza and to his grandson Rest in Peace!

Dr. Antal Szabó
Scientific Director of ERENET
photos © by Dr. Antal Szabó

The address of the ERENET Secretary sees below:

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