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INTERNATIONAL EDUCATIONAL MOBILITY IN ISRAEL AS A FACTOR FOR FORMING THE KNOWLEDGE ECONOMY

SPECIALIZATION: 521.03 - ECONOMICS AND MANAGEMENT IN THE FIELD OF ACTIVITY

Doctoral thesis in Economics

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CHIȘINĂU, 2022

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ANNOTATION

To the thesis to obtain the scientific degree of Doctor in Economics

"International educational mobility in Israel as a factor for forming the knowledge economy"

Masri Bushra, Chisinau, 2022

Specialization: 521.03 – Economics and management in the field of activity

The structure of the thesis: The thesis consists an introduction, four major chapters with conclusions and recommendations. The four chapters include 14 tables, 27 figures and one map. In addition, a list of 188 bibliographical sources, and 9 annexes. Thesis was presented in 16 academic articles which had been circulated in Europe, Israel, and Asia. Altogether, the length of the current thesis is 148 pages.

Key words: knowledge economy, educational mobility, globalization, management theory, international relations, gross domestic product.

Fields of research: The research deals with the issue of the academic mobility of students in higher education as a factor of influence and promoting the fields and subjects of knowledge economy in Israel.

Subject of the thesis: To investigate the interrelationships, effects, and dependencies between the academic mobility of students to and from Israel, and the stabilization of knowledge economy as a future employment-economic factor.

The purpose of the research is to identify the ways in which positive academic mobility, in which the number of international students entering is greater than the number of Israeli students leaving, will affect the field of the Israeli knowledge economy**.**

The scientific challenge of the research lies in the relationship between the factors influencing academic mobility in higher education and the formation and stabilization of knowledge economy as a national development factor in Israel.

The scientific innovation of this study based on the theoretical development of an updated definition of the contribution of the academic mobility of the Israeli economy with an emphasis on employment and the development of the fields of knowledge economy. By calculating the principles of their determination, analyzing methods to increase the demand for academic mobility and reducing brain drain, the author presents a theoretical mechanism based on strategic and applied cooperation with policy changes in academic mobility and the knowledge economy in Israel**.**

The theoretical significance of this study is reflected in the proposal of an innovative scientific methodology based on multidisciplinary analysis that points to indicators that represent the relationship between academic mobility of students in higher education and those with economic-technological professions for the state's economy, industry, employment threshold, and especially accumulation of advanced knowledge. The author seeks to use this model to develop the State of Israel's knowledge economy by calculating the principles for determining, analyzing methods for increasing the demand for academic mobility and reducing brain drain.

The scientific problem solved in thesis includes redefining and identifying characteristics and processes related to academic mobility of international students, and local Israelis, along with minimizing the trend of brain drain from knowledge economy in Israel. In addition, the creation of a renewed strategy and the implementation of ideas and processes based on a multidimensional analysis of the knowledge economy through the proposal of a national mechanism that will manage and supervise the required activities. All this with the aim of developing a stable, competitive, and international knowledge economy is designed for the modern economy and industry.

The implementation of the scientific results is executed through the application of the research ideas, conclusions and recommendations in the higher education mechanisms, the Ministries of Economy and Employment, and local authorities, while emphasizing the required adaptation to the culture of decision-making and the unique characteristics of the State of Israel. The model and research ideas are already being implemented in two local authorities in Israel.

ADNOTARE

La teza pentru gradul de doctor în științe economice

”Mobilitatea academică internațională în Israel, ca factor de formare a economiei cunoașterii”, Masri Bushra, Chișinău, 2022

Specialitatea: 521.03 – Economie și management în domeniul de activitate

Structura tezei: Lucrarea constă din introducere, patru capitole, concluzii și recomandări. Patru capitole includ 14 tabele, 27 grafice și o hartă. Conține de asemenea o listă de 188 surse bibliografice și 9 anexe. Teza a fost prezentată în 16 articole științifice publicate în Europa, Israel și Asia. În total, lungimea actualei teze este de 148 de pagini.

Cuvinte cheie: economia cunoașterii, mobilitatea educațională, globalizarea, teoria managementului, relațiile internaționale, produsul intern brut.

Domeniul de cercetare: Cercetarea tratează problema mobilității academice a studenților din învățământul superior ca factor de influență și promovare a domeniilor și subiectelor economiei cunoașterii în Israel.

Subiectul tezei: Investigarea interrelațiilor, efectelor și dependențelor dintre mobilitatea academică a studenților către și din Israel și stabilizarea economiei cunoașterii ca viitor factor economic de angajare.

Scopul cercetării constă în identificarea modalităților în care mobilitatea academică pozitivă, în care numărul de studenți internaționali care intră este mai mare decât numărul de studenți israelieni care pleacă, va afecta domeniul economiei cunoașterii israeliene.

Provocarea științifică a cercetării constă în relația dintre factorii care influențează mobilitatea academică în învățământul superior și formarea și stabilizarea economiei cunoașterii ca factor de dezvoltare națională în Israel.

Noutatea științifică a acestui studiu se bazează pe dezvoltarea teoretică a unei definiții actualizate a contribuției mobilității academice a economiei israeliene, cu accent pe ocuparea forței de muncă și dezvoltarea domeniilor economiei cunoașterii. Prin calcularea principiilor determinării lor, analizând metode de creștere a cererii de mobilitate academică și de reducere a exodului de creiere, autorul prezintă un mecanism teoretic bazat pe cooperarea strategică și aplicată cu schimbările de politică în mobilitatea academică și economia cunoașterii în Israel.

Semnificația teoretică a acestui studiu se reflectă în propunerea unei metodologii științifice inovatoare bazată pe analize multidisciplinare care indică indicatori care reprezintă relația dintre mobilitatea academică a studenților din învățământul superior și cei cu profesii economico-tehnologice pentru economia statului, industrie, pragul de angajare, și mai ales acumularea de cunoștințe avansate. Autorul încearcă să folosească acest model pentru a dezvolta economia cunoașterii statului Israel, calculând principiile de determinare, analiză a metodelor de creștere a cererii de mobilitate academică și de reducere a exodului de creiere.

Problema științifică soluționată în teză include redefinirea și identificarea caracteristicilor și proceselor legate de mobilitatea academică a studenților internaționali și a israelienilor locali, împreună cu minimizarea tendinței de exod de creiere din economia cunoașterii în Israel. În plus, crearea unei strategii reînnoite și implementarea ideilor și proceselor bazate pe o analiză multidimensională a economiei cunoașterii prin propunerea unui mecanism național care să gestioneze și să supravegheze activitățile solicitate. Toate acestea cu scopul de a dezvolta o economie a cunoașterii stabilă, competitivă și internațională, sunt concepute pentru economia și industria modernă.

Implementarea rezultatelor științifice se realizează prin aplicarea ideilor de cercetare, concluziilor și recomandărilor în mecanismele de învățământ superior, Ministerele Economiei și Ocupării Forţei de Muncă, și autoritățile locale, subliniind totodată adaptarea necesară la cultura decizională și caracteristici unice ale statului Israel. Modelul și ideile de cercetare sunt deja implementate în două autorități locale din Israel.

АННОТАЦИЯ

К диссертационной работе на степень доктора экономики

«Международная академическая мобильность в Израиле как фактор, формирующий экономику знаний», Масри Бушра, Кишинёв, 2022

Специальность: 521.03 – Экономика и менеджмент в сфере деятельности

Структура диссертации: Диссертация состоит из введения, четырех основных глав с выводами и рекомендациями. Четыре главы включают 14 таблиц, 27 рисунков и одну карту. А также список из 188 библиографических источников и 9 приложений. Диссертация была представлена в 16 научных статьях, опубликованных в Европе, Израиле и Азии. В целом объем текущей диссертации составляет 148 страниц.

Ключевые слова: экономика знаний, образовательная мобильность, глобализация, теория управления, международные отношения, валовой внутренний продукт.

Область исследований: Исследование посвящено проблеме академической мобильности студентов в системе высшего образования как фактору влияния и продвижения областей и субъектов экономики знаний в Израиле.

Тематика диссертации: Исследование взаимосвязей, эффектов и зависимостей между академической мобильностью студентов в Израиль и из Израиля и стабилизацией экономики знаний как экономического фактора занятости в будущем.

Цель исследования состоит в том, чтобы определить, каким образом положительная академическая мобильность, при которой количество поступающих иностранных студентов превышает количество уезжающих израильских студентов, повлияет на сферу израильской экономики знаний.

Научный вызов исследования заключается во взаимосвязи факторов, влияющих на академическую мобильность в высшем образовании, на формирование и стабилизацию экономики знаний как фактора национального развития Израиля.

Научная новизна данного исследования основана на теоретической разработке обновленного определения вклада академической мобильности в экономику Израиля с упором на занятость и развитие областей экономики знаний. Рассчитывая принципы их определения, анализируя методы повышения спроса на академическую мобильность и снижения «утечки мозгов», автор представляет теоретический механизм, основанный на стратегическом и прикладном взаимодействии, включающем изменения в политике академической мобильности и экономики знаний в Израиле.

Теоретическая значимость данного исследования выражается в предложении инновационной научной методологии, основанной на междисциплинарном анализе, указывающем на показатели, отражающие взаимосвязь академической мобильности студентов высших учебных заведений и лиц с экономико-технологическими специальностями для экономики государства, промышленности, порог занятости и особенно накопление передовых знаний. Автор стремится использовать данную модель для развития экономики знаний государства Израиль, рассчитывая принципы определения, анализа методов повышения востребованности академической мобильности и снижения «утечки мозгов».

Научная проблема, решаемая в диссертации, включает переопределение и выявление характеристик и процессов, связанных с академической мобильностью иностранных студентов и местных израильтян, а также минимизацию тенденции «утечки мозгов» из экономики знаний в Израиле. А также создание обновленной стратегии и реализацию идей и процессов на основе многомерного анализа экономики знаний посредством предложения национального механизма, который будет управлять и контролировать необходимые мероприятия. Всё это нацелено на развитие стабильной, конкурентоспособной и международной экономики знаний, и рассчитано на современную экономику и промышленность.

Внедрение научных результатов осуществлено путём применения идей исследования, выводов и рекомендаций в механизмах высшего образования, Министерствах Экономики и Занятости и местных органах власти, подчеркивая необходимость адаптации к культуре принятия решений и уникальным особенностям государства Израиль. Модель и исследовательские идеи уже внедряются в двух местных органах власти в Израиле.

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LIST OF ACRONYMS

ACA – Academic Cooperation Association

BOI – Bank of Israel

CBS – Israel's Central Bureau of Statistics

CEEO – Organization for European Economic Cooperation.

CHE – Council for Higher Education of Israel

CIA – Central Intelligence Agency

ECB – European Central Bank

ECTS – European Credit Transfer and Accumulation System

EEA – European Economic Area

ERASMUS – European Region Action Scheme for the Mobility of University Students

ESU – The European Students Union

EUA – European University Association

GDP – Gross domestic product

GNI – Gross national income

GNP – Gross national product

ICT – Information and communications technology workers

IEPN – Israeli European Policy Network

IMF – International Monetary Foundation

ISCED – International Standard Classification of Education

KEI – Knowledge Economy Index

MOF – Ministry of Finance

OECD – Organization for Economic Co-operation and Development

R&D – Research and Development

TEMPUS – European international Education Program

TQM – Total Quality Management

UNESCO – United Nations Educational, Scientific and Cultural Organization.

WB – World Bank

WTO – World Trade Organization

INTRODUCTION

The importance of the current research. During the past few years, the world economies have undergone a great deal of shocks due to accelerated globalization processes. The various governments are undergoing major changes, inclusive of which are the replacement of the composure of the industry and occupation and the economic spheres, such as relevant professional training and foreign exchange of goods and products. The third millennium has brought with it a significant change in the structure of the work economy and the utilization of the human resource. The changes in the economic world the technology and the globalization are based on these variables. Thus, the discussion is being held and spread in the majority of the work economies in the western world, and describes similar events in these spheres. These trends of global economic – technological – occupational changes focus the world on the creation of a new economic world called "knowledge economy". The knowledge economy is characterized as a tool for the creation of concrete and abstract products. The technology, and particularly the technology of knowledge, assists in combining some of the human knowledge in machines and computers which gradually and slowly replace the human worker.

This knowledge can also serve systems which support decisions in various fields for the purposes of creating an economic value for its owners (economic company / state). To the same extent, the globalization has created changes in the academic world through the development of the academic mobility of higher education students and academic professionals amongst countries. The mobility of the higher education students had contributed a great deal to the countries, and many governments develop the academic challenge in order to win a competitive advantage in a variety of economic fields in their own country a contribution to the employment and professional occupation, a contribution to tourism, a contribution to the development of the population and an exposure to new cultures. The desire to create an integration between the local communities and the foreign student are currently withstanding in the national priorities of countries such as Australia, the United States, Germany and some of the Eastern European countries. The State of Israel deals with the cost of living, the decrease in the occupational productivity, the crisis in the agriculture and obsolete industry, and lately, even with a lack of relevant occupation for its citizens. In addition, Israel does not possess economic abilities in as far as nature reserves (such as: quarries, oil, and water) are concerned. It is also in the process of a breakdown in operation of the traditional industries . The data confirms the low effectiveness level of the Israeli economy and shows the necessity of the current research. Israel faces a cultural need to develop the knowledge economy, to train the future generation of workers within this field and to find international distribution lines for the products of knowledge economy and the modern-day industry. This is

crucial for Israel's continued existence as an independent state. The current research shall explore the influence of the academic mobility of foreign higher education students which influence the development of the Israeli knowledge economy.

The relevance of the current research was designed in light of previous studies concerning the academic mobility and the potential benefits which may be derived in light of the increase in the level of academic mobility. The research relates to academic mobility for Israeli and international students, researchers, and academic and professional training in knowledge economy, such as medicine, engineering, industry, communications and energy. The relevant issues concern the possible interaction between the development of the knowledge economy and the increase in demand of academic mobility to Israel. There is currently a certain progress to the academic internationality of the Israeli higher education institutions, on the one hand, and the commencement of the economic deterioration of the values and of the economic data, on the other hand. Despite this, a professional, inclusive, and national approach which shall increase the power of the Israeli academy to international levels has yet to be implemented, as is being implemented in developed, advance countries. At the same time, the local knowledge economy shall provide solutions to the abilities and status of Israel as a country which possesses great power both in the economic and the academic aspects.

The purpose of the current research is to identify the ways in which the academic mobility may become a positive influential factor on the Israeli knowledge economy. The main goal is to find those variables which shall cause, on the one hand, the rise of demand of foreign higher education students on the one hand, and the decrease in the brain drain phenomenon outside of Israel, on the other hand, and, in addition, the location of credible indicators which shall affect the establishment of a stable and fruitful knowledge economy within the State of Israel.

In order to achieve this main goal, the following smaller goals shall be examined:

- Studying towards the theoretical and methodological aspects of the worldwide globalization effects in the twenty-first century.
- An analysis of the academic mobility and its effect on various economies during the past few years.
- An analysis of the map of academic mobility in Israel, inclusive of the demand level of foreign higher education students, the exiting of Israeli students to study abroad, and the reasons for the brain drain phenomenon outside of Israel and its characteristics.
- Identification of the problems in the Israeli economy as well as in the traditional industry which exists within it.

- Doing a comparative analysis of amongst countries with regards to the solutions and applications for building a knowledge economy through academic mobility.
- Demonstrating a statistical method (regression) which leads to the creation of a theoretical economic model which explains the possibilities of usage that can be provided by the academic mobility in terms of development of the Israeli economic industry.

The entirety of these smaller goals shall lead to conclusions and recommendations which shall be presented to the Israeli Ministries of Economy and Education in order to improve the State's abilities on the economic – occupational aspect and on the academic mobility aspect of foreign higher education students who come to Israel for academic purposes.

The hypothesis of the research is that the academic mobility that exists in Israel affects the Israeli economy in various aspects. Both on the negative side and on the positive side, but mainly on the negative side. The author of the thesis assumes that the mobility of Israeli students and researchers to study and work in other cities accelerates the trend of brain drain from Israel. The conditions for academic mobility in other cities are better, even for research and teaching institutes of higher education. On the other hand, there is a trend of brain drain in the fields of the knowledge economy, including medicine, engineering, computer programming, high-tech and traditional industry, and communication services. According to the author, the reason for this is the lack of a national mechanism (similar to other countries).

The methodology of the current research. In the course of this research, the author of the thesis was required to perform an in-depth reading and research of a great deal of diverse bibliographic sources, inclusive of research books, analysis of data from worldwide sources, such as: UNESCO, the OECD Data Center, the World Bank, the Israeli Central Bureau of Statistics, the Israeli Council of Higher Education, an analysis of data from many countries (Australia, Germany, Hungary, Holland, China, Russia, Canada and more). In addition, the issue of academic mobility in Israel as Compared to other countries in Western and Eastern Europe, including the Republic of Moldova. The researches of Igumnov & Palickova, Vaculovschi and Vasily Astrov. As well the theories and conclusions of the researchers of Chistohvalov, Philippovs. The Israeli researchers were Bar el, Feldman, Frenkel, Levi and Maharum. Well as in the world was discussed using sources written by Infanti, Jones, Liv, & Mikova. Of course, credible statistical resources were explored in-depth from every country which had been credited with information in the current research . The researcher conducted a theoretical and analytical analysis of global trends, socio-economic phenomena, theories and global models for the assimilation of knowledge economy strategies which were reviewed both in the literature review of Chapter 1, and in part of Chapter

3. The analysis was conducted on data from trusted bodies, statistics from government institutions, data comparison and statistical analysis of a survey questionnaire analyzed in tests such as: Durbin-Watson stat, Cockran-Orcutt, and the regression model. The synthesis process included analysis of models in other countries, aggregation of the data that emerged from the findings of Chapter 1 and Chapter 3 into an economic model and a proposal for the establishment of a government mechanism for in-depth treatment of the research problem. The synthesis was also continued in detail with regard to the components of the mechanism and the prediction of its financial cost. Ideas for the research products will be submitted to the Israeli government, and in addition are already being implemented in a number of localities in Israel.

The subject of the research. The subject of the research suggests a theoretical economic model which combines the increase of demand for academic mobility of higher education students as a factor which influences the knowledge economy which is developing in Israel. This is an innovative model whose contribution shall be, on the one hand, on the knowledge economy in Israel, and on having the Israeli academy become attractive for foreign higher education students, on the other hand.

The scientific innovation and originality of the thesis. The innovativeness in the current research is a direct result of existence and fulfilling of the main goal and of the secondary goals of the research, as were suggested by the author of the thesis. The scientific innovation is made up of the following clauses:

- An innovative definition of the connection between the academic mobility and the knowledge economy, as is expressed all over the world and in Israel.
- An innovative suggestion to implement a new national mechanism which shall coordinate the actions of the various factors who deal with the academic mobility and the improvement of the human abilities of those who deal with the Israeli knowledge economy.
- Proving the theoretical economic model by finding the major paths in which the state should invest in order to improve the knowledge economy in Israel as far as the creation of products and services is concerned.
- Identification of the factors which influence the narrowing down of the brain drain phenomenon, alongside the maximization of its economic abilities.
- It is suggested to establish a mechanism with a recommendation to set priorities whose goal is to provide the necessary steps which are relevant for this time, in order to improve the modern economic and industrial abilities in Israel.

The academic problem which is solved includes redefining and identifying characteristics and processes related to academic mobility of international students, and local Israelis, along with minimizing the trend of brain drain from knowledge economy in Israel. In addition, the creation of a renewed strategy and the implementation of ideas and processes based on a multidimensional analysis of the knowledge economy through the proposal of a national mechanism that will manage and supervise the required activities. All this with the aim of developing a stable, competitive, and international knowledge economy designed for the modern economy and industry

The theoretical value of the current research. The theoretical value of the conclusions and recommendations which are included in the current research has to do with the fact that it is offering an innovative methodology which is based on a multi-dimensional analysis of indicators from the world of academic mobility and the development of national abilities of knowledge economy. This suggestion may be used in order to provide the users with directions of actions to offer to the Government Ministries and the decision makers as per the consolidation of a new policy with regards to the possibilities which affect the foreign students on the knowledge economy in Israel. The suggestions of the author of the thesis are also bound to be useful when training staffs in international economic relations.

The practicable value of the current research may have to do with its scientific contribution which shall cause the decision makers and the official bodies in Israel whom are related to the discipline of the research (the Ministry of Economics, the Ministry of Education) to implement and execute the suggestions, conclusions, and model of the current research, by establishing a leading staff as an innovative mechanism which shall lead to the taking of productive steps designed to improve the academic mobility in Israel, to narrow the brain drain phenomenon of scholars and of those who possess high-demand and necessary occupations (doctors, researchers, and engineers), and especially, in order to increase the efficiency of the economic market, to move towards a modern, advanced industry which provides occupational solutions for its citizens.

The results of the current research:

- An analysis of the basic theoretical and methodological aspects of the globalization and its effect on the academic mobility as well as on the world's economies in the twenty-first century.
- The role of the academic mobility and its influence on the knowledge economy all over the world, vs. the traditional industry and the decrease in its value and various usages, both in Israel and in the world.

- An analysis of the different indicators of academic mobility of foreign higher education students and of Israeli students, alongside the phenomenon of brain drain of Israelis (doctors, engineers, researchers and scholars) facing the influences of the Israeli economy as a whole, and of the knowledge economy, on a more specific level.
- The creation of a theoretical economic model which shall explain the various factors of academic mobility which affect the composure of the knowledge economy and considers them to have a high rank of priority as far as their creation and improvement are concerned.
- The conclusions and recommendations for the creation of a national coordination mechanism amongst the academic mobility, the development of knowledgeable economic abilities, and the development of a model for the creation of international relations.

Implementation of the scientific results. The basic ideas of the thesis have been published in the international economic press and have been discussed in the Israeli Education and Economics Ministries. Alongside this, the results of the current research could be implemented in the managerial activity of decision makers as per the professional training and development of the human capital as well as per the increase of demand for academic mobility of the foreign higher education students to come to Israel for their academic studies. The innovative form of the results of the current research emphasizes the implementation of a general economic model and which includes leveraging the level of demand for academic mobility to Israel and minimizing the brain drain phenomenon. In addition, the development of the abilities of the innovative and modern knowledge economy which preserve the human capital, develops international relations, and preserves the high status of Israel in the academic and economic world.

The publications of the thesis. The contents of the current thesis have been published in 16 scientific articles in international periodicals.

The composure and make-up of the current thesis. The composure of the current thesis was determined by the research question – the academic mobility as an influential factor on the Israeli knowledge economy. The thesis includes an introductory chapter, three units which are divided into sub-chapters, conclusions and recommendations, a bibliography containing 188 bibliography sources, as well as 14 tables, 26 figures, and 9 appendixes.

The first chapter of the thesis, which is entitled: THEORETICAL AND CONCEPTUAL FRAMEWORK OF ACADEMIC MOBILITY AS A FACTOR IN FORMATION OF THE KNOWLEDGE ECONOMY was researched in an in-depth review of varied theories and management theories and methodologies in the subjects of academic mobility and their influence on traditional and knowledge economy all over the world. The chapter deals with comprehensive

aspects of the connection between the two variables – the academic mobility of higher education students for purposes of their academic studies.

In the second chapter, with entitles: MATERIAL AND METHODS OF RESEARCH. The methodology chapter includes a breakdown of the methodologies and methodologies that led to the writing of the thesis. Among the other concepts that have been elaborated and analyzed in this chapter, the main topics of the thesis can be found, expanding on their relation to the research question, and the topic under consideration. There are 22 figures which also comparing data & information between the State of Israel and the countries of the world (with emphasis on the OECD countries). In the third part of the second chapter, the method was explained how the conclusions were drawn, what statistical keys the research writer used in the questionnaire analysis (120 respondents), and the creation of the database from which the recommendations were made to the various organizations. The author should be noted that today (2020-2021), two local authorities are using the ideas and thesis products to improve their knowledge economy, and to deal professionally with academic mobility.

In the third chapter of the thesis, entitled: ANALYZING THE INTERNATIONAL EDUCATIONAL MOBILITY AS A FACTOR FOR FORMING THE KNOWLEDGE ECONOMY, various issues are examined and at the same time, the focus has to do with the influence of the educational mobility between the years 2010 to 2019/2020 (when available). In this chapter, a discussion is held with regards to data concerning the State of Israel, whilst emphasizing its unique local characteristics, problems and issues, as well as the influences of the academic mobility on the Israeli economy.

In the fourth chapter, which is entitled: WAYS TO IMPROVING THE INTERNATIONAL EDUCATIONAL MOBILITY IN ISRAEL AS A FACTOR FOR FORMING THE KNOWLEDGE ECONOMY, a discussion is being held, with an emphasis on finding ways to implement and accommodate gradual and systematic activity to improve the economic abilities of the State, whilst learning successful models from other countries. The chapter suggest a connection between the academic mobility and the development of the knowledge economy in Israel.

Key words: Academic Mobility, Globalization, Gross Domestic Product (GDP), Knowledge Economy, National Mechanism, Labor Force, Economic Policy, Management Theory, Internationalism, International Relations.

1. THEORETICAL AND CONCEPTUAL FRAMEWORK OF ACADEMIC MOBILITY AS A FACTOR IN THE FORMATION OF KNOWLEDGE ECONOMY

1.1 The management of knowledge economy in the world of globalization

Since the beginning of the 2000s, the world has been exposed to dramatic changes that accelerate economic – social processes. The leading one is fast entrance of technology and globalization to systems, both governmental and private – business sector. Human knowledge is currently translated to knowledge economy based on technologies, advanced producing procedures, communication and accessibility of products and services all over the world. These new technologies, developed in the 1950s, caused an accelerated change when personal computers were distributed. The wide use on e-mail and internet communication was also accelerated so the technologic – social factor largely increased the economic potential and changed the managerial approaches, employment courses and economic emphasis [52, 53 p.]. However, global understanding of knowledge economy term definition is still vague. According to Gray [59], the whole world sees in economic development, especially of technologic professions, a chance to regional cooperation, and some global organizations (World Bank, OECD and medicine organizations) even try to share knowledge in order to help developing countries to advance life quality. first, the researcher will review the definition of the main knowledge economy terms when the first is the term itself.

Knowledge economy the term knowledge economy, or knowledge-based economy, is an economic system where commodities and services production is mainly based on knowledge-intensive activities that contribute to a rapid progress pace in local economy, grows innovation and investment in human capital and resources that will advance local economy [6]. The main value component behind knowledge economy is the large dependence in human capital and intellectual property as a source of innovative ideas. Adams [3, 10 p.] believes that organizations are required to use this "knowledge" for their production to stimulate and deepen the business development process, both in independent organization and as a state approach in many countries.

According to Godin [54] knowledge- based economy relies on the crucial role of intangible assets in facilitating modern economic growth in organizations. Katz & Wagner [78, 12 p.] sharpens the definition and adds that knowledge economy is based on production, distribution and use of knowledge as main factor of growing and creating value in all industries. Knowledge economy does not refer only to knowledge-intensive industries. It may also be applied in traditional industries. Knowledge economy includes very skilled manpower in macro-economic and micro-economic environment; institutes and industries create jobs requiring special skills to respond the global market needs. knowledge is perceived a main job and capital creating source

[78]. Knowledge economy is the opposite of agriculture economy, in which the primary economic activity is existence agriculture, and the main requirement is manual work, or industrial economy that include mass production and most jobs are relatively unskilled. The transition of the global economy towards knowledge economy took place as part of the global trend of the information revolution. Auriol [10] reinforced the statement and argues that the" information revolution" affects the economy, society, and technology. In an era governed by information, the role of knowledge economy is strengthened, realized, its presence is felt in the profitable employment industries, therefore it attracts developed economies

The motives to develop knowledge economy by governments. A state that is interested to lead quality human capital among its citizens and create advanced economy is committed to invest in science, technology, industry and education. These life areas have significantly changed, and systems must be aimed to the required courses [29]. Boist [21] in his book even emphasizes the need to acknowledge local government central role in having national innovation system and demands to infrastructure and incentives to encourage investments in research and training [21, 88 p.]. The priorities will include:

1. Improving knowledge abilities – the support in innovation will have to be expended from "aimed" scientific and technologic projects to "knowledge oriented" programs. it is possible in providing cooperation frames between universities and governmental industry, promotion of new technologies' distribution to many sectors and companies and ease knowledge infrastructure development.
2. Upgrading human capital – a policy will be required to promote broad access to skills and especially learning ability. It includes providing broad formal education, motivate companies to engage with continuous training and lifelong learning, and improve the match between supply and demand of work skill requirements.
3. Organizational change - translating technological change for productivity will require many organizational level changes to increase flexibility, especially with regard to work arrangements, collaborations, development and expansion of manpower skills.

Bar El & Parr [12], Israeli economy researchers, presents **critical approach** to knowledge economy and insists in his article about classical economy feasibility backed by traditional industry. He says that traditional industry holds more than 31.4% of all industry profession employees in Israel. It is a very high percentage, and the government has to encourage capital investments in local industry development that provide occupational respond to many populations in the country and not rely only on knowledge economy of a modern industry that holds 9.1% of all employees.

Knowledge economy will succeed, like previous economies, through the managerial approach and style that will lead the organization staffs to achieve the goals and fulfil the organizational goals and strategy [12, 177 p.]. Diverse managerial approaches that suites current spirit regarding current employment precedents and social norms have led organizations and countries to economic success both at the local and international level. These approaches, which called classic management approaches, currently reflected in a very broad prism of capabilities adapted to the current era, including the knowledge economy characteristics that is spreading. First, the researcher will present the definitions of several managerial approaches, then the chapter will continue and find the common denominator between managerial approaches and knowledge economy establishment in the world and in Israel.

The scientific management approach – Taylorism. Management by scientific principles is a human resources management approach that assumes maximal efficiency in the organization may be achieved by reducing the systematic plan his is responsible for and creating an accurate financial reward system, based on dividing the tasks and simplifying it [19]. Camagni & Capello [24] adds that by creating ordered and supervised system, the organization will be able to achieve its organizational goals in an accurate approach, namely scientific. The scientific management aspires to set objective all-human rules, by which every organization can be managed with maximal efficiency. This approach assume that employee motives are purely economic, and his thinking is rational. Managerial management was developed in the end of the 19th century and the beginning of the 20th century by American engineers headed by Frederick Winslow Taylor. This method is also called Taylorism, after Taylor.

Grant [58] claims that scientific management was only partially adopted because many managers did not agree with parts of it (especially to salary raise according to outcome) and due to employee pressure, and in practice, in most cases, work conditions were set by negotiation between the factors and nut by the scientific management principles. The scientific management researchers saw great importance in work research. If will focus on the approach, we will find the knowledge economy basics that establishes its approach on nurturing organizational, knowledge-intensive activities that contribute to rapid progress pace in technology and innovation science and to accelerated obsolescence. The main value component is the large dependence in human capital and intellectual property as a source of innovative ideas, information and exercising like the scientific approach [97].

The behaviorist management approach - Max Weber. Management approach based on strategic line of laws and regulations. The authority is clearly defined and divided to various

official roles. In addition, there are rules that define the authority allocated to the various roles. The clerks are people who were properly trained [4]. this approach has several basic principles:

a. Hierarchic structure – there are very clear levels, hierarchy is important so people can know where they can appeal.
b. Written documentation – to preserve knowledge, supervision, managers can supervise their office in the best way.
c. Separation between home and work - their occupation is impartial, there are no preferences.
d. Professionalism - making clerical work a profession, it is the sole occupation of the professional clerk.
e. Managing by countable rules – the organization operation system is known

Carter [28] adds that to understand Weber's attitude towards the organizational structure, we have to understand his view of human behavior must be understood – Weber said human behavior may be divided to 3 types:

- Emotional behavior – emotional state that leads us to behave in a certain way.
- Traditional behavior – a person behaves this way because it is acceptable. He acts automatically without thinking on the motives.
- Rational behavior – preferred by Weber. Goal-oriented behavior. a person will act this way because it is the most efficient way to achieve the goal. behavior out of thinking and planning.

According to Adler [4, 60 p.], Weber says that is an organization will act rationally and not impulsively, out of thought, the organization will be more efficient. Bureaucracy is the "rule of office", the organization is perceived as a set of roles through which the organizational activity is performed. People are not important, only the roles, the duties. Bureaucracy is based on law and order, defined work division, authority scale, rules and official procedures, written communication and impersonal relations. This managerial approach does not suit, according to the researcher's opinion, to managerial approach that supposed to connect naturally with employees in knowledge -intensive organizations, especially in the economic aspect, since the prominent organizational hierarchy in Weber's approach does not suit the cooperation spirit and early consultation as currently accustomed in economic organizations.

Total Quality Management approach – TQM is a managing approach and guiding principles system aimed to provide all client demands, needs and expectations while constantly improving the organization [90, 96 p.]/ according to Deming [36], total quality management has the following principles:

a. Management role changes from management to leadership and it leads quality culture in the organization.
b. Focus on external and internal clients
c. Constant improvement of processes in the organization
d. Involving all the organization functionaries in the improvement process.
e. Allowing employees to become the power motivating improvements, as individuals and as part of a team.
f. Encouraging teamwork at all levels in work teams and multidisciplinary teams
g. Involving suppliers in the improvement process as partners to the organization success.

Managerial approaches, technical methods, quantitative tools and human resources management approaches are applied and combined in total quality management, in order to improve processes in the organization and increase the organization's responsiveness to the client needs in the present and in the future [98].

The total quality management principles are mainly based on the Japanese quality management perception and the principles of the theory of Deming, Journe, Feigenbaum, Crosby, Ishikawa. The approach was already applied in the industry organizations in Japan in the 1960s [122]. In the West the total quality management was applied only in the late 1980s in industry factories, mainly in car industry and high-tech industry, and only later, in service organizations as banks, insurance agencies and energy institutes. Currently, this method use was also spread to the public and governmental sector, for example in the education and health systems. The main contribution of this approach to knowledge economy development is in aiming at results that connect with the approach basis of knowledge economy development that contributes to national product by creating jobs. Figure 1.1 presents the process.

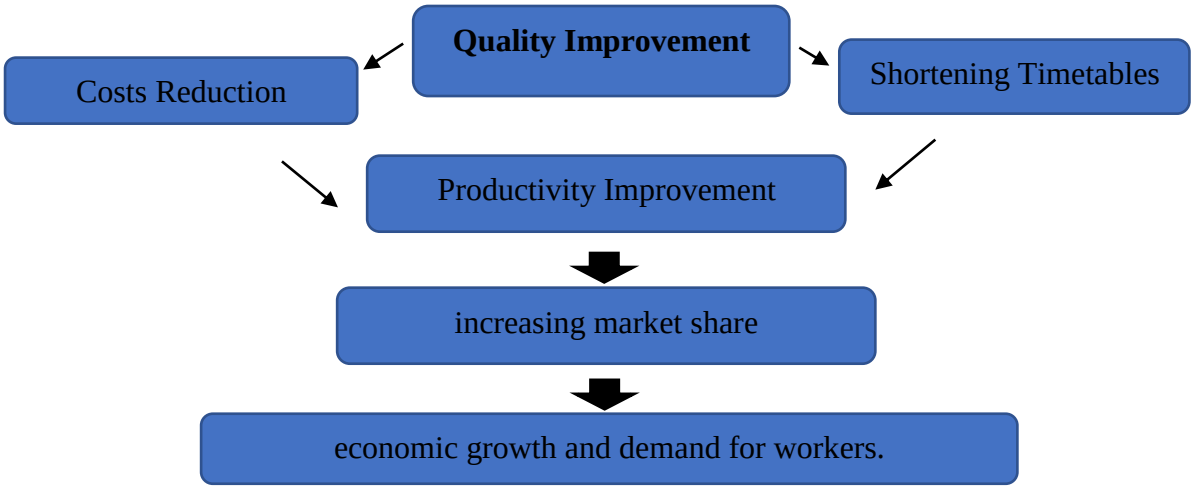


Figure 1.1. The main management principles of TQM theory
Source: made by the author [122]

Deming [36, 168 p.] emphasizes that the total quality management advantages were first used in the industrial sector and only in economic roles and approaches. However, later, it was found that the method's effectiveness is no less purposeful in public and governmental industries and also on service industries as banking, hotels, army, police, education.

The correlation between management styles and knowledge economy development. Proper managerial strategy can read the world economic – political map [47]. In an economic economy built on knowledge economy, human capital is the most significant component to economy, therefore it has to be well managed, including promotion and evaluation, developing human capital and proper employee direction to knowledge-intensive professions that are required and critical to local economy. The State of Israel is an example of this need due to lack of natural resources, geographic disconnection from Western countries and long year political – security complexity.

According to the classic perception in economy, the factors participating the production processes are usually divided to ground, labor and capital. These are usually used according to available technologic knowledge at the time. Abramowits & David [1] claims that in the new era, the knowledge economy importance has extremely grown, especially the technologic knowledge, and a state – local knowledge economy is forming, and it is also establishes additional occupation professions. Some claim that knowledge is becoming a production factor that may be partial replacement to other production factors. High-tech industries specialize in this area and they Are interested in activity with dominant weight to knowledge and research. However, Ackers [3] likes to define high-tech industries as technology and knowledge-intensive industries that requires management skills that suits its target audience and human capital unique style. This definition includes many managerial approaches and industries. In these industries the activity is based mainly on proper management of human capital. The Bank of Israel, for example, classifies industries to progressive and traditional, by the criteria of skilled manpower rate (with academic education) in industry and the innovative activity rate according to the use of patents, knowledge and modern equipment.

Bartra et al [14] clarifies that the managerial approach in high-tech industry is based on various levels knowledge flow, namely - mutual fertilization. First, knowledge flow from academic research, i.e., knowledge flow and employee transition from academic establishment to the private industrial sector. Second, employee transition between companies contribute to transfer of knowledge, production methods and ideas. Third, interdisciplinary knowledge flow. Fourth, knowledge transition from military to civilian and vice versa. This creates a multi-dimensional employment circle, which is the result of an adapted management policy. It seems that electronics

companies' management style in Israel and a little also the software companies made them to have the critical mass of employees, their development and position in a good place in the knowledge economy in the world. On the other hand, adds Morano Foadi [127, 135 p.], the biotechnology industry has not arrived there yet, and it needs a significant governmental encouragement to establish itself in the global level. Therefore, the managerial style and the human resource are a solid base to the fast technologic development in Israel. Research, performed in Israel by Getz et al [51] in 2018 about the managerial influence in Israeli high-tech companies, showed that the managerial factor was the most influential on organizational output in 56 knowledge economy-based companies (programing, cyber, biotechnology, mass communication). The research findings showed high satisfaction of the participants, and leadership attitude that managed to lead some of them to initial public offering. UNESCO criticized the issue in the article of Mahaela et al in 2018 [98] in which they criticized the accelerated process in developed countries compered to slow pace, it at all, in third world countries and in some African countries. they claim that this process encouraged negative immigration of population and vast movement of immigrants to developed countries (mass migration in 2010-2015 to Europe).

The globalization processes. Guruz [61] defines globalization, especially the processes developing as world-wide process in which products, capital, people, information and ideas quickly pass from country to country without distance or political borders delay. This process is a result of combination of economic, technologic, social, cultural, communication and political powers. Globalization was made possible thanks to several important conditions: development of fast and efficient transportation (airports and modern airplanes, seaports that reduced unloading and loading time, high-speed trains and highways), communication development (computer communication, everywhere available smartphones, fax machines), specialization processes (specialization of world areas according to their natural and human conditions). Ifaniti et al [67] thinks that the globalization process was accelerated by the new technologic developments in communication and information transfer – foe example, the internet development in the 1990s. Kerr [80, 7 p.] adds that the process occurred because many countries have reduced the limitations on commodities import and thus "opened" their markets and free passage of commodities between countries became possible. Mahroum [99] article expresses some criticism, and he claims the globalization process created international competition, because the products have to compete, in its quality and price, in similar products coming from different places in the world. While similar products and services are consumed in all countries. Global economy is led by over economic organizations, the most important are "World Trade Organization", "World Bank" and "International Monetary Fund".

Lowell [95, 46 p.] prefers looking at this issue in the social context and claims that in globalization processes, countries, communities, economic companies and people from all over the world create strong physical or virtual connections, almost without considering the limits of political borders. This enables fast transition of products, capital, people, information and ideas from place to place; economies, cultures and political movements are combined and nourish each other; and people all over the world develop similar taste and cultural customs, as the whole world is one unit. This creates a global market that influence economy, politics, culture and society in most world countries. The main beneficiaries of globalization process are the developed countries where multinational companies and economic super-organization have developed. The researcher [112, 7 p.] adds in her article "*Changes and concussion in global labor force (A brief look on Israeli labor)"* that globalization has also benefited developing countries by opening many markets to export their products, especially agricultural, and created many jobs, hence its contribution to knowledge economy in the country. Globalization processes were accelerated since the communist bloc has disbanded and the "cold war" between the USA and the USSR was ended. It created conditions to economic and cultural cooperation that strengthen globalization, and in years to see also advanced knowledge economy in developing countries, and countries as Poland, Hungary (in Eastern Europe) and countries in central America adopted innovative economic models.

Bach [11] reminds that globalization might create economic dependence between countries, and economic crisis in one world area may become global crisis. On the other hand, global economy can moderate and stop a crisis in one area by intervention of super organizations. We have seen it in the COVID19 crisis, where the European Union intervene for economically weak countries, or even the case in which the European Union escorts Greece for years. Additional research performed in 2018 by Ivan Milološa [125, 95 p.] and called "*Impact of Leadership Style to Financial Performance of Enterprises*" showed clear significance of direct correlation between leadership style and financial success of economic commercial companies and Initiatives. Therefore, the researcher concludes that the correlation between leadership style and innovative trends and initiatives development of knowledge-intensive organizations that belong to national knowledge economy policy is high.

World economy. World economy that is also called global economy is a general name for all global processes that influence markets and trade in the world. Economy itself is social science that deal with managing livelihoods from the individual level to world markets level [134]. world economy is not common economy of the whole world, but of each country, but in now, in the 21st century, all countries are obligated to economic relations between countries to allow quality life systems for their citizens. According to Moreno et al [128], one of world economy products is the

division to developed and developing countries. developed countries are countries with economy characterized by high life quality and its economy is diverse and significantly based on information research and development industry, as mentioned earlier - knowledge economy [23]. the term developed country is usually used in economy matters. Roberts [145] emphasizes that these countries usually are characterized in high GDP per capita, although the country will not be considered developed - if the high GDP per capita stems from exploitation (usually temporary) of natural resources. A country that is not developed is called by economists developing country, although sometimes the classification "developing country" is aimed to distinguish between third world country that is not a third world country but is also not a "developed country". Most of the citizens in a developed country live in cities and engage with various types of industry, service and trade. Only a minority of the population is engaged in agriculture, and farmers use modern methods that make it possible to greatly increase productivity. Questions of world economy is usually limited to human economic activity, and global economy is usually selected in financial terms, even in cases that there is no effective market that can help to evaluate specific commodities or services [23, 13 p.; 32]. The research world also criticizes the division to developed countries and developing countries since knowledge economy misses large sections of world population mainly to developing countries.

According to the World Bank [162], a developing country is a poor or not rich country, with traditional lifestyle, low standard of living and undeveloped infrastructure and technology systems. The education level of large part of the citizens is low. Most of the citizens in developing countries live in rural areas and engage in agriculture or live-in poverty areas in the cities. The developing countries are mainly in Africa, South America and Asia and about *three quarters of world population* live in it. this group include countries in various development levels from medium to very low development level. The term developing country was set in the 1960s to replace terms as "backward country", "underdeveloped country" or "undeveloped country". The economic status is not good, and many citizens suffer of unemployment, housing shortages, poverty and deprivation. Therefore, Abramowits & David [1, 40 p.] claim that the fast transition to knowledge economy will increase even more the gaps between the countries and will create a reality in which, for making a living, the developed countries will further exploit the developing countries as cheap labor, which does not have many choices [27].

World knowledge economy. According to Broersma & Van Dijk [22], this term is defined as the globalist economic relations layout based on technology and sciences that require high levels of knowledge, skills and international relations. Cowan [34] notes that research intensive universities have a very significant part in the distribution of world knowledge economy. They not

only educate generations of economic – cultural leadership, but in most countries they also the main producers of basic and advanced research. Research universities are among the most connected institutes to this subject in its international aspects. They have strong connections with similar institutes around the world, the host international staff and students, and in growing number function in global science language – English. Competition over funding, talents and access to leading academic journals and leading jobs in world rank became the motivating power of internationalism and mobility. Increasing the number of international students and scholars and international publications of co-authors causes rationalism of international and national institutional programs.

Basic terms in classic economy and intensively in knowledge economy are terms of products. Namely, how each economy and management style success is expressed in quality control? The main and first term is the Gross Domestic Product.

Gross Domestic Product – GDP. According to ESRC [39], Gross Domestic Product per capita is an index expressing the general value of commodities and services produced in a specific country in a year. This index is accepted in comparing country economic development levels. This index considers two additional variables: the country's population size and the country's price level. As higher the price level, the lower the purchasing power. Lawn [91] notes that while GDP is an index of the country's economic power as well as the economic growth each year, the GDP per capita is an index of the citizens' lifestyle, i.e., how much each citizen "produces" by his job for the country. Therefore, the index is per capita. Since there are differences in price levels between countries, the data is presented by a special exchange rate of Purchasing Power Parities and it allows to calculate the price of identical commodities and services "basket" in all countries. To illustrate the data, the researcher presents that according to the WB [162], the GDP per capita in the United States, in 2020, was 63,400 USD, Israel 41,900 USD, the EU countries 41,400 USD and Republic of Moldova – 13,001 (from 13,572 in 2019). See annex No 6 with the data of other countries.

The OECD in its document [167] notes that Gross Domestic Product is the basic index for determining the economy size. The idea is to summarize the incomes of all country's citizens or the market value of all commodities and services produced in the country. In 2019 (about a year before the COVID19 pandemic), the USA was the largest economy in the world in terms of gross product, which was about 14 trillion dollars. It means that commodities and services in 14 trillion dollars value is produced in the USA every year. Zwing et al [160] adds that the GDP differs from the term Gross National Product (GNP) in excluding in calculation remittances between countries,

so it includes the product created in a specific country and not the product received in it. the GDP is one of the indices using to evaluate the economic resilience of the examined area.

In calculating gross domestic product, there are those who distinguish between calculating nominal GDP (or GDP in money), referring to monetary values spent in a particular time, and real domestic product (or product according to "fixed prices") including inflationary adjustments in the same year. If we wish to present the equation/calculation means, it is made up of:

GDP = consumption (of products and services) + investments (existing in a country) + exports (outside country borders) – (minus) imports. According to Fox [48], economists began in the 1950s to divide overall consumption into individual and public (government) consumption. The premise of this division is that the focus of economists and economic policy attention should be to change or influence individual consumption, where government consumption is considered as an 'external' drive of national economy. Hence the updated and corrected calculation that includes:

***GDP = individual consumption + investments + government spending + exports – imports*.**

Brown [23, 25 p.] testified to the **problem of measuring product**. They argued there were measurement inaccuracies for a number of reasons. One of the most noticeable is ignoring black market activities, which in some countries is likely to be a remarkable part of domestic product. In Israel, for example, black market activity is measured as a certain percentage of overall business in the market. Since GDP only measures the provision of services and end products, it is reasonable to assume that transactions "not invoiced" not considered in calculating GDP is even greater. Another significant problem is that measurement is quantitative and not qualitative. The third problem discusses pretended growth in domestic product. For example, increased oil prices are likely to bring about impressive growth to state income, when in fact there has been no change at all to state product.

The concept has broad economic uses, and in practice serves as a key indicator, but not the only one, in comparisons between countries, or regions (European Union) with regard to the economic performance of each country. We will find that such usage in data from reports of the World Bank, the American organization, the CIA, national bureaus of statistics in each country and national organizations analyzing economic events such as global crises (Corona crisis, 2008 real estate crisis). Such organizations as IMF, the World Bank, the World Economic Forum in Davos, the CIA (in WorldFactBook) widely use the GDP indicator, calculated by various methods, including the purchasing power parity (PPP).

Gross National Product – GNP. The Ministry of Economy in Israel [166] defined the term as an economic term that expresses the total final products (commodities and services)

produced in a specific time (usually a year) in the *national economy*, plus the local production incomes as a result of outside the country activity, minus external production income in the same economy (as foreign workers), before reducing wear and tear.

To calculate the GNP, "product" is defined as any commodity or service provided for a fee. Thus, the GNP is a summary of all remittances in national economy. The GNP does not include commodities and services provided for free (voluntary activity, for example) nor funds allocation for national savings. The GNP mainly bases on reported remittances. In most countries it is mandatory to report remittances for tax payments, but there are also unreported remittances, and it is difficult to include them in the GNP data. Carnoy [26] presents the national product as a basic datum to illustrate the importance of knowledge economy and global activity, since it also includes the economic activity of production factors (service export, human capital export) to the national product contribution in the country. To demonstrate scientific data, the researcher claims that Israel's national product in 2019 was 41,950 USD compared to 23,440 USD in 2000, namely 79% increase in 19 years.

The correlation between domestic product and local economy. Economic activity is defined as human activity complex, aimed to achieve the material means a person needs for his existence and welfare [21, 88 p.]. in addition, economy deals with human and social relations related to achieving the material means, the laws and the social relations concerning the production and division of a property that uses for the citizen needs in the country [68]. The gross product is defined as a term indicates a criterion for measuring the total value of commodities, products and services produced in the country during a given period (usually a year). Usually, this data is expressed in terms of money. Hence, according to Beck [17] the greater the products quantity, the commodities passage, and services, and the higher the profit percentage, the more the economy will be favorably affected, and the more material means will be available for the citizens. in economic terms, domestic product can come from verity of channels, tourism, for example.

Carter [28] explains that one of the main effects of tourism on the product is the fact that **tourism increases the demand for goods and services** (catering, accommodation, transportation, consumer goods). **An increase in consumption level increases the activity in the market and as a result, raises the domestic product level.** In Israel, the influence of tourism on economy is also due to the employment it creates, which is six time more that chemical industry [162]. Karnit Flug, governor of the Bank of Israel until 2019, claims that **employee shift from traditional industry to knowledge industry to increase the contribution is required in order to increase the contribution and correlation between national product and economy.** She claims there is

no reason that other economies will use old fashion technologies, even if they do not produce medicines or information technology products [176].

Carnoy [26] claims that construction is the known example - **cheap manpower availability has prevented adoption of technologies used abroad for years, and perpetuated low productivity in this industry**. Service industries should also enjoy the availability of advanced production technologies. For example, the big retail chains in the US and Europe use inventory and sales management systems that most trade industry in Israel has not adopted yet. A research performed in Israel by the bank of Israel for the Knesset (the Israeli parliament) in 2018, "*Productivity and employee basic skills in Israel: international comparison"* [176], concluded that **Basic skills in Israel are in low level, and is has a significant role in explaining the fact that labor productivity (product per employee) is low, compared to productivity in other developed countries.** this low productivity is the main explanation for the relatively low salary level in Israel comparing to these countries. in addition, the geopolitical situation also influences productivity in Israel comparing to the productivity in the OECD. The geopolitical situation affects the risk capital markets attribute to Israel and investing in it, business companies willing to invest in Israel, and the extent of its international trade. Therefore, is correlation between gross product and contribution to the economy.

The correlation between domestic product, national product, globalization and knowledge economy. As mentioned earlier, gross product indices present an image of the country's economic activity, which is also influenced by global economic trends [76, 111 p.]. The Gross Domestic Product is an important factor in every state social – economic development. The domestic product growth consists of changes in physical capital stock, labor input, human capital quality, appropriate human capital stock for current employment source needs, and their true overall productivity ability. All mentioned terms are in fact the feasibility basis of knowledge economics professions detailed earlier. Lambert [89] also explains that the general economic production is efficiency index and may be defined as the quantity produced by production factor unit as labor or human capital. **Productivity is calculated as the ratio of output to labor and capital inputs given the relative weight of each.** Liu [94] adds for example, if in a specific time production factor (physical capital stock, labor input and human capital stock) have grown in 10% and the product have grown in a larger rate, the increase gap may be a result of increase in the general production. According to the "production function" approach, **the potential product is equal to the expected product in hypothetic equilibrium, in which the utilization level of all production factors is similar to the long-term average.** In this model, productivity growth rate, economy, employment rate, production and exports are derived from perennial trends of

influencing factors - physical capital, human capital, labor and total productivity. Therefore, the total production is the growth resulting from technologic improvements, namely transition to advanced employment professions, with economic-employment future for larger workforce, and other structural improvements not included in the additional components of the production function as investment in advanced physical and human infrastructure. Feldman & Abougamen [43] published an article called "*Development of High-Tech Industry in Israel: Labor Force and Wages Central Bureau of Statistics 2005-2015*", in which they have reviewed the economic processes and motives to promote the advanced economy in Israel. Among the main conclusions of the process findings there were also discussion and recommendation subjects for the Israeli government:

1. Employees' human capital stock and education - The larger and higher quality the human capital stock, the higher the labor productivity.
2. Employees' seniority and experience – the larger the employee experience, the higher the labor productivity.
3. Weight of economic industries – the higher the weight of relatively high productivity industries, like high-tech, the higher the labor productivity in the economy.
4. Competitiveness in the economy - leading competitors market share in the total market - the higher the competitiveness level, the higher the labor productivity. In Israel, for example, industries with high export weight (where the competition level is relatively high), the level of productivity is higher.
5. The ability to fire and mobile - labor market flexibility - the larger the labor flexibility in the economy or industry, the higher the labor productivity level.
6. Active labor market policy - the share of government expenditure in GDP - high government expenditure on vocational training efficiently allocated may lead to higher labor productivity.
7. International employees – the weight of international employees out of the total industry employees – the higher the international employees' weight, the higher the labor productivity, and also vice versa.

The researcher makes a hypothetic analysis of the research findings (emphasizing section 8, 2) and concludes that the occupational policy in Israel should be changed and allow economic organizations to import international employees that can help economic companies in Israel and thus contribute to the economy and domestic product. In addition, section 7 presents the importance of investment in opening economy to international economy and to international influences that will come and influence the higher education system by changing and updating

curricula and open for students and staffs research and employment opportunities in international aspect.

1.2 The international academic mobility in the world of knowledge

Today, the historical development of the world system of higher education is increasingly coming into conflict with the consequences and prospects of internationalization and globalization. This fundamental conflict manifests itself in various issues and problems: the recognition of university diplomas, specializations and assessments, the development of international forms of quality assessment, international accreditation issues [85, 82].

The academic mobility, which includes mobility of students and staff, for both teaching and training, has always been considered as a key, if not defining element of Internationalization. This was so above all in Europe, where outgoing mobility for students has been considered a priority in the policy makers' as well as institutional leaders' view [54, 19 p.]. This importance has been amply demonstrated by the European Union's support for the "**Erasmus Program**" [172]. The academic mobility received tremendous momentum immediately after the Bologna Reform in 1999 (Bologna, Italy). After the reform began a lot of countries made a lot of structural changes in their academic space in order to adapt themselves to the new reality, to academic globalization, to new academic requirements that will maintain academic relevance to students from within the country and foreign students.

UNESCO [163] define the academic mobility as implies a period of study, teaching and/or research in a country other than a student's or academic staff member's country of residence ('the home country'). This period is of limited duration, and it is envisaged that the student or staff member return to his or her home country upon completion of the designated period.

According to OECD [167], the academic mobility is when international students are students who have crossed borders expressly with the intention to study. The fields of education correspond to those defined in the **I**nternational **S**tandard **C**lassification of **Ed**ucation (ISCED). A doctorate holder has received an advanced research qualification at Level 8 of ISCED-2013.

Adler [4] define the academic mobility as Student mobility is defined as any academic mobility which takes place within a student's program of study in post-secondary education [35, p. 105]. The length of absence can range from a semester to the full program of study. There are two main types of student mobility: academic mobility by students which get in to entire program of study process (diploma or degree mobility); and also, for part of the program (Credit Mobility). Students studying in multiple academic settings believe that a series of benefits will accrue from their studies. The author in her article [106, 45 p.], "*The effect of knowledge economy on the*

phenomenon of brain drain " describe the academic mobility as long trends which started un the end of the 90th, and get increase in the phenomenon in the immigration process, and globalization .

Another point of view present by Chistohvalov & Pilippovs [30] which research the status, trends and problems of academic mobility in the European space of Higher Education. In their research, they reviewed the academic mobility in Russia. They examined the mobility of teachers/ lectures and students with a comprehensive review of possibilities and ideas for cooperation with other countries. In this case too, they raised the advantages and disadvantages, and changed the policy that the Russian government should adopt in order to encourage the trend. According to them, one of the most important benefits should be interaction between teachers and scientific foundations and organizations .

The researcher reference to an article about academic mobility in Russia. It should mention that the authors [30] protest that national budgets and resources were given only to a relatively small percentage of researchers and teaching teams (12.9%) that are preferred by decision makers in higher education offices in Russia, and the budgets address mainly to knowledge economy subjects (computer science, mathematics, physics and biology). This preference caused teaching teams seek opportunities to self-development through academic mobility to other countries. The international budgeting policy in higher education prioritize different fields in each country. They have expected that a country with central international status will also know to nurture internationality in other education fields, therefore the disappointment. The researcher understands each country's considerations, exactly like in Israel. The Russian government, so the researcher think, currently prefers to first promote professions he believes will push economically and interdisciplinary the education systems to other fields. It is also understood in this article that the Russian government works hard to minimize the brain drain phenomenon, and on the other hand heavily invests in bringing international students to academic institutions .

The Russian Government is investing and expending a lot of resources in creating an academic partnership and signing contracts for cooperation with industrial organizations from Russia and other countries. The modern approach to opening universities and academic institutions to investments and the academic world leads to global academic prosperity. The One of the directions based on the theory of the Russian government will cause motivation for academic mobility - the method of research grants. Today (2020), Russia is one of 10 countries with the largest number of international students [169].

Table 1.1 attempts to map these factors, dividing them into three main categories - motivations and personal reasons - motives and academic reasons - motives and professional

reasons. An expanded chapter will be presented in the thesis, in Chapter 2, in which the categories that motivate the Israeli student are raised.

Table 1.1. Reasons for academic mobility

	The causes of Academic Mobility	
Personal	**Academically**	**professional**
To know a new coulters'	To learn or improve language	To have an international career
To be challenge by new experience	To improve the resume	To learn other ways of doing business
To get out of the comfort zone	To experience educational that is better in your country	To open "professional doors" to other countries
To build a family in other country	To specialize in areas of interest	To achieve professional recognition
To open possibility for quality life	To get a special academic education	To develop international career

Source: Made by the author from source [82]

The author [105] in her article *" The impact of the Bologna reform on the Arab students in Israel*", she presents the reasons for the academic mobility of Israeli students, especially from the Arab sector. This reasons for academic mobility are indeed similar in most parts of the world. The author of the study raises on **socio-economic - occupational reasons - personal development and advancement - possibilities of professional development**, and a **desire to become acquainted with a new culture and a new language.**

Different types of Academic Mobility. In the world of globalization, with trends of immigration and effect of knowledge economy on the policy of governments, the academic mobility has a different type, which every kind of them is different. The different between them is the main issue which create the opportunity for the mobility [2, 412 p.]. The author of the thesis defines **tree** central types of academic mobility:

1. **Mobility of student** – students which decide to the get the academic higher education out of the country.
2. **Mobility of academic staff (lectures, researches)** – staff from the universities, colleges, academic institutes.
3. **Mobility of professional employment (doctors, engineers).**

This division of academic mobility is not different from academic mobility definitions of other researchers as Kehm & Teichler [79] or ERASMUS program [175], but clarifies the issue and adds that academic professionals as doctors, engineers, biologists and chemists also perform academic mobility to establish professional knowledge or ability as postdoctoral course, participation in international research or projects, and missions on behalf of the government or research institutions. Felsenstein et al [45] even worn that such phenomenon may definitely encourage brain drain, since the conditions (salary, benefits, promotion options) can blur the

identity between an academic who went and the motivation to return. In fact, according to Foray, & Kazancigil [47], academic mobility is an opportunity to develop professional abilities and human capital in all mobility types mentioned by the researcher: students, lecturers and professionals. To summarize, the researcher seeks to emphasize that she claims that academic mobility is not only to enrich the lecturer knowledge, and/or the participants' learning experience, but should also be a motive to develop local human capital as part of the insight that employment world is moving to knowledge economy that requires professional, updated human capital who understands the international arena.

Mobility of students. The author identifies a worldwide trend of student movement from one country to another due to various factors. According to the data of the OECD organization [167], the world has a movement of 5.6 (according to the UNESCO – 4.5 million) millions of students which move to study in other countries. The common causes of the transition were already presented in Table 1.1, where the personal reasons for the transition were raised. It should be added that this trend is growing due to economic, employment, political, social, climate, politics and security, academic and personal development.

Kehm & Teichler [79, 277 p.] adds that the recognized economic reasons are: cost of living, high taxation, low earning capacity, inflation and decline in the value of assets and currency value, non-social policy. The employment reasons are: employment problems in the academic field, employment problems of the academic spouse, inability to advance in the job due to a lack of standards, inability to progress professionally / academically.

The most popular countries for the higher academic mobility are United – state, Germany, Australia, United Kingdom, and lately, some of the eastern Europe (the medicine faculties).

International programs for international students – there are a lot of international programs for the student. The most popular are active by Erasmus institute. The **Erasmus** (**E**uropean **R**egion **A**ction **S**cheme for the **M**obility of **U**niversity) - The Erasmus program is an EU exchange student program that has been in existence since the late 1980.

. With the emphasis on international commerce growing all the time it is no surprise that there are a number of international programs in the education sphere. Some universities in many countries offer a chance of international exchange programs that allow students to study abroad for a term, a year or a specified period of time, and this can be an excellent way of getting to grips with languages [129, 19 p.].

According to ERASMUS organization report for 2016 [186], the main program of academic mobility project in the European Union space is ERASMUS+ [73]. The program is one of the most impressive achievements and most illustrating the academic mobility trend, its

diversity and possibilities. The program shows the union between European citizens (students) and European solidarity and belonging. It is all done through learning experiences in academic institutes across the continent. The program enables learning (and financial funding) for millions of European students and academy staff, enables horizon broadening and cultural - pedagogical experiences, creating rich fraternity, through academic collaborations, thus improve the participants' chances for better professional - academic success. according to this year summary, in 2019 thousands of students, apprentices, teachers and lecturers, youth workers and coaches in professional, academic training or gaining experience projects have participated with a 3.37 billion Euro. The program has supported 940,000 academic learning experiences (full, part time, semester program) in other countries, and assisted in funding and supporting almost 111,500 organizations and helped in funding 25,500 projects.

Academic Mobility – Top Countries. One of the leading countries in academic mobility of students to its educational institutions is the **United States**. In this country, academic mobility is managed as part of a system of integrated mechanisms that provides an answer to the international student in all fields. The academic aspect - immigration policy and visas, academic and health services, housing and economy. At the same time, the US administration receives updated information on the contribution of students to the economy, academic institutions, and the community. Open Doors® [168], is the national mechanism of United State and is the union which, support by the Bureau of Educational and Cultural services in the country. He is also reacting as comprehensive information resource for international students and scholars studying and for the lectures in higher education institutions in the United States. The organization with more than 1,100,000 international students, US are the host to about one big part of all internationally mobile students, according to UNESCO data [163], which estimates that 4.5 million students currently study outside their home country.

The benefit of internalization the higher education system. This process has been a relatively new phenomenon, but at the conceptual level it can have various and rather broad interpretations. Since the time of wandering scientists of the late Middle Ages, universities have always been viewed as a social and cultural phenomenon, the purpose of which was to spread knowledge beyond its territory [79, 261 p.]. At the same time, higher educational establishments, established in the XIX and XX centuries, performed their traditional functions of forming professional groups and local elite, as well as the development of science and technology in the national environment. Since the second half of the twentieth century, universities have been involved in a powerful movement of educational expansion and democratization of educational opportunities. The massive spread of higher education began to be seen as a guarantee of the state's

competitiveness in the new global economy. But although the students of many countries actively participated in the movement for the independence of their country, its development, modernization and democracy, most of the universities were still subsidized by the state, which also determined their political dependence. Thus, educational institutions were formed within the framework of state policy and the existing systems of higher education, the methods and order of their regulation are adapted to the national economy and culture of specific countries. In the world there is no international system of higher education, even if certain model - American, British or French - and is used by other countries to build their own educational system [73, 222 p.].

According to Knight [83], over the last thirty years, the main engine of development of comprehensive and strategic approach to the internationalization of the European higher education were all-European scientific and educational scholarship programs, primarily the Marie Curie program and "*Erasmus*", the realization of which became possible due to socio-economic globalization and the strengthening of the role of knowledge in society. There is no universal internationalization model. The existing regional and cross-country differences in internationalization are constantly changing, as are the differences between the approaches to internationalization used in different universities. Internationalization of education should include the following forms of international cooperation:

- Individual mobility: mobility of students, faculty and administrative staff for educational purposes;
- Mobility of educational programs and institutional mobility;
- The formation of new international standards for educational programs;
- Integration into the curricula of international elements and educational standards;
- Institutional partnership: creation of strategic educational alliances.

Dale [35] adds that the notion of internationalization in the field of higher education in international practice includes two aspects: "*internalization*" at home and "*external*" internationalization, or education abroad, cross-border education, cross-border education (education abroad, across borders, cross-border education). In the world practice four strategies for the internationalization of higher education are singled out:

1. Mutual understanding approach - the coordinated approach. A coordinated approach to the internationalization of the higher education that is based on long-term political, cultural, academic goals of the country's development. This strategy is implemented through the support of student and academic mobility through the provision of scholarships and the implementation of academic exchange programs, as well as programs aimed at building

institutional partnerships in higher education. The dominant principle of this approach is international cooperation, not competition.

2. Skilled migration approach - the strategy of attracting skilled labor. The strategy to support the migration of qualified employees is aimed at attracting selected foreign specialists and talented students to work in the host country as a means of ensuring economic development and enhancing the country's competitiveness in the knowledge economy. The main instrument of this approach is the system of academic scholarships, supplemented by an active program to promote the higher education system of the country abroad in conjunction with the adoption of appropriate visa and immigration legislation. The implementation of such programs is carried out through special agencies or a network of agencies and organizations.
3. Revenue-generating approach - the strategy of income generation. The strategy for international integration in higher education institutions is based on an agreed approach on strategies for attracting skilled labor, but within its framework educational services are offered on a fully paid basis, and state subsidies are not provided. Foreign students provide additional income to educational institutions, encouraging universities to implement entrepreneurial strategy in the international education market. Governments, in turn, provide universities with considerable autonomy, provide a high reputation for their higher education system, as well as a high degree of protection for foreign students.
4. Capacity building approach. The strategy of empowerment encourages higher education abroad or in higher education providers of foreign educational services. Important tools of this approach are:

   4.1 programs supporting foreign mobility of civil servants, faculty, scientists and students;

   4.2 Providing foreign universities, programs and teachers with favorable conditions for commercial educational activities in the country.

In the study carried out by OECD [167] in partnership with the International Association of Universities and the European Association for International Education, commissioned by the European Parliament and aimed at studying the internationalization strategies implemented in Europe and identifying the main trends in this field, the reports of 17 countries (10 European and 7 from other regions) were considered. Below are presented main conclusions about the current strategies for the internationalization of higher education and the proposed trends [25, 233 p.]:

- Increasing the importance of internationalization at all levels (the emergence of new strategic approaches and formats of internationalization, new national strategies and ambitions).

- Increasing the number of universities that are strategically developing internationalization strategies, which involve risks such as homogenization and the limitations associated with excessive focus on quantitative research.
- Everywhere there are problems related to financing.
- Striving for the commercialization and privatization of internationalization.
- The impact of globalization on increasing convergence and harmonization of actions aimed at internationalization.
- An obvious shift from (exclusively) cooperation to (greater) competition.
- Strengthen regionalization, in which Europe is increasingly viewed as a model for other regions of the world.
- Increase in the number of participants and stakeholders in internationalization and the attendant risk of changing the ratio of quantity and quality.
- Lack of objective data for comparative analysis and decision making.
- Emergence of new directions, such as the internationalization of curricula, transnational education, digital technologies in teaching.

Author studied the EU experience of the internationalization of higher education that is systematized in following levels: interstate agreements, associations of higher education institutions, universities, administrators and teachers (Figure 1.2). Wherein the concretization of actions for the internationalization of higher education achieves the highest degree at the level of cooperation between university professors from different countries. The main documents regulating the process of European internationalization of higher education are reflected in the first two levels: in interstate agreements and declarations of associations of universities.

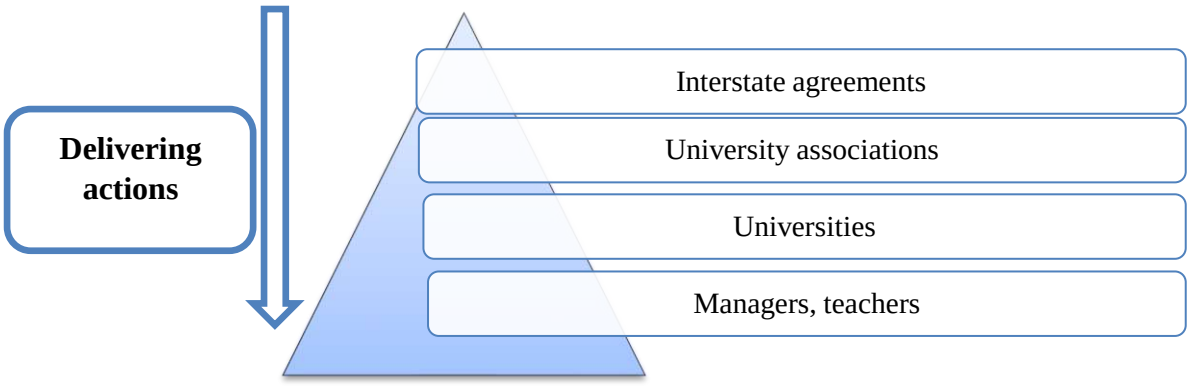


Figure 1.2. The process of internationalization of higher education
Source: made by the author from [30]

Internationalization as a strategic direction began [18] in Europe with the Erasmus program. According to this program, a common understanding of internationalization and drivers

of its development was formed, which contributed to the success of the transition of European countries to a new educational system.

Encouraged by students, faculty and staff, universities are forced to seek opportunities for international development, building in internationalization in the mission of the university and involving all stakeholders in it. The result of this is the need for university administrators to develop systemic institutional tools to support internationalization [71].

Inter-cultural Development. One of the benefits of the academic mobility on the knowledge economy are the internationalization of higher education. Is the desire to nurture the future generation of world leaders to be more effective and regard other cultures and political and economic systems with respect. Moreover, to take a positive stand for the welfare of the world and not only for the specific country from which they came. Reiner's research [143] found that these objectives have proven themselves successfully. The students that were surveyed indicated that the study abroad helped them to understand the cultural values of their own culture and they see the world through a more sophisticated vision .

One important thing that is critical for understanding is that the social tools that students residing overseas for the purpose of studying are assets for life. The interaction they had with people from a different culture affects their social relationships and many of them maintain their contact with the members of that country all their lives. Most of them feel that the experience caused them to communicate with a wider range of people globally[42] .

The development of inter-cultural competence is critical when the student is going to study abroad. However, it is not a simple task. The student must develop cultural awareness, a thorough understanding of the experiences, values, and perceptions of people from other cultural communities and expand the ability to shift between cultural conceptions while adapting behaviors that will serve to bridge the cultural differences [69, 938 p.].

According to King & Raghuram [82] the benefits of any construction of international education consideration of content, communication skills, offshore experience and diversity must be related to the interaction of language and culture, and that:

- This interrelationship shapes all measurements of experience;
- Interaction is essential;
- The interaction is multiple and variable;
- This interaction is essentially ‘peopled’; meaning, it is social, interactive and reciprocal .

The key implication of this way of understanding the intercultural for teaching and learning, is that the internationalization of the curriculum is not only a in terms of what content,

materials, skills, tasks etc., to add to or 'include'. It is also a matter of how to integrate these parts of the curriculum as a matter of routine teaching and learning practice, drawing on, and raising awareness of, the way that both learners' and teachers are themselves reflexively engaged with languages, cultures and in ongoing learning in their own lives, and, together, in relation to internationalization [82].

In the context of the internationalization, then, the development of the intercultural dimension is integral to learning in all disciplines and across disciplines. Regarding to disciplinary knowledge, for example, students are inevitably exposed to the profound debates that exist inside their fields of study, as well as within the paradigms that inform their respective sciences. They discover that the disciplinary canons are regularly scrutinized and refined, methods of investigation are constantly under review, and the sources of knowledge are numerous and varied. Moreover, teaching staff and students often find themselves learning from and with each other in linguistically and culturally diversified communities at which different perspectives abound. The students' intercultural development inside the context of the disciplines and across disciplines, then, can be found as far as enhancing their capacities to work with their own and others' languages and cultures, to recognize knowledge in its cultural setting, to examine the intercultural dimension of knowledge applications, and to communicate and integrate effectively across languages and cultures [135]. Constructions of the cultural are influential in shaping choices, decisions and actions, in education and change towards intercultural learning necessarily involves critically examining these constructions.

The Policy of International Students in United State. With its historically decentralized and competitive higher education sector, the United States lacks a coordinated international education policy to attract and recruit internationally mobile students, scholars and scientists to pursue higher education in the U.S [168; 32, 180 p.]. Wide-spread and growing concern over declining international enrollments, and its impact on U.S. global competitiveness in key science and technology fields, has encouraged U.S. campuses, Congress and several U.S. government agencies and educational not-for-profit organizations to take pro-active steps to attract new and increasing numbers of students from abroad. Efforts have been mostly decentralized in a way that typifies the U.S. higher education system and its relation to the federal government, but public statements by the U.S. Secretary of State, the **Department of Homeland Security and the Department of Education** have made clear the federal commitment to keeping America's doors open to international students [48]

While there is federal agency to fund or regulate the recruitment of foreign students, the U.S. government supports communications and advising resources for foreign students, working

with the colleges and universities in a decentralized way through its Education USA network, a global network of approximately 450 advising and information centers in 170 countries supported by the Bureau of Educational and Cultural Affairs at the U.S. Department of State. These centers promote United States higher education by offering free and unbiased information about educational opportunities in the United States. Almost 25 million prospective international students come to the advising centers each year to seek information and guidance on educational opportunities in the United States, on scholarships and grants, on the visa application process, and on general information about the U.S. higher education system.

The Economic Impact of International Students in USA. The continued growth in international students coming to the U.S. for higher education had a significant positive economic impact on the United States. International students contributed $45 billion to the U.S. economy in 2017, according to the U.S. Department of Commerce [168]. Open Doors 2019, the national organization for manage the mobility of American students reports that over 67% of all international/ foreign students are prefer to collect the money from sources outside the United States. In addition, they will include personal and family sources of income such as government assistance or academic institutions.

Mobility of Academic Staff (lectures, researches) – As a part of the global trends in the mobility – immigration of brain drains. The bologna reform starts in the late of the 90^{th} trends of mobility in the higher academic staff. A lot of government, such Germany, Greece, U.K, Russia, Australia, India, Israel and other countries phenomenon of mobility in their academic staff [93, 182 p.].

Greece. The mobility of academic staff and the brain drain phenomenon has been around in Greece since the mid-1950s and has been growing since 2008 with the country's economic crisis. The phenomenon stems from the financial crisis not only in Greece but also in other European countries like Spain, Portugal and Italy. A sector in Greece that has been dramatically been influenced is academia. The total number of graduates for example living abroad is estimated at 114.000 to 139.000 [67, 211 p.].

Germany. The figures from the European Union show that while many German professionals are able to find work abroad with their well- recognized qualifications, Germany doesn't always extend the same courtesy to foreigners [45]. From 2008 to the end of 2018, Germany topped the list of countries whose professionals have sought to relocate and be accredited in other European countries, with 45,175 licensed professionals trying to establish themselves around Europe, mainly in Switzerland and Austria. Germans also enjoyed the one of the highest rates of recognition around Europe, with 89 % of professionals like doctors, nurses, teachers and

architects being accredited outside Germany. The highest rate was Sweden with 93 %, but more than three-quarters of the migration of licensed Swedish professionals was to Norway [42].

The Impact of the Mobility on the Academic Institutes - Academic mobility contributed to the "awakening" of the academic establishment and the understanding that it must make immediate changes in order to maintain academic relevance to the student population [29, 33 p.]. Mostly his contribution was:

1. Structural changes similar to the requirements of the Bologna Reform.
2. Unification of all degrees similar to universities in other countries.
3. Income from attractive study programs.
4. Changing the policy regarding the absorption of foreign students
5. Establishment of appropriate academic teaching staff.
6. Establishing international relations with universities and research institutes in order to receive / send students.
7. Acceptance of scholarships for the foreign student
8. Establishment of laboratories and advanced teaching classes
9. Building an appropriate logistical system that will provide a solution for foreign students (local authority, tourism, medicine, and transportation).

The target and purpose of the impact is also referred to as cross-border higher education, international mobility in higher education applies to people (students and faculty), and, more recently, to educational program and institutions [18]. International mobility serves 2 main purposes:

- To participate in international knowledge flows, be exposed to new ideas or technologies, including the tacit knowledge associated to their use.
- To help developing and emerging countries build capacity.

1.3 The Influence of Management Process of Academic Mobility on Knowledge Economic in the World

The factor for forming the knowledge economy by the management process in academic mobility are analyze by contribute the examiners statistical findings that testify to the data (if there was any contribution). According to the literary review, the author understood that the academic mobility of students and all academic studies outside the country can contribute, or on the other hand, to do an "*economic damage*". The **management process** needs to examined by creating technological products, local industry, employment rates of employees and citizens, joint projects and international relations with countries. If we examine and analyze different countries, and we will see the mobility of their **G**ross **D**omestic **P**roduct (GDP), and in addition to their **G**ross

National **P**roduct (GNP), we can actually examine the contribution of the mobility. The arrival of students into the employment and academic systems will contribute to its success.

The factor of the mobility trends of the higher academic students is for a lot of types in the knowledge economy, and also for the economic system in the country [3, 37 p.]. According to the OECD organization [16, 85 p.], the factor on the economies is increasingly based on knowledge and information. The factor from the mobility's of student can made the increase or un increased in some indicators [20, 670 p.]. These indicators are characterized by academic literature as central factors in world economies. Therefore, we must also be committed to the benefits of academic mobility (in and out) by contributing to economic values. The following figure 1.3 illustrates the directions of influence of academic mobility.

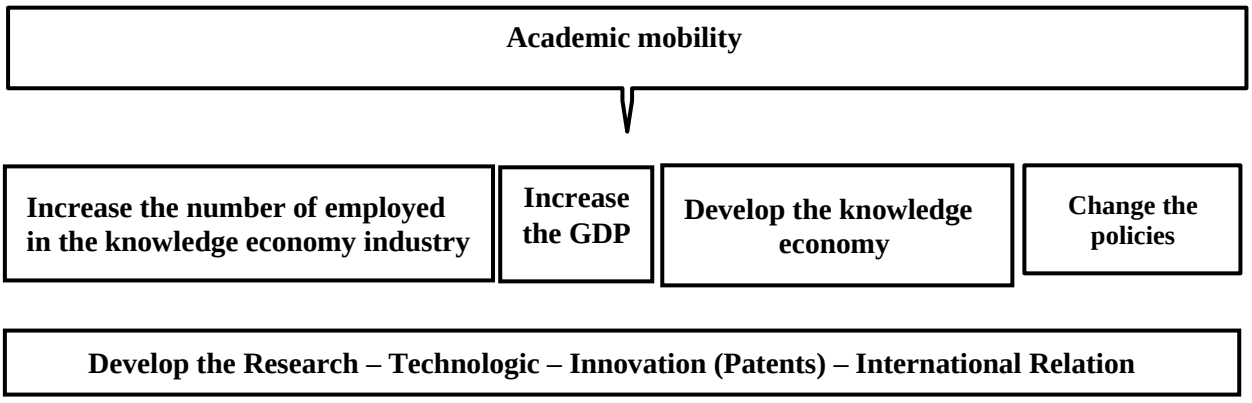


Figure 1.3. The influence of academic mobility on knowledge economy.

Source: Made by the author from sources [10,16]

Increase the number of employed in the knowledge economy industry - From the mid-2007, with the high demand of academic mobility, there are signs that the EU began a process of catching up with the US in terms of employment growth. In the decade of the 2000, the EU saw an average growth in employment of 0.74% per annum, less than half the rate of US growth. The EU unemployment rate remained quite high and rose further during the first half of the 2000 (with a peak of 10.5% in 2007). In contrast, in the years 2005-15, the annual average percent growth in employment in the EU rose to an average rate of 1.35%, compared with 1.6% for the US, a much smaller gap than in previous periods. Thus, in the second half of the 2015 European countries seem to have recovered a substantial capability of generating jobs and this have led researchers to speak about a "*European job machine*" [34, p. 244]. In countries that change the policy for mobility of foreign students show that workers who use advanced technologies, or are employed in firms that have advanced technologies, are paid higher wages.

Damage of the GDP from brain drain - The term "brain drain" was first coined in the 60s of the last century to describe the migration of intellectuals and British scientists to the United States. Traditionally, the discourse around the issue of 'brain drain' was based on human capital approaches. These approaches hold that the training, competence, skills and qualifications that a person acquires through education, represent his wellbeing. Governments invest resources in this human capital by training and education, and expect a return on investment when the person begins to work economically, be more productive and pay taxes. From this perspective, the migration of skilled workers is a "loss" to the country of origin, because the state does not profit from the fruits of its investment in human capital [37, 25 p.].

Table 1.2 – The connection between the academic mobility to the rate of GDP and the employment (2017 – 2019)

Country / Criteria		**2017**	**2018**	**2019**	**The impact 2016-2018 (by %)**
Germany	Outbound student mobility	117,342	122,981	122,538	**+5%**
	Inbound student mobility	244,575	258,873	311,738	**+27.5%**
	GDP per hour ($)	101.36	103.06	103.12	**+2.75**
	Rate of employment (Age – 24-55)	74.65	75.25	75.8	**+1.6%**
Canada	Outbound student mobility	50,583	40,575	48,345	**-4.2%**
	Inbound student mobility	189,473	209,979	224,548	**+18.5%**
	GDP per hour ($)	100.32	102.19	102.44	**+2.2%**
	Rate of employment (Age – 24-55)	72.33	73.16	73.53	**+1.7%**
USA	Outbound student mobility	83,984	86,596	84,349	**+0.7%**
	Inbound student mobility	971,477	984,898	987,314	**+1.6%**
	GDP per hour ($)	100.33	101.36	102.53	**+2.2%**
	Rate of employment (Age – 24-55)	69.35	70.11	70.73	**+2%**
United Kingdom	Outbound student mobility	34,498	36,538	38,986	**+12.5%**
	Inbound student mobility	432,001	435,538	452,079	**+5%**
	GDP per hour ($)	99.34	100.14	100.52	**+1.2%**
	Rate of employment (Age – 24-55)	74.39	75.02	75.63	**+1.7%**

Source: Made by the author from source [185; 163; 167].

We see a direct relationship between the various indices that are reflected in the table, which presents the positive values and influence of the academic mobility factor, which brings demand for employees (percentage of employed persons) and contribution to the national product.

But significant outflows create concern about a "**brain drain**". Those estimates find losses of 10% to 30% and much more of the highly educated workforce from a few developing countries [28, p. 44].

According to Auriol [10, 72 p.] the macro-economic effects on value creation and employment depend on the amounts international students have to spend to cover their living expenses. In Switzerland, due to the high living costs there, students spend around 19,500 EUR p.a. The cost of living is lowest in Poland, where student expenditure amounts to 4,800 EUR. In the other researched countries, the money students spend on accommodation and consumption ranges from 9,000 EUR in Spain, to 11,400 EUR in the Netherlands. The value added calculated for international students in Germany amounts to around 8,000 EUR per head [22]. The effect per individual is similar in the Netherlands, Austria, and Spain. In Switzerland the gross value added per student amounts to 17,500 EUR, and in Poland it is 3,900 EUR. The aggregate value-added contribution of international students in a host country is calculated by multiplying the above amounts by the number of international students. The aggregate amount is highest in Germany, at 1.28 billion EUR [162].

Connected with the gross value-added effects are the employment effects. This is because beside additional capital, production of the additionally demanded goods and services also entails job creation. In 2016, in Germany this accounted for a total of almost 22,000 jobs. An examination of the relation between international students and jobs reveals that each international student in Germany leads to the creation of approx. 0.14 jobs. In Poland the relation is as much as 0.23 (5,700 in aggregate). For the Netherlands and Austria, the relation is 0.15 (totaling 5,000 and 8,800 jobs respectively), in Spain 0.16 (in aggregate 11,500), and in Switzerland the relation is 0.18 (or 4,100 jobs) [122]. In most of the world's most advanced economies, a large number of large corporations (large corporations) On industrial production as a whole, on financing for banking and insurance. The main managements of these companies Organize and manage the economic empires that span most states in the United States, and in some cases, Many over large parts of the world. These managements determine the focal points of decision making in the national and international economic space, and their weight the post-industrial economy is growing at the expense of industrial production. They also contribute to the market work a large number of management jobs ("white collar") at high wages, and raise the prestige of cities and the areas in which the managements determine their seat [86, 38 p.].

The economic benefit from employment immigration. An additional research – statistic indicator that describe human capital movement is people immigration from their homeland to countries where they can express their abilities, skills and their training course advantages that has

to bring them higher profit. According to evaluations published by the United Nations in 2019 [159], the number of immigrants in the world has arrived to 272 million and continue growing all over the world. The mobility trend continues to raise and was already increased in 51 million people since 2010. As for 2019 total international immigrants was about 3.5% of all world population, compared to 2.8% in 2000. The statistics data of the department of economy and society in the United Nations is based on the population censuses performed in each country.

From a global perspective, economic welfare is increased if people are more productive abroad than they would have been in their home country. Migrants thus increase world welfare, including in the country they left. In the short term, migration, especially the migration of highly skilled people, can hurt the source country. The loss of people who provide vital public services doctors, information technology specialists, teachers can retard low-income countries' development, even if the number of such emigrants is small. Migration may prevent the source country from being able to reach the critical mass of human capital that may spark innovations, in entrepreneurship or knowledge creation, adaptation, and use. A migrant may increase the supply of goods and services only to already wealthy inhabitants of the recipient country. The higher salary earned by a doctor, for example, may reflect the greater ability of rich people to pay for medical services. Given funding sources, the creativity of highly skilled researchers may be used to conduct research on problems that are of primary concern to the industrial world rather than their home countries.

Develop the knowledge economy and academic mobility. The development of international university all over the world is an integral part of its objectives, driven by the growing role of universities in ensuring the social and economic development of countries, strengthening friendship and mutual understanding between them. Today, the leaders of world economic powers - G7 and OECD - see international exchanges and educational programs as an important part of their foreign strategies. Each of these countries takes active steps towards integrating into the world academic world by solving complex organizational problems of reforming their education system and the convertibility of national higher education diplomas. Dicken [37, p. 22] explain that, this is the reason for the students' academic mobility (even in developing countries). Students and research and teaching staff who begin to go out / enter the country, and will bring with them a "new spirit" of information / skills / economic and cultural knowledge / progress and development of human capital.

The phenomenon of brain drains in the world. One of the factors on the knowledge economy which create from the academic mobility is the phenomenon of brain drain. According to Connell & Brown [33, p. 13] the brain drain phenomenon is defined as social – economic –

professional process of human capital transition from one country to another due to various consideration of family cell or official decision [42]. immigration will usually be to more developed country because of the professional opportunities for the official / graduator. The immigration process and "minds" leaving is a trend that worry all the countries, and there is almost no country that do not suffer this social move. Drahos & Braithwaite [38] adds that the process has several implications, herein some of it:

1. The main positive effects on the origin countries are contribution to productivity and economic growth when the skilled employees return to their homeland. They return with education, managerial experience, entrepreneurial skills, knowledge and accessibility to global networks and bring foreign investment. In addition, labor immigrants in the diaspora may invest in their origin country and inject funds.
2. The main positive effects on the destination countries are in supplying the demand for skilled employees, and thus contribution to knowledge flow, skills, productivity and economic growth.
3. The main negative effects on the origin countries are harming the human capital level; loss of return on national investment in education, training and higher education; and loss of tax revenue. This harms productivity, value creation, and economic growth. It also has social implications.
4. The main negative effects on the destination countries are harming salary levels in specific sectors of labor market and leak of technology and scientific achievements to foreign competitors, and sometimes even hostile countries.

The author [105] present the phenomenon as A bilateral process, which mean that, unfortunately, a skilled and educated workforce leaves (high-quality workers), but with the right policy, the employment market will open to receive students and academic researchers from other countries (academic mobility into the country). In the most of the time, the effect of brain drain is not good for the countries and their economy. The author in his article " *The impact of the Bologna Reform on the Arab students in Israel*" [105, 163 p.] present data- figures of thousands of Israelis Arab students which leave the country to get their academic study in foreign countries like Jordan, Hungary and other countries in Eastern Europe. In other case the author finds thousands of doctors, Lawyers, soft – engineers and other academic employments.

The damage of the brain drains on the knowledge economy - The phenomenon of brain drains making a negative process to the economy, and especially to the knowledge economy. Martin [103, 40 p.] describe the effect of the brain drain which some economic models help us understand how the immigration of highly-educated workers might be expected to affect

conditions in both sending and receiving countries. To keep things simple, consider a world in which there are only three economic factors – skilled labor, unskilled labor and capital. By "capital," economists mean physical capital such as factories, land, farm equipment, and intangible capital such as organizations and knowledge. In the simplest model, migration of skilled labor from a low-income country such as Mexico to a high-income country such as the United States will increase their skilled labor and decrease skilled labor in Mexico. Since labor demand curves slope downward, those changes will increase skilled labor wages in Mexico and decrease them in the United States. The effects on the two other factors, capital and unskilled labor, are more difficult to predict. Studies have generally concluded that skilled labor is complementary to the other factors, which is to say that more skilled labor raises the wages and returns paid to unskilled labor and capital, respectively. So, in this simplest framework, migration of skilled labor helps capital and low-skilled labor in the receiving country and helps skilled labor in the sending country. In contrast, the brain drains harms skilled labor in the receiving country and harms capital and low-skilled labor in the sending country.

Reiner [143] focuses on several economic mechanisms, however, that may serve to partially undo the wage effects highlighted in the simple analysis outlined above. First, migration of skilled labor may induce cross-country migration of unskilled labor or, more importantly, capital (human resources). If both of those factors follow the initial brain drain, then the effects of the migration of skilled labor on wages and capital returns will be mitigated. In the extreme case where all three factors move in equal proportions, there may be no effect on wages in either country. Of course, however, there are limits to international mobility for labor and capital, particularly for labor, and so this effect surely does not cancel out the more conventional effects outlined above [129]. Furthermore, land, a form of capital, is of course completely immobile. Second, changes in the composition of economic activity can undo some of the direct wage effects of a brain drain. In particular, economic activity that is skilled-labor-intensive may relocate to the country with the newly-increased share of skilled workers. For example, multinational corporations' research and development activities might relocate to the country receiving a brain drain, thereby pushing wages of skilled labor in the receiving country back towards their higher, pre-brain drain level. (The growth of call centers in developing countries such as India is an example of productive activity relocating to locales where the necessary productive inputs are relatively inexpensive.) If these countervailing forces are sufficiently strong, then the relative migration of educated labor may not much change the relative wages of skilled or unskilled labor in either the sending or receiving country.

Mejia et al [121, 220 p.] emphasizes that, while the immigration of undocumented workers continues to be both politically and demographically important, countries do have a great deal of control over the number and type of immigrants they admit. Receiving countries can of course choose to admit more or fewer immigrants, but they can also choose to further focus their selection policies to admit immigrants with scientific and technical skills, a policy has been advocated in the United States by many observers, most prominently by Bill Gates, founder of Microsoft. But the United States can also choose to continue its traditional focus on family reunification, in which the relatives of current citizens are given preferences regardless of their occupational skills. That policy, too, has its advocates in many receiving countries, primarily within the community of current immigrants whose family members would be allowed to immigrate.

Florida [46, 115 p.] said that the discussion here has shown that these policy choices offer both opportunities and pitfalls. Increased admission of highly technical, highly-educated immigrants to receiving countries has the potential to advance those countries' creation of new ideas, new products, and new business ventures. Those immigrants would also benefit many workers and consumers in receiving countries, either by making the labor of less-skilled, less-educated workers more valuable, or by providing goods and professional services (such as medicine) at a lower price than would be otherwise be available. But there are also some people in receiving countries that would lose out from such a policy, particularly those skilled workers whose earnings would be lowered or whose businesses would be displaced by the arrival of more educated immigrants.

Admittance of more skilled immigrants by receiving countries would also affect the sending countries from which those immigrants come [38, 119 p.]. The most direct effects would be to reduce labor market opportunities of the less-skilled, less-educated workers in those sending countries, as the highly-educated emigrants would not be around to start or manage businesses, to staff governmental offices, or to provide professional services [21, 97 p.]. There may be additional systemic effects, whereby the economic organization of the sending countries is harmed by the exodus of its most skilled citizens, though those effects are hard to measure. Taking the world as a whole, economic analysis finds that there are generally positive effects from integrating markets through trade and migration, and increasing the brain drain through easier admission of educated immigrants to developed countries fits well within that framework. In addition, there may be collective Disadvantages from moving any workers from countries with poorly functioning economies towards wealthier countries. But, as this discussion has highlighted, there will always be a subset of individuals who are made worse off by a larger brain drain [31, 180 p.].

Knowledge economy contribution to developing countries. all countries understand that population movement (labor immigration) and academic mobility are trend and inevitable global phenomenon. The countries acknowledge the fact they compete over citizen audience, and in cases of competition in higher education, it is against other institutes and other countries. The competition idea emphasizes the struggle to obtain quality human capital to live in the mother country [53]. countries that leaved the "ideologic" ideas of "blind nationality" have changed their thought to evaluation of professionals and academic system performance and improve the life systems in their country. The beginning of the 21st century brought not only fast entry of technology but the thought that everybody is close to each other, and physical distance is not an obstacle for success.

This trend spread with the advent of globalization, and the human capital professions - knowledge economy. Developing countries that until now have "lost" many "minds" to developed countries, changed the strategy, improved education systems (as Hong Kong, Singapore, South Korea, and even China) and become world powers with prosperous economy that Western countries only envy. They opened the gates to foreign investment, developed advanced communication systems, improved education systems, and re-established local industry.

Saviotti & Pyka [148, 104 p.] are in favor of academic mobility and labor immigrant transition from the developing countries, because they claim that large part of those who leave, return with higher abilities of economic performance. That significantly increases the production in the developing country. International employees that go to work in other countries send money to their origin country to provide their families and communities, and thus contribute to the origin country local economy. In addition, it should be noted that economic globalization processes have also created many economic opportunities for developing countries. Opportunities that some countries have been able to seize, improve their situation and reduce the gaps between them and the developed countries. Thus, according to Waters [157], there are countries where multinational corporations have established new industrial zones, which provide employment to many and contribute to development of these regions, and to the whole country economic growth. In countries like China, India and Malaysia, multinational companies have established, besides traditional industries, also modern industries and high-tech enterprises. Training centers were established in many countries to meet the growing demand for skilled employees.

It is assumed that foreign scientists from developed countries who engage in research and publication produce 4.5 additional publications and 10 times more patents than their colleagues in developing countries. Why is there such huge difference in production ability? According to Bach [11, 7 p.], the context and conditions in which science and technology can succeed is due to

political decisions that need financial funding, infrastructure establishment, technical state support and existence of scientific community. All these are usually available in developed countries. The value and efficiency of the various factors and the mutual effort create a local knowledge community, scientist in other countries can help and support the mother land industry by developing professionals and making sure they will stay in the mother land. Such situation requires commitment of international scientists, and on the other hand, state interest to promote local knowledge population. As example may be seen in many countries that hire expert services to develop professional industry in the country. Governments should encourage mutual knowledge creation, especially in worldwide issues as health and environment [27].

Change the government policies – Most of the countries, which "open" the academic area (colleges, universities, research centers) continue to evidence a shift from industrial to post-industrial knowledge-based economies [4, 44 p.]. Here, productivity and growth are largely determined by the impact of globalist process of technical progress and the accumulation of knowledge. Of key importance are networks or systems which can efficiently distribute knowledge and information. By Artamonova [9, 87 p.], the knowledge economy intensive or high-technology are parts of the economy, tend to be the most dynamic in terms of output and employment growth, which intensifies the demand for more highly skilled workers [26]. Learning on the part of both individuals and firms is crucial for realizing the productivity potential of new technologies and longer-term economic growth. Among the priorities will undoubtedly be:

- **Enhancing knowledge diffusion** – Support to innovation will need to be broadened from "mission-oriented" science and technology projects to "diffusion-oriented" program.
- **Upgrading human capital** – Policies will be needed to promote broad access to skills and competencies and especially the capability to learn. The move of course will include expanding the formal implications of employees, along with providing incentives to business firms, and motivation for professional learning over time. This will create a match between the supply and demand of the jobs, and a match of the professional skills of the employees.
- **Promoting organizational change** – Translating technological change into productivity gains will necessitate a range of firm-level organizational changes to increase flexibility, particularly relating to work arrangements, networking, multi-skilling of the labor force and decentralization. Governments can provide the conditions and enabling infrastructures for these changes through appropriate financial, competition, information and other policies.

Develop the research – Technologic – Innovation (Patents) – International Relation. The traditional theory held that innovation is a process of discovery which proceeds via a fixed and linear sequence of phases. In this new of view, after the mobility of foreign student, foreign researches, innovation begins with new scientific research, progresses sequentially through stages of product development, production and marketing, and terminates with the successful sale of new products, processes and services [22, 345 p.]. It is now recognized that ideas for innovation can stem from many sources, including new manufacturing capabilities and recognition of market needs. Innovation can assume many forms, including incremental improvements to existing products, applications of technology to new markets and uses of new technology to serve an existing market [34, 223 p.].

1.4 Conclusions of Chapter 1

1. Globalization processes create movement of economic capital and goods. They allow and encourage the formation of global economic bodies (like the World Bank), huge corporations and transnational companies. One of the globalization expressions is the expansion of population mobility phenomenon, both immigrants and academic mobility/ this phenomenon is a result of people need and will to improve their life quality, education options, personal promotion and economic prosperity on one hand, and on the other hand, as the researcher concludes, globalization has also a role in the state economic processes, like labor market leverage in the country. The economic globalization process, which is aimed to make the world into one large economic market, is in fact part of the wide trend in the world, a trend that aims to strengthen the market economy, contribution to the Gross Domestic Product (GDP) and the Gross National Product (GNP). Economic globalization has advantages and disadvantages. Some countries and populations that make benefit of it, while other countries and populations suffer from it. One of economic globalization advantages is the trend to become a knowledge economy, based on knowledge and human capital, towards industrial status change, and transition from traditional economy to knowledge-based economy based on human capital in the country.
2. The author of the thesis concludes that the knowledge economy explains and provides an in-depth look at the term called "knowledge". In fact, the knowledge economy is based on the selling of knowledgeable products and services which are characterized by a great usage of information technologies. Nowadays, the knowledge is constantly changing and renewing itself and the usage of information technologies is ever-increasing. It is my conclusion that the knowledge economy, in contrast to the economy which is based on

traditional industries, is based on researches concerning "the capabilities of the human capital which use technology, and which include usage of computer files, Internet, presentations etc. The world is constantly progressing towards the knowledge economy, whereas the industrial economy is constantly diminishing. The knowledge economy allows a great future promise – especially for developing countries – however, it is depended on the availability of the infrastructure and human capital. Should a mismanagement of statewide human capital occur, this promise may turn into a negative developmental experience. Prior to the beginning of the implementation of the knowledge economy, the governments of developing countries must examine and ask themselves whether such a system is accessible for their country.

3. Following the many changes which had occurred within the employment sector, during which entire fields of occupation had vanished from the map of occupations, it is the conclusion of the author of the thesis that the State of Israel must allow its learners to gain access to the academic studies which are attributed to the occupations relating to the knowledge industry. At a period of time in which the classic and obsolete (low-tech) industry is constantly disappearing, it is up to the new higher education students to insure themselves future employment opportunities by studying relevant academic subjects. In addition, the State of Israel must offer the higher education students' academic degrees which are highly preferential and close to the knowledge economy.
4. Classic academic mobility, as defined in several definitions in chapter 1.2, deals with mobility of students and academic staff (researchers and lecturers) between academic institutes outside their country. Table 1.1 showed the main reasons a student will chose to move to study academic studies in another country. Academic mobility has many significances and implications on all life fields in the country. The researcher concludes and develops the definition by claiming that academic mobility currently includes three population group supply: students, teaching and research teams, academic officials and professions (doctors, engineers, programmers, energy experts, transportation, environment) should also be added. Since they conduct academic mobility, and they will have direct influence on knowledge economy both in developing the state abilities due to proper human resource utilization, and due to establishing right policy that preserves the knowledge economy in the country.
5. Proper management of mechanisms which includes the proper layout of an economic, constitutional and social policies will lead to a situation in which, due to the increased numbers of foreign higher education students who come to study in the higher education

institutions of the hosting country, capital investments will also occur, and these shall be translated to the establishment of a prosperous economic industry which shall create job opportunities and humane environments of a higher standard which shall contribute to the citizens of the given country.

6. On the other hand, when countries do not take steps to ensure that the human and economic capital shall stay within their borders, the brain drain phenomenon begins. For years now, the brain drain phenomenon has become a global, worldwide problem. Most of the countries which suffer from these trends have lost, over the years, quality and professional labor power. The author of the thesis recognizes, based on the existing data, the brain drain phenomenon from major occupational fields, such as: Medicine, engineering, research, architecture, industry and academy, the brain drain phenomenon currently derives from the great mobility of populations, particularly from the developing countries to those who have already developed. The countries which suffer the most from the brain drain phenomenon are: India, China, African countries and Greece (in light of its economic and social situation), however, the phenomenon occurs also in developed countries such as Australia, Germany, Sweden and Israel.
7. The purpose of the current research is to identify the ways in which positive academic mobility, in which the number of international students entering is greater than the number of Israeli students leaving, will affect the field of the Israeli knowledge economy. By analyzing the data and understanding the advantages of the knowledge economy, it is possible to bridge the professional gaps deriving from the academic mobility from one's native country as well as from the escape of the knowledge economy of the human capital. The author of the thesis recognizes an opportunity to combine the academic mobility with the effects of the knowledge economy in order to create a possibility of international relations amongst other countries (and especially with neighboring countries) in order to exchange knowledge and economic abilities concerning joint industrial topics (water resources, food, energy, global warming, natural resources) as well as fields of living, such as the local tourism, commerce and flourishing of the academic research.
8. The author of the thesis concludes that the academic mobility and the brain drain phenomenon have not only negative consequences, but also positive ones. The (foreign) human assets reaching a given country's borders could occupy a great deal of occupational "roles" and to improve the capabilities of the country in the economic, industrial and social senses.

2. MATERIAL AND METHODS OF RESEARCH

2.1 The topics of the research

The subjects of the doctoral research included a key concept from the world of economics and academic education. This study examines and analyzes the impact of academic mobility on the economy and employment in Israel, with the aim of learning and building a mechanism that will balance the variable of academic mobility of Israeli students to foreign countries and international students. According to the researchers, and the definition of the author, the academic mobility refers to students and teachers in higher education moving to another institution inside or outside their own country to study or teach for a limited time. In some cases, it is chosen for positive reasons, usually by young students with no family commitments. However, for most researchers it is a form of casualization which can blight their whole careers and break up their families. Academic mobility suffers from cultural, family, socio-economical and academic barriers. The bologna process is an attempt to lower these obstacles within the European higher education area. More recently, particularly with the digital revolution in the mid of the 1990s and the proliferation of the eponymous “mobile” as well as the increasing globalization of the world, mobility has progressively become dissociated from physical mobility, from the notion of domicile and territory, broadening its domain to include not just people and capital, but also social practices, objects, information, signs, ideas. As a result, mobility is now interpreted as a fashionable concept, even a myth, evoking above all fluidity, continuity, and seamlessness. according to Bar el [12], contends that not only does mobility change our ways of being; it has become a whole way of life in itself. It makes the very notion of society obsolete. Mobility forces us to think “beyond societies”. According to him, there is a change in paradigm in the social sciences in that the driving force is no longer territoriality, but mobility. The main metaphors which account for the new forms of social life blend the traditional with the new. The resulting analysis in the thesis are invites a reconsideration of assumptions about academic mobility dynamics and their implications.

The next topic contact to the terms of economic. Is related to the concept of economics, with emphasis on the distinction between **macroeconomic and microeconomic indicators**. These two variables. In addition to the basic economic concepts, the author also analyzed the concepts which make up the successful products of the economy. Concepts such as **Gross National Income** (GNI), **Gross Domestic Product** (GDP), **employment**, **modern industry / traditional industry / knowledge industry**, consumer goods and fluctuations in the local economy. The method that is repeated in the study points to growing gaps in employment-economic productivity in the State of Israel. Gross national income (GNI) is a measurement of a country's income.

The **research purpose** is to identify the ways in which positive academic mobility, in which the number of international students entering is greater than the number of Israeli students leaving, will affect the field of the Israeli knowledge economy.

The **research hypothesis** was that academic mobility indeed had an influence, in the researcher's opinion, mainly negative. Social phenomena such as brain drain and the decline of the traditional industry are the result of the increasing academic mobility of Israeli students to other countries. On the other hand, the researcher speculates that the state is not doing enough to stop the phenomenon, and on the other hand, may even increase the migration of labor to economic professions.

The contribution of the academic mobility to local economic which analyses in the thesis consist to higher education institutions that precipitating factors for both the local and national economies. Individuals who go through higher education process contribute to local and national economies firstly by qualified higher education expenses they bear throughout their education and secondly by becoming a part of the qualified workforce in the host country. In addition, this demand for greater reliance on the knowledge-based economy has increased considerably. Knowledge-producing universities are organizations that play an important role in the economic development of a country. Many students from developing economies migrate to developed countries, to study in the schools and universities of developed countries. In addition, direct and indirect economic advantages provided by international education attracted the interest of countries to receive more international students. International student mobility effects all aspects of global society including economy, science, technology, industry, business, politics and culture.

2.2 The method research of the thesis

The first chapter in the thesis present a review of the literature on the field of the study. For the literature, the author used more than 200 Various sources of information from Israel and around the world, with an emphasis on social and economic researchers from Israel, the European countries, Moldova (in favor of comparison with the Republic of Moldova), giving preference to countries with a model and a successful mechanism that combines academic mobility with the local economy (Spain, Germany, Hungary, United States, Australia, etc.). At the same time, we have learned the difficulties and challenges that many countries face with them, such as the brain drain, economic problems and unemployment, the devaluation of the local currency (Greece, Turkey, China). Each time variables and concepts were defined, the author of the study sought to offer an interpretation and definition of it, some of which were also published in academic articles in Moldova and other countries.

In this research, the author used a wide variety of methods of inquiry, from the use of figures that presented data, comparison and analysis, interpretation of information and estimates, progress or regression of data over the years. In addition, figures which show growth, or decline, of economic values. Alongside the graphs, tables were presented presenting economic, numerical, and variable values in the dynamics of academic education in Israel vis-a-vis countries around the world. In the statistical part, in chapter 3 + 4, the methods include a **research tool** which chosen. **The survey questionnaire** that was reviewed and confirm by the **academic supervisor** and approved for transfer to the students. It was a **15-question questionnaire** that distributed to **120 respondents.** The background of the interviewees' choice was that they are students in higher education, past or present, who study different subjects and think about reality after graduation. Some have even chosen to study in other countries, and some are studying or on their way to academic studies in Israel. The ages ranged from 18 (first year) to 45+ (in favor of advanced degrees). The questionnaire included demographic questions (5 questions) and 10 research questions. The questions examined their opinion according to 5 answer options, and each interviewer was supposed to choose the correct answer for him. The 120 respondents represent all strata of society in Israel (by age, by sex, by stage of study, preferences, fields of occupation and professional specialization). The statistical methods include the Spearman correlations and regression model. The main conclusions from the survey questionnaire are present in chapter 3 and 4. The t-test for equality of means and Levene's test for equality of variances demonstrate significant differences between males and females. The females' sample has lower variance and higher mean value of planning economic- based studies ($p\_value<0.05$) .

2.3 The methods for conclusions and recommendations

The conclusions section was based mainly on comparing models and mechanisms against the Israeli need. The study's editor took as an example a number of countries that have a mechanism and built a similar mechanism, in accordance with the policy and legality of the decision makers in Israel. Chapter 4 proposes the implementation of a new - independent mechanism, which based on cooperation between **government ministries** (education, economy, tourism, local authorities) in order to identify the strategic opportunities on the one hand to develop the global economy and on the other to reduce the exit of Israeli students and researchers to countries Others (stopping the phenomenon of brain drain). The conclusions and recommendations focus on providing a comprehensive answer to all the data raised on the one hand by the local needs (the survey questionnaire and the data from the Central Bureau of Statistics), on the other hand, the tax policy, employment, the increase in demand for international workers in economics

and knowledge economy. These industries (high technology + traditional industry) are supposed to provide employment solutions to thousands of students who study in Israel or go to study in other countries and want to return to Israel. The model has already been implemented in an Israeli **city that called Rahat** (see implementation letter).

2.4 Conclusions of the Chapter 2

1. As is well known, the method of research or analysis economists use in carrying out their task is the scientific method, which is used in all of science. Scientific method essentially refers to the general or generalized process called the "scientific approach" to obtaining new and reliable knowledge. the author gives empirical content to economic relationships in the thesis.
2. The term "world economy" refers to a large group of activities relating to creation of connections between the extent of consumption and the resources which are at their disposal. The economic market surrounds the entirety of activities having to do with creation, consumption, and trade of goods and services everywhere. The economy affects each person who must deal with bodies such as corporations and governments. The economies of given continents or countries are controlled by the local culture, laws, history, and geography (amongst other factors) and develops due to a particular need. For this reason, there cannot be to identical economies.
3. The renewed definition of the author of the research regarding the knowledge economy is a result of a wide review of the definitions of a great deal of researches. The author of the research believes that the term "knowledge-based economy" derives from a full recognition of the importance of knowledge and technology within the economic growth. The knowledge, as it is depicted in humans ("human assets") and technology has always been a central part of the economic development, however, only in recent years, has the concept of knowledge-based economy been recognized for its relative importance. Knowledge-based economies are more dependent on the production, circulation and usage of knowledge than ever before. The output and occupation are expanding at the fastest rate yet within the elite technological industries, such as computers, electronics, and space. Table of European countries presents the change in the industrial pattern as well as the changes (in percentages) which affect each country in the transition process from a traditional industry to an advanced industry of knowledge. Based on the data presented in table, we can conclude that in each country there is an increase of three to 10% as well as a significant growth in the percentage of products (out of the entire national product).

4. The various research methods used by the researcher are expressed in analyzing the research problem and the research question. There is also an in-depth review of socio-economic theories that present the economic outcomes of Israeli industry in light of the broad phenomenon of academic mobility. The main method is expressed in the rephrasing of a national mechanism that will provide a combined solution to the problem of brain drain versus the shortage of professionals in the Israeli labor market, with an emphasis on knowledge economy.

3. ANALYZING THE INTERNATIONAL EDUCATIONAL MOBILITY IN ISRAEL AS A FACTOR FOR FORMING THE KNOWLEDGE ECONOMY

3.1 The analysis of international mobility in the world between 2012 – 2018

Current global social life conduct under economic activity of globalization. The phenomena may be seen in al civil life areas: economy, politics, culture and industry. One of the national wealth sources is in interaction with the existing knowledge capital in the country. This capital produces developments and innovations and in fact leads to progress in technologies that become faster and more significant [4, 44 p.]. This wider prism motivated the international movement in higher education, that still reinforcing in regional level (European Union) and in international arena – academic mobility between countries and continents. The influence is also expressed in many universities as "global campuses". These institutes not only represent the intellectual diversity in campuses, but also develop inter-cultural mentality as part of their way to excel and lead the academy in their country [10, 73 p.]. The idea to improve the international dimension in higher education shows that there are many options to develop cooperation between universities, as scientific, technologic, cultural cooperation, shared research teams, training process and joint diplomas, mutual acceptance of advanced degree students and mobility of lecturers and teams. All these show that internationalism process in higher education institutes is a result of wide system of policy, strategies, activities and key players in decision making.

Programs that encourage academic mobility are one of the main characteristics of international academic cooperation, which is globally applied for a while for an efficient and structured establishment and strengthening of internationality process in higher education [39]. According to Ackers [2], although academic mobility is not a new trend (begun in the 1990s), it offers self-development of students that is currently very relevant, and very intense as the numbers show. There is an increase of dozens percentage since 1999 (Bologna agreement) in the number of international students each year. So is the number of programs and verity of learning experiences. It is an offered growth of 6.5% per year [186]. The estimated number of foreign students in the world in 2000 was 1.6 million [175], and in 2018 there were 5.6 million. In fact, there is an exponential expend and the trend is expected to intensify in the next years as a result of increase in student expectations, the benefits of the involved higher education institutes, human capital quality improvement and the competitiveness mobility can provide, especially in developed economies [54, 25 p.].

Higher education and research systems have become more internationalized over the past decades. The internationalization of higher education can be gauged by the international mobility of students and that of research systems by internationally mobile holders of doctorates. During

their studies and afterwards, the latter contribute to the advancement of research in the host country. When returning home, they bring back new competences and connections with international research networks. International students primarily study social sciences, business and law. Only in Sweden, Finland, Germany and the United States do science and engineering (S&E) programmers attract more than one-third of all international students [92, 185 p.].

In **16** out of **28** economies, the share of international and foreign students enrolled in science and engineering surpasses that of national students. This pattern is more pronounced at the doctoral level. International mobility has involved an average of around 14% of doctorate holders over the past ten years. Although the United States stands as the first destination, intra-European flows, especially towards France, Germany and the United Kingdom, dominate in Europe. While outward mobility seems mainly academic or job-related, personal and family reasons are more prominent in decisions to return home. The Definitions 0f International students are students who have crossed borders expressly with the intention to study.

The **UNESCO Institute** [160] for Statistics, the OECD [167] and Euro - stat define as international students those who are not residents of their country of study or those who received their prior education in another country. When data on international students are not available, data on foreign students are used. Foreign students are defined according to their citizenship. Williams [159] explains that mobility may be seen as personal motivation of the student or community, but in a certain way, large (numerically) mobility shows that there is an issue that requires a solution or at least treatment. Usually, the state will see student and human capital mobility as some problematic, negative and shaming action [17, 83 p.]. However, the researcher claims that we should understand mobility has to be interpreted also as an opportunity to revision of the higher education system and the changes brought the students to this decision. It cannot be only a "problem" of the academic institutes. Carter [28] adds that the arrival of international students to the academic institutes may have many advantages – for the institutes themselves, to the local students and to the hosting country.

Kaka & Sturze [77, 215 p.] explains that the prominent advantages of academic mobility arrival to the academic institutes are: (1) increasing academic quality due to accessibility to student global market (and also staff members). (2) creating and reinforcing the international reputation. (3) opportunity to preserve unique / low demand areas by "importing" students. (4) diversity of income sources and optional profit source. (5) a tool to reduce countries' academic boycott. (6) opportunity to increase human capital in the hosting country by updating work permits and regulation. Since international promotion in higher education (and multiculturalism in general) is first and foremost aimed to improve academic quality. It is important that every institute that can

benefit such international / multicultural activity will find the right place to develop it. However, it is important that institutes will consider well internationality promotion moves in their institute and examine if it really contributes to the academic quality of studies and not shift the institute focus from its main goal and core activity. In most of the countries international student target was established as part of national internationality policy, which its role is to be a national agency for promoting internationalism in higher education [75]. These bodies' mandate usually includes governmental management. It is necessary to see that a significant body for marketing, branding and treating international student will exist and act by the Council of Higher Education / policy and will be responsible for:

1. Marketing and branding the local academic system (including operating a website with comprehensive and reliable information, participation in international fairs, activities in selected campuses).
2. Operating scholarship programs.
3. Assisting the international student in information and questions in general and academic subjects (as acknowledging degrees, credit points).
4. Acting with relevant factors in the country for changing visa policy for international students, health insurance and civil services (transportation, bank).
5. Counseling higher education institutes in building marketing programs and strategies.
6. Establishing training system for institutes in subjects as English course development and training the teaching staff, acknowledgement of studies abroad.

According to Lundvall & Johnson [96], success of concentrated marketing strategy, operating international programs (as Erasmus+), is the basis for success in higher education internationality course. Most countries that have a successful format (USA, Australia, UK, Germany) have the same organizational structure of bodies and its authority. We may summarize that they are usually budgeted by several government ministries and therefore subordinate to them and their policy but act autonomically in applying their mandate. In fact, these bodies fill a significant role in promoting internationality in higher education as well as in empowering the academic institutes.

According to the OECD organization, the Target and purpose also referred to as cross-border higher education, international mobility in higher education applies to people (students and faculty), and, more recently, to educational program and institutions.

There are currently more than 4,000 higher institutions participating in Erasmus across the 37 countries involved in the Erasmus program and by 2018, 4 million students had taken part since the programmer's inception in 1987. In 2016-17 alone, 311,000 took part, the most popular

destinations being Spain, Germany, and France. Erasmus students represented 9.5 percent of European graduates as of 2018 [175].

According to Maiworm & Teichler [101], higher education students who have decided to join the academic journey of the ERASMUS program will study in one of the proposed programs which are semester studies (3 months) in another country (mostly in Europe). The ERASMUS curriculum requires the commitment of the student and allows for transition after examination and admission process of the host university. Of course, decisions are sometimes based on local or European politics that set the standards and interests of countries or the European Union. Switzerland as an example was removed from the program in 2016.

In order to reduce expenses and increase mobility, many students also use the European Commission-supported accommodation network, Casa- Swap, Flat Club, "Erasmusinn", "Erasmus", "Erasmate" or Student Mundial, which are free websites where students and young people can rent, sublet, offer and swap accommodation – on a national and international basis. A derived benefit is that students can share knowledge and exchange tips and hints with each other before and after going abroad [102, 111 p.].

The development of the academic mobility in the countries

United Kingdom.

With an international student enrollment of over 442,000 students in the 2016-17 academic year, the United Kingdom is the second largest host of international students after the United States. The United Kingdom attracts large numbers of students from Asia, the United States, and other places of origin within Europe. There were over 442,000 international students in public post-secondary institutions in the UK in 2017/18 [158, 218 p.]. The top five places of origin in 2016/17 were China, the United States, India, Nigeria, and Germany. International Student in the United Kingdom: For purposes of collection, students are defined by their country of domicile i.e. the students' permanent or home address prior to entry to the program of study. International students are those who are not UK-domiciled. The total international student enrollment for academic year of 2017– 2018 is 442,375 students [175]. The academic institutes which the students prefer are public Institutions with 441,500 students (99.8%) and private Institutions with 935 students (0.2%). The top 10 places of origin are China (94,995, 19.1%), United States (27,650, 5.6%), India (19,485, 3.9%), Nigeria (18,950, 3.8%), Germany (18,135, 3.7%), Malaysia (17,945, 3.6%), Hong Kong (16,965, 3.4%), France (16,430, 3.3%), Italy (12,745, 2.6%), Ireland (11,430, 2.3%) and all others (241,960, 48.7%). The outbound numbers of students from the United Kingdom studying abroad are 33,109. This student's studying abroad to countries like United

States, France, Ireland, Australia, Germany, Canada, Netherlands, Denmark, United Arab Emirates, and Austria.

Table 3.1. Total number of academic mobility (Inbound & Outbound) in UK 2013 -2019

Year	International students (Inbound)	UK students (outbound)	Total students in UK
2013	419,946	27,445	2.5 million
2014	427,688	26,638	2.46 million
2015	416,693	28,566	2.26 million
2016	428,724	29,945	2.31 million
2017	430,684	31,433	2.33 million
2018	435, 734	33,111	2.3 million
2019	452,079	33,109	2.31 million

Source: Made by the author from source [167; 163]

Finland.

The Finnish higher education attracts international students mainly from Europe and Asia. The top place of origin of international students enrolled in full-degree programs in 2017-18 was Russia (11%), followed by Germany (8%), and China (8%). Finnish students study abroad in exchange program predominantly in European countries, with top destinations including, United Kingdom, Sweden, and Germany [160]. There were over 23,000 international students in Finland in 2016, 28% of students came to Finland for an Engineering degree. The top five places of origin for students enrolled in full-degree program in Finland during 2017-18 were Russia (11%), Germany (8%), China (8%), Vietnam (6%), and France (5%). Over 9,000 Finnish students studied abroad in 2016 [171]. The Definitions of Inbound/International Student are about Degree/Qualification student: A student with a foreign nationality pursuing a full-degree from a higher education institution in Finland. This includes foreign students and graduate and post-graduate students [152, 188 p.]. Study Abroad/Non-award student: An international student in Finnish higher education who is participating in study periods and trainee placements for at least three months. These activities count towards the exchange student's degree at his/her home university (credit mobility). The Foreign Student: Higher education students who do not hold a Finnish citizenship including students who are legal residents of Finland.

Table 3.2. Total number of academic mobility (Inbound & Outbound) in Finland 2013 -2019

Year	International students (Inbound)	Finland's students (outbound)	Total students in Finland
2013	15,707	7,692	168,983
2014	17,636	8,132	169,041
2015	18,320	8,280	167,179
2016	21,859	8,796	163,759
2017	22,574	9,350	157,436
2018	24,768	9,616	154,736
2019	23,714	9,611	153,262

Source: Made by the author from source [164]

These students are included in Finland's data submitted to Project Atlas. The Outbound Student - Degree/Qualification student; A Finnish individual who receives student financial aid from the government (Social Insurance Institution -SII) to pursue a full-degree undertaken at a foreign institution [62, p; 96]. Study Abroad/Non-award study student: A student who participates in educational activities abroad that count towards his/her degree in Finland (including internships etc.). The division between Public and Private HEIs is not very relevant in Finland. The top 10 places of origin and percentage of total international student enrollment, 2018-19 academic year are Russia (3,494, 11.3%), Germany (2,469, 8.0%), China (2,323, 7.5%), Vietnam (1,927, 6.3%), France (1,617, 5.2%), Nepal (1,213, 3.9%), Spain (1,066, 3.5%), Italy (850, 2.8%), Estonia (803, 2.6%), India (757, 2.5%).

France.

France is one of the leading hosts of international students. French higher education attracts students from all over the world, with a large representation of students from francophone North African countries. There were over 241,000 international students in France during the 2017/18 academic year. The top five places of origin for in-bound international students in 2018 were Morocco, China, Algeria, Tunisia and Italy [26, 55 p.]. The Ministry of Education in France, Ministry of Higher Education and Research, France, defines an international student as an individual with a foreign citizenship enrolled in a program at a French higher education institution for at least one year to receive an officially approved national degree or university diploma (full-degree/qualification). These students include non-French citizen legal residents of France and those who received their secondary diploma in France. France awards both short-stay student visas (three months) and long-stay student visas that is renewable with a residence permit (one year). The Higher Education Institution (HEI) in French higher education institutes include universities, polytechnics, university training institutes (teacher in elementary schools), the higher technical sections, preparatory classes for business/management/engineering schools, engineering schools, management and business schools, paramedical and social schools [65]. The total number of international higher education students are 241,013, in academic year of 2017 – 2018. The top 10 places of origin and percentage of total international student enrollment include Morocco (36,768, 11.9%), China (28,043, 9.1%), Algeria (22,660, 7.3%), Tunisia (12,077, 3.9%), Italy (11,188, 3.6%), Senegal (8,975, 2.9%), Germany (8,532, 2.8%), Cameroon (6,963, 2.2%), Spain (6,817, 2.2%), Vietnam (6,283, 2.0%). The most popular faculties for the international students are in the next table [3.3].

Table 3.3. Total number of academic mobility (Inbound & Outbound) in France 2013 -2019

Year	International students (Inbound)	Frances's students (outbound)	Total students in France
2013	268,212	60,333	2.350 million
2014	271,399	64,012	2.432 million
2015	266,318	76,221	2.470 million
2016	228,639	81,580	2.522 million
2017	235,123	86,241	2.551 million
2018	258,380	90,689	2.609 million
2019	229,623	90,708	2.680 million

Source: Made by the author from source [167]

The author of the study identifies a general trend of growth in demand for academic education in France (an increase in demand for academic studies between 2013 – 2019). But at the same time, they recognize an increased exit of French students to other countries, and at the same time, due to a clear policy, increased demand for foreign students' studies in France. If so, the conclusion that the administration and policy of French academia is indeed relevant to the target audience of international students.

One of the main directions of New Economic University's strategy is integration into global educational system, focused on several tasks: passing the international institutional and program accreditations, mutual cooperation of University and its key international partners, more intensive and time-sustainable recruiting of highly educated students at the international level, global recruiting of highly qualified academic and administrative staff, expansion of opportunities and possibilities for academic mobility and participation in student exchange programs, international standards for curricular programs aimed to draw interest from international students [56, 332 p.].

To prepare students for their future employment in multicultural world, the international atmosphere is being created at the universities, by supporting and integrating the foreign students into university life. The programs under elaboration include the following: tutoring the foreign students, consulting service, joint social and cultural events, and detailed information packages. Academic Mobility, as an integral part of universities strategy reforms, is important for the current internationalization process [98, p; 41]. Both students' and faculty members experience personal growth, by gaining educational and teaching experience in other academic and social conditions. Additionally, it contributes to the renewal of educational university process.

The following table (3.4) will compare between those countries which as demand / reduce the international students in counters (2014 - 2020).

Table 3.4. comparative data between of demand / reduce the international higher education students in counters (2014 - 2020)

	United Kingdom				Finland				France			
Year	International students (Inbound)	UK Students (outbound)	Change by %		International students (Inbound	Finland students (Outbound)	Change by %		International students (Inbound)	Frances's students (outbound)	Change by %	
2014	419,946	27,445	N. A		15,707	7,692	N. A		268,212	60,333	N. A	
2015	427,688	26,638	1.85%	**-3.3%**	17,636	8,132	12.6%	6%	271,399	64,012	1.2%	5.6%
2016	416,693	28,566	**-2.5%**	5.8%	18,320	8,280	4.2%	1.8%	266,318	76,221	**-1.9%**	19%
2017	428,724	29,945	2.9%	5%	21,859	8,796	19.3%	6.2%	228,639	81,580	**-14.1%**	7%
2018	430,684	31,433	0.45%	4.9%	22,574	9,350	3.2%	5.9%	235,123	86,241	2.9%	5.7%
2019	435,734	36,548	1.5%	16.4%	24,768	10,969	9.6%	17%	258,380	94,756	9.9%	9.9%
2020	452,079	39,253	3.8%	7.3%	23,714	11,328	**-4%**	3.6%	229,623	99,567	**-11.1%**	5%
Average			1.33%	6.01%			7.48%	6.75%			**-13.1**	8.7%

Source: made by the author [163]

Analysis of the researched states data yields the following conclusions:

1. All countries deal with the issue of the **drain / outbound** of local students to study in other countries. Each of the countries surveyed undergoes various processes related to global trends such as the "***spirit***" of international education brought about by the *Bologna reform* (1999), its programs (Erasmus +), including political-demographic events such as "***waves***" of immigration into the country (such as Finland - starting in 2013- 14). Finland maintains a relative advantage (7.48% in the growth of international students) over the others.
2. The two countries, Finland and the United Kingdom operate upon an orderly program that works to increase the number of international students, despite objective data of numerical decrease in some years. France also operates according to a national plan and mechanism, but the researcher estimates that the issue of costs, and especially language difficulty, hinder students' international mobility to France. Many programs offered to foreign students are not in English language, which makes it difficult to study.
3. Despite actions taken and economic prosperity in each country, the average outbound student is on the rise in all of them. That is, government actions in each country are not particularly effective in the efforts to halt the global trend occurring in their countries.

The countries (10 countries) with the most numbers of international students in the world, in the academic year (2017-18) are from North America (USA, Canada), Europe (Russia, Germany, France and Italy) and from Asia- Japan.

Table 3.5. The top countries with the International Students in 2020

Rank	Destination country	Total number of students	Universities ranked **top 100***	Universities with 5/5+ **QS STARS****
1	USA	1,075,496	30	16
2	UK	551,495	18	8
3	Canada	503,270	18	4
4	Australia	463,643	6	2
5	France	358,000	2	0
6	Russia	353,331	2	0
7	Germany	302,157	11	3
8	Japan	228,403	5	0
9	China	141,526	8	0
10	Spain	125,675	0	0

Source: made by the author from source [160, 164]

*Statistics refer to **QS World** University Rankings 2019/2020. **Statistics refer to **QS STARS** which evaluates each institution for the following criteria: Research, Teaching, Employability, Internalization, Facilities, Online/Distance Learning, Social Responsibility, Innovation, Arts & Culture, Inclusiveness, & Specialist.

In 2017, the US is still the world's leading destination, and it is expected to enroll a record number of students again this year. But America's market share is falling (from about 23% of all internationally mobile students in 2010 to 17% in 2017). This change is partly due to the increasing share of other English-speaking destinations such as the UK, Australia, and Canada, and partly due to the growing trend toward intra-regional mobility.

The Market share aside, the OECD reports that in 2018, "*almost half of all foreign students were enrolled in one of the top five destinations for tertiary studies abroad: the US, with 17% of all foreign students worldwide, followed by the United Kingdom (13%), Australia (6%), Germany (6%) and France (6%)*" [167].

Those statistics reflect 2017 of Data-market [184], yet so much has happened since then. Australia, for example, experienced double-digit growth in international student enrolments in 2017. Canada's international student population increased **23% from 2012 to 2018**. In contrast, following a tightening of work and immigration rules in the UK, British higher education institutions saw overseas enrolments fall in both **2016/17 and 2017/18**.

Academic faculties and hosting counties for international students. Universities around the world are using international student programs to attract mobile students. Globalization has made it easy to access information enabling students to look for opportunities in other countries. The need for higher

education has increased, and students from countries that are yet to meet this demand opt to study abroad. Students, especially from developing countries, pursue courses abroad that are not available in their local institutions. The US leads in hosting mobile students by hosting 19% of all foreign students followed by the UK at 10%.

United – State. According to IIE web [168], most foreign students studying in the US are from **China, Brazil, India, Saudi Arabia, Nigeria, and Kuwait**. Students are drawn to the US because it is home to some of the best Universities in the world. These Universities offer educational diversity for students. **Engineering, Business Management, and Math are the most popular courses for foreign students**. Most of the international students' study at **New York University, Texas University, and the University of Southern California**. Stringent and Bureaucratic procedures to obtain work visas force most international students to go back to their home countries after graduation.

United Kingdom. The UK is a destination country to 10% of foreign students. A significant number of these students are from **China, followed by India and Nigeria**. International students seek high-quality education from UK's renowned Universities. The most famous University with foreign students is the University College of London followed by the University of Manchester. **The top courses studied are Business Administration Studies, Engineering, Technology, Law, and Architecture. After graduation**, students are given a four-month period to look for jobs after which they face deportation if they stay longer. Many students go back to their home countries discouraged by tight immigration laws in the UK.

Australia. According to official Australian government web [172], Australia is the destination for 6% of international students. The top sending countries are **China, India, Malaysia, and Vietnam**. 44.7 % of these student's **study Business Management, and 11.8% study Engineering. Education has become the largest export service in Australia**. The costs of studying in Australia are considerably lower than in the UK and the US, and students can work part-time and access scholarships and grants.

France. The top sending countries of foreign students to France are **Morocco, China, and Algeria**. Around 6% of international students opt to study in France with most of them hosted in Paris. **Language and Humanities top the most studied courses followed by Sports Sciences and Economics.** France has attracted mobile students through several measures such as simplification of application procedures, availability of subsidies and increasing the number of institutions. Around 32% of these foreign students stay and work in France, with a variety of immigration options available.

Developing countries are increasingly supporting their students to access high-quality education in an attempt to fast track the growth of their economies. Other top destination countries are Germany attracting 5% of mobile students while Russia Federation attracts 3% of all international students. Japan is a favorite to 3% of all international students, Canada (3%), China (2%), and Italy (2%). Contemporary

trends in the global education sector have led to speculations in regard to its future [147]. The United Kingdom and the United States are increasingly facing competition, especially from universities in Canada and Australia, due to stringent immigration policies. The middle-class is increasing around the world leading to a greater demand for international education markets. Students are also opting for shorter stints when taking courses abroad.

The countries with the most outbound students are from all regions in world. In general, countries with larger populations have more tertiary students who are potentially eligible for study abroad. China and India, for instance, have the world's two largest populations and have been the top senders of international students in recent years. Countries with larger populations also tend to have lower outbound mobility rates than small countries. Waters & Brooks [158], for instance, found that countries with populations under 2 million had higher percentages of their enrolled tertiary-age students abroad than larger countries did. That finding probably occurs because tertiary education programs differ in small and large countries. It is difficult for universities in small countries to develop comprehensive study programs in a wide-range of fields and thus it can be cost-effective for small countries to allow tertiary students to go abroad if they wish to study in specialized fields. Other research shows that doctoral degree holders are in short supply in countries with small populations**.**

Table 3.6. The countries with the most Outbound tertiary students in academic year of 2019 – 2020

Rank	Country	Number of **Outbound** students	Total Students
1.	China	928,395	44,127,509
2.	Germany	122,958	3,091,694
3.	France	94,756	2,532,381
4.	USA	86,571	19,014,530
5.	Nigeria	85,987	1,806,124
6.	Kazakhstan	84,859	626,574
7.	Saudi Arabia	84,242	1,680,913
8.	Ukraine	77,890	1,667,287
9.	Russia	57,143	5,886,641
13.	India	34,465	33,374,107
46.	**Republic of Moldova**	**18,779**	**95,967**

Source: made by the author from source [167, 163].

The data in the table (3.6) shows that the number of higher education students leaving the country from the Republic of China is the largest. A considerable number also exists in the United States, despite successful and advanced infrastructure of colleges and universities. The issue in the United States has to do with economic reasons, as the state offers no funding to students (excluding public sector workers). Data in India is surprising, as it has a large number of students, but on the other hand the number of outgoing students is small, and therefore it is only in 13th place. A worrying figure is that of outbound

students. Thus, for example, in Moldova, there are 19.5% of all students, compared to 4% in Germany, 5% in Saudi Arabia, and 4.6% in Russia.

But what about where they are going? The answer to this question involves the interplay of different factors. On the one hand, students' own circumstances guide their choice of where to study (e.g., their financial means; the level of study they are pursuing; the advice they receive from friends, family, and agents; their perceptions of the image and reputation of an institution or country). On the other hand, country-level and institutional policies affect the popularity of destinations. Students are often influenced by the relative cost of living and tuition in a country (which may be affected by currency fluctuations) as well as the availability of internships and post-study work and immigration opportunities. Scholarship programmed play an important part as well. The past decade has seen the development of several massive scholarship and grant programmers, notably Saudi Arabia's **K**ing **A**bdullah **S**cholarship **P**rogrammer (KASP), Brazil's Science Without Borders, and, more recently, **Mexico's Proyecto 100,000**. Large-scale regional programmers, of which **Europe's Erasmus+** is the most prominent example, also play a major role in driving mobility.

3.2 Analysis the academic mobility in Israel – Outbound & Inbound

The **C**ouncil for **H**igher **E**ducation (hereinafter – the CHE) is a statutory corporation that was established by the Higher Education Law 1958 (hereinafter – the CHE Law). The Council for Higher Education has not adopted any policy, nor has data been transferred to the World Information Centers (OECD, UNESCO). The student numbers were very low and reached a few thousand. The State of Israel was twice refused to join the Bologna reform, and there was no motivation to change it. Only in 2010 began an awakening expressed in 2012. According to the Ministry of Education's decision of 2001, the degrees in Israel will be adapted to the requirements of the **Bologna Reform** and the academic credit process in the **United States**. The Division for Evaluating Foreign Academic Degrees in the Ministry of Education is the authorized body in the State of Israel to evaluate the academic degrees of graduates of institutions of higher education from foreign countries, in comparison with corresponding academic degrees in Israeli institutions for the purpose of ranking and wages. The Department for Evaluation of Foreign Academic Degrees is the official authority in the State of Israel to evaluate academic degrees to graduates from foreign academic institutions, in comparison to Israeli academic degrees from Israeli academic institutions for salary grading purpose. Evaluation of the degrees is based on the criteria and regulations the department operates with: "**Rachlevsky Regulations**" [93] and the regulations for evaluation of distance learning academic degrees and Ph.D. degrees. The certificate issued by the department is used for purpose of employment and salary ranking within the State of Israel, mainly at the civil service sector and also for application of vacant positions within it . The *Department for Evaluation of Foreign Academic Degrees* evaluates degrees from foreign academic institutions and

extensions of foreign academic institutions operating in Israel, with an operating license issued to them by the Israeli Council for higher education, and applied with all the relevant law.

Strengthening internationalism in higher education – <u>Inbound</u> foreign student. The national mechanism responsible for international policies in higher education in Israel is the **C**ouncil for **H**igher **E**ducation [188]. The Council decided on a clear policy in 2015 (2012 Amendment). The main motivation for the CHE / PBC in promoting internationalism in higher education is to raise the level and competitiveness of the Israeli academic system [19, 346 p.]. According to Bartel [14, 42 p.] there is no doubt that international advancement in Israeli academia may have many advantages - for the institutions themselves, for Israeli students and faculty, and for the State of Israel as a whole. The Council proposes three main functions of the CHE / PBC [185]:

- Determination of national policy and planning - vision, goals, coordination and follow-up.
- Working with academic institutions on issues such as budgetary and academic regulation, initiating processes in institutions to formulate a vision, strategies and goals, initiating processes for building appropriate infrastructures in institutions, consulting institutions in building collaborations, international planning and marketing strategy.
- Working with the international audience - concentrated marketing and branding efforts for Israeli academia, running scholarship programs and grants for outstanding students, information assistance, visas, health insurance, banks and the like.
- Israeli academic collaborations can be grouped into three groups - research, teaching, and capacity building.

The National research collaborations focus on specific programs and joint research funds. The most prominent research collaborations take place with the European Union, the United States, Germany, India, China, Singapore and Canada. The national collaborations in the field of teaching mainly deal with mobility of faculty members and researchers. The Council for Higher Education promotes capacity-building at the national level and in institutions in order to deepen the activity on the subject, especially with regard to incoming international students. Israel is also a partner in the Erasmus + European program to promote student mobility and staff and to build academic capabilities through international collaborations [43, 17 p.].

The academic institutions will establish infrastructures for recruitment and absorption of outstanding students from abroad. For the first time, the Planning and Budgeting Committee will allocate funds (up to 500,000 ILS / 140,000 USD to the institute) for the establishment of infrastructures and assessments for the absorption of outstanding international and Jewish students [45, 59 p.]. The infrastructure includes, among other things: the conversion of English language courses / programs, the training of teachers for teaching in English, programs for recruiting outstanding international post-

doctoral students, the construction of branding and marketing systems, and more. This is the first step in implementing the multi-year plan to strengthen international institutions in the higher education system, which is budgeted at 120 million USD. The goal is to increase an academic quality, strengthen the international reputation of institutions in Israel, and reduce academic boycotts [50, 39 p.].

In this context, it will be said that the Council for Higher Education and the Planning and Budgeting Committee have placed international promotion of higher education in general, and teaching in particular, as a central goal of the multi-year program [43, 44 p.]. Strengthening internationalism is intended to raise the level and competitiveness of Israeli academia by absorbing outstanding students from abroad, alongside strengthening the international reputation of Israeli institutions, reducing academic boycotts, and more. Moreover, international promotion of higher education is of great importance not only in the academic aspect but also in the political aspects (diplomatic relations with foreign countries), social and economic [51]. The following are some examples of types of infrastructure:

- Building and upgrading an array for the collection and analysis of data on internationalization of higher education.
- An array for the development and conversion of English language courses / programs.
- Training of local staff in teaching in English.
- Developing a support package for international students (such as setting up a personal tutoring system and ongoing support for students).
- Building specialized programs for attracting outstanding international post-doctoral students.
- Building international branding and marketing systems.

According to the latest data (2019), the proportion of international students studying in Israel dropped to 1.4% (5.5% in 2015), which is significantly lower than the OECD average of 9%. In Israel are not prepared for the absorption of international students, and for the most part, the treatment of these students is lacking [167].

The programs for the <u>inbound</u> international higher education students (ERASMUS).

The inbound academic mobility to Israel takes place in partnership with the academic programs have been before 2000 [170]. In recent years, students, faculty and researcher's mobility feature. Students who study in Israel interested in joining the existing partnership programs such as "Erasmus-Mundus" programs and others that run Israel. Not only in Israel, but also in many countries around the world. The author finds Universities which combine academic program with a parallel academic institution in another country:

1. **Ben Gurion University** - operates training and certification programs together with more than 50 countries at three levels of degree, health promotion programs in the community, Faculty of Political Sciences, Business Administration and Global Economics in the world [179].

2. **Tel Aviv University - TAU** - operates a training and certification programs primarily second degree (MA) in all areas and level (include Prestigious Degree in Medicine) which the university are teaching and collaborates with eight countries [180]
3. **The Teknion Institution** - Israel-Technology Academic Center, one of the world's leading certification bodies, with lecturers and researchers of Nobel Prize winners. The Teknion academic relations manager and joint certification with over 32 countries in the world [182].

The International programs in Israel (Erasmus +, Tempus). The EU program for Education, Training, Youth, and Sport for 2014-2020. It also supports national efforts to modernize Education, Training, and Youth systems. In the field of Sport, there is support for grassroots projects and cross-border challenges such as combating match-fixing, doping, violence and racism. In the state of Israel, the author recognizes some projects which offer by the CHE [188]:

- **DARE** - is a multi-national project, together with Georgia, coordinated by Haifa University. The partners in Israel: Israeli Partners: "Achva" Academic College, Gordon Academic College of education, Sapir Academic College Associated partners: "Nitzan and Rashi" Foundation.
- **TEAC HEX** - is a national project coordinated by IDC Hertzeliya. The aim of the project is to contribute to the continuous professional development of academic staff by offering adequate support structures (Centers for Teaching Excellence) and innovative, high-quality, flexible programs designed to promote better teaching and therefore enhanced learning as well. The partners in Israel
- **CLEVER** - is a national project coordinated by "Shenkar" College. The project aspires to be the catalyst of change in HE for creative professions as well as the entire creative economy eco-system. This will be done by ensuring that graduates in creative disciplines are fitted with updated leadership and entrepreneurship capacities and skills the enable them to maintain life-long portfolio careers and to enhance 21st century creative economies.

The format of the academic training for foreign students. The Council for Higher Education together with the academic institutions and ERASMUS has decided on training courses that fall into three main tracks [175]:

1. "**Academic Experience**" - a semester-long study track (possible for winter or summer) in which the student integrates into the studies of the faculty to which he belongs, together with the academic year (academic year of study / faculty). This format will usually be for the purpose of academic-cultural enrichment, and in some cases will be used for the exchange of student delegations between academic institutions. As part of the Bologna Reform, the academic institution will be required to recognize these studies and grades of the student at the host institution.

2. **Full study** - in this format, the foreign student joins the regular study track, according to early registration and classification. The student accumulates academic points on the way to an academic degree, and all requirements apply to him according to the university. In this format, he will have to complete a full year of study in order to receive approval for the completion of an academic year, or alternatively, a full academic degree from the academic institution and the state.
3. **Academic Research** - in this format, which is the most open and diverse, can be integrated into many forms, including: academic research, doctoral courses, postdoctoral studies, academic faculty visits, academic enrichment visits, conferences and research. This format has no exact dates and can be spread over months and academic years. In the next Figure [3.1] we see the central academic institutes which develop the international format for integrate into the international space of academia in Israel and around the world.

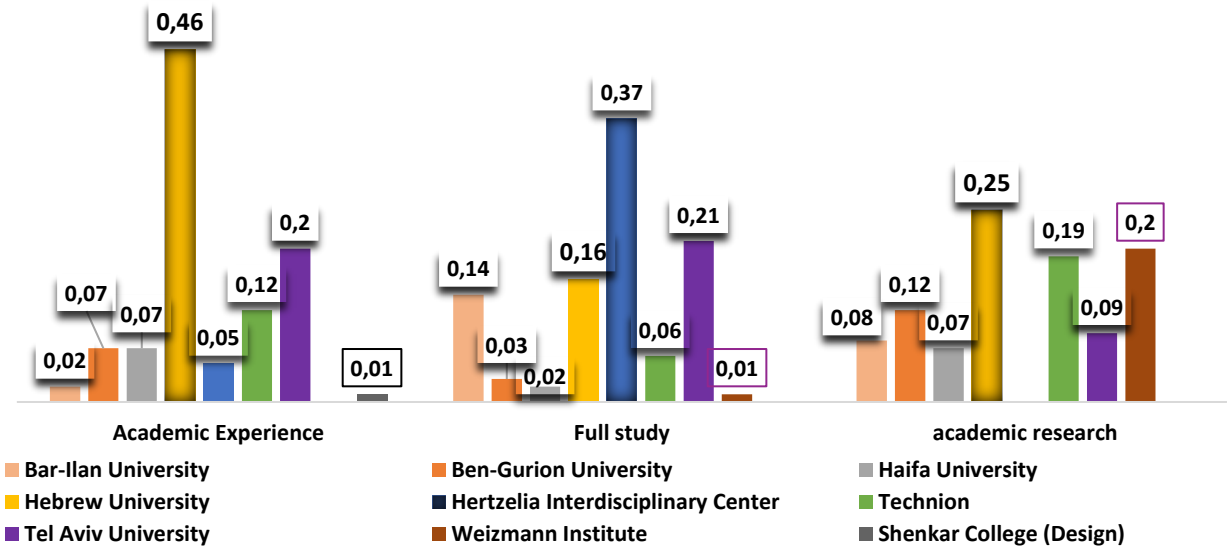


Figure 3.1. The percent of the foreign student in the international programs In Israel -2020
Source: made by the author from source [188]

Analyzes the figure:

1. The **Hebrew University** (0.33%) is the most popular for the Erasmus + program (Academic Experience). The Tel Aviv University is also with 0.25%.
2. The **Hertzeliya Center** has the largest percentage of full study.
3. All the foreign students in **Weizmann Institute** are researches (the institute has an international success and 3 Nobel prizes in Chemistry, Biotechnology and Science.
4. The university of Tel Aviv has a large percentage in full study and Academic Experience. The university have popular M.B.A program with American Universities.

The state of Israel made an a strategic- plan for increase the demand of international students to the higher academic institutes. The main motivation for the CHE / PBC in promoting internationalism

in higher education is to raise the level and competitiveness of the Israeli academic system. There is no doubt that international advancement in Israeli academia may have many advantages - for the institutions themselves, for Israeli students and faculty, and for the State of Israel as a whole. In 2012, the Council for Higher Education proposed three main functions of the CHE / PBC:

1. Setting national policy and planning – with vision, goals, coordination and follow-up. Working with academic institutions on issues such as budgetary and academic regulation, initiating processes in institutions to formulate a vision, strategies and goals, initiating processes for building appropriate infrastructures in institutions, consulting institutions in building collaborations, international planning and marketing strategy.
2. The opening of marketing to the international audience - concentrated marketing and branding efforts for Israeli academia, the implementation of scholarship programs and grants for outstanding students, information assistance, visas, health insurance, banking services - financial financing. The Israeli academic collaborations can be grouped into three groups - research, teaching and capacity-building for industry, energy and health.
3. National research collaborations focus on specific programs and joint research funds. The most prominent research collaborations take place with the European Union, the United States, Germany, India, China, Singapore and Canada.

In addition, Israel is also a partner in the Erasmus + European program to promote student mobility and staff and to build academic capabilities through international collaborations.

After a few years, the number of international inbound student in Israel as increase from 2011 to 2018. The Ministry of Education operates in accordance with the CHE's strategic plan, allocating resources and budgets, and gives freedom of action to academic institutions, while maintaining the quality and proper conduct of the investment, and the results of the investment can be seen in Figure 3.2, which shows the increase in demand of international students for academic mobility to Israel between 2011 and 2018:

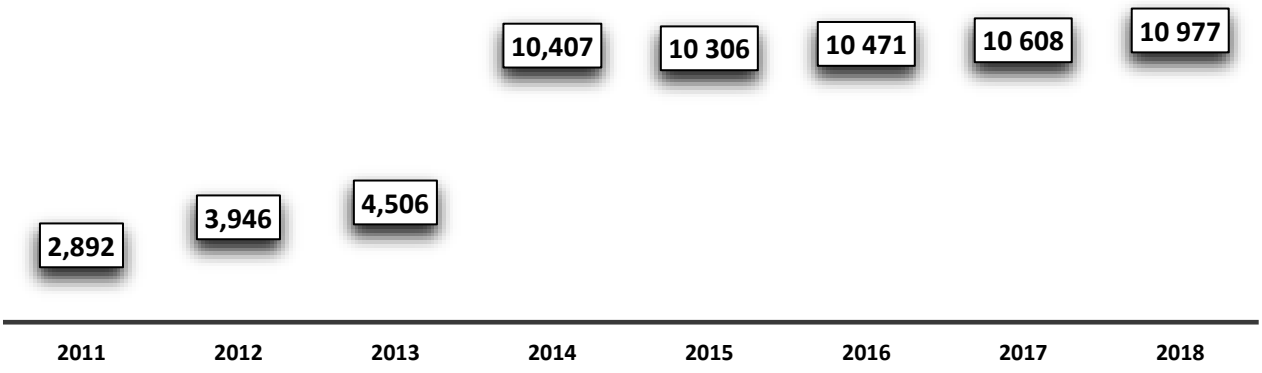


Figure 3.2. The Number of International Students in Israel 2011-2018
Source: Made by the author from sources [163, 164].

The author defines **in figure 3.2 high demand** between **2013** and **2014**, but then a halt in demand growth and even a recession in numbers. Until 2010, the State of Israel did not attach much importance to the international issue. In order to analyze the halt in the arrival of foreign students, the researcher examined the countries from which the students arrive, in order to examine where the demand has stopped. The 3.3 figure will show the areas from which international students arrive in Israel.

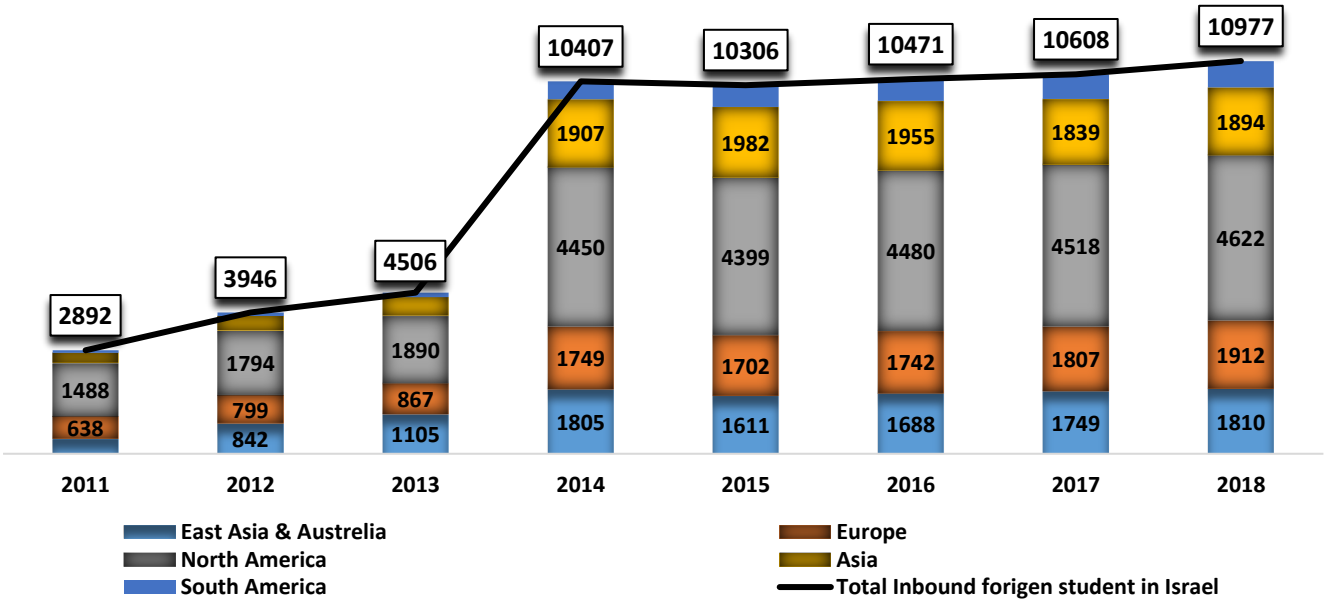


Figure 3.3. The demand for academic mobility of Israeli students 2011 – 2018
Source: Made by the author from source [163, 164, 167]

Analyzes of the Figure 3.3:

1. The author identifies a very large increase of over **100%** after the academic year 2012-2013. This increase is the result of a change in the policy of the Council for Higher Education, and the allocation of a budget specifically to international education.
2. The author defines an increase demand mainly from the Far East countries (China, India), an increase in demand from European countries, especially from North America (the United States and Canada).
3. In the last 4 years the American sector are the biggest figure with more than 4500 students (almost 50% from the students).
4. The productive actions that have been taken in these countries, in order to create academic-academic partnerships, will contribute to the subsequent analysis of the impact of academic mobility on knowledge economy in Israel.
5. The Europe student has an increase of 12 % in the past years.

The financial contribution from the arrival of foreign students. The contribution is mainly to the coffers of academic institutions. The author found that the foreign student would pay 125% of the tuition, would not be entitled to any scholarship and would be subject to many additional expenses for

medical insurance and living expenses. The State of Israel cannot understand the advantages of absorbing foreign students, and therefore does not increase the demand of foreign students for academic studies in Israel. The author of the thesis [109] emphasizes the importance of understanding that the State of Israel should see the arrival of foreign students in academic studies as a higher value than financial income. The establishment must understand the future benefits and implications of the political-academic status in the world. The table below shows the cost of tuition for the foreign student.

Table 3.7. The tuition fees of international student – 2019 – 2020 (for all Degree)

The University	Tuition fee per student 2019 – 2020 (in USD)	Total tuition income 2019 – 2020 (in thousands USD)
Hebrew University	48,000	19,014
Tel Aviv University	American Medical Program – 87,800	American Medical Program – 34,936
	Foreign students – 37,500	Foreign students – 21,921
Ben Gurion University	36,000	20,427
Haifa University	33,000	19,799
Bar Elan University	39,000	15,644

Source: made by the author from source [179, 180, 181, 182].

The University maintains study abroad agreements and affiliations with many top academic institutions in the United States and worldwide. The International students attending higher education in Israel come from a large number of countries. The following table shows the increase of the international student in the 2018-2019 academic year comparison of 2019-2020. We see an increase in demand due to marketing activity operated by the academic system in Israel.

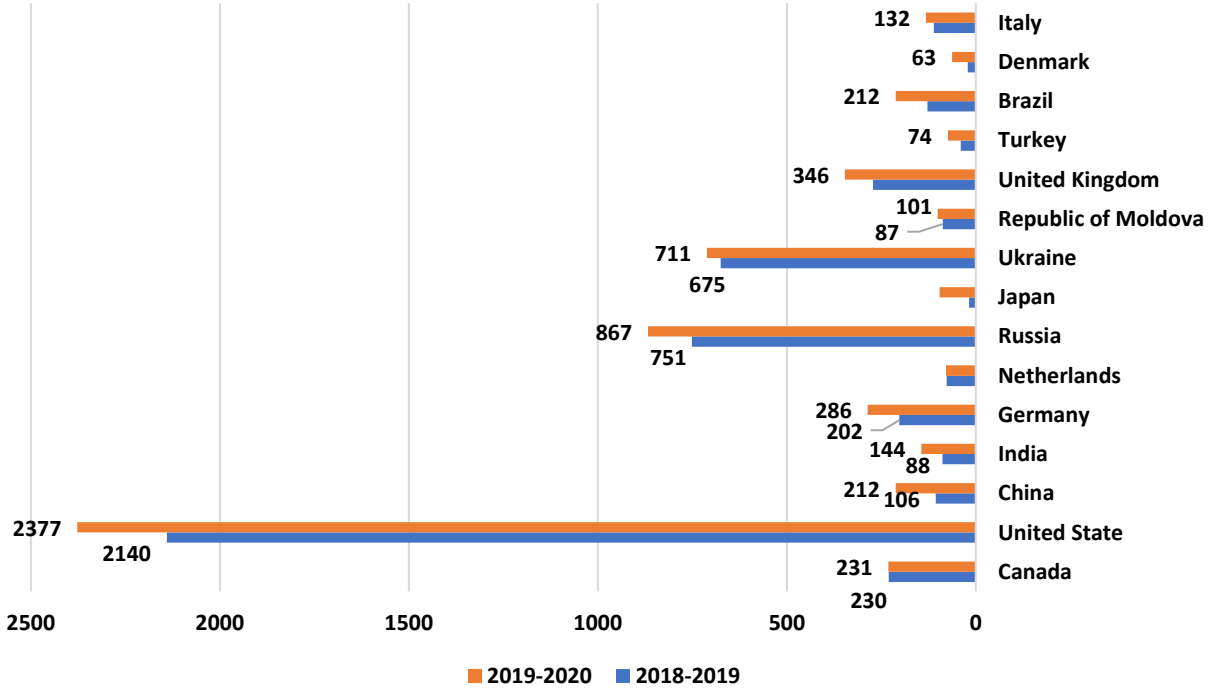


Figure 3.4. The <u>number</u> of international students in the Israeli academic by country 2018 – 2019 / 2019 – 2020

Source: made by the author from source [163, 169, 164, 167]

The increase in demand is the result of an initial change in policy in the Ministry of Education. In view of the wide potential of international organizations for the development of the higher education system in Israel, the Council for Higher Education decided to place special emphasis on the issue and to promote it in the coming years. The main actions that the CHE / PBC will lead on this issue are:

1. Formulating a vision and goals at the national level.
2. Leading national moves to branding and marketing Israel as an attractive study destination for the world.
3. Arranging academic, budgetary and planning regulations on international issues, removing obstacles at the national level that international students face when they arrive in Israel (such as visas, work, etc.) and promoting academic relations and cooperation with other countries around the world.

The Council for Higher Education and the Planning and Budgeting Committee have placed international promotion of higher education in general, and teaching in particular, as a central goal of the multi-year program (2017 - 2027). However, there is no doubt that such a move could also contribute to institutions of higher learning, such as creating and strengthening international reputation, the possibility of preserving unique / low-demand areas, diversifying sources of income and possible sources of profit. International relations in higher education will undoubtedly also contribute greatly to the State of Israel in general – political.

It is possible to develop "international higher education" on several levels:

A. Promoting international research collaborations;
B. The arrival of international students to the Israeli institution;
C. Imparting international skills to Israeli students;
D. Building local institutional capabilities through international collaborations;

The <u>outbound</u> of Israeli students. The phenomenon of the migration of academic personnel from country to country, called "student brain drain," is part of a broader phenomenon of international labor migration, which stems from personal circumstances (aspirations for career development and availability of avenues of advancement); Seeking opportunities for wage improvement and quality of life (in socio-economic processes) - demographic changes; The surplus of labor demand in certain sectors in some countries in parallel to the surplus of supply of workers in the same fields in other countries), or a combination of the two. It should be noted that for various reasons it is difficult to accurately quantify the phenomenon of academic migration, it should also be noted that sometimes the data relate to Israelis with academic qualifications who have joined academia abroad, and sometimes those with university education who have integrated into industry (in high tech or in any other sector). Data from the Central Bureau of Statistics indicate that in 2015, 4.9% of all degree recipients from

institutions of higher education in Israel spent more than three years abroad, and those who stayed abroad for three years or more were particularly high among those with a third degree (2.0%). Approximately 0.2% of those who stayed abroad for three or more years in 2012 returned to Israel in the following year.

According to the Central Bureau of Statistics [165], which conducted a survey among students going abroad to study, most of the students applied for medical studies and business administration (27%). The study found that the medical profession - 41% (with an emphasis on dentistry) - is the preferred profession. (7%), arts (6%), industry and infrastructure (12%), and design studies (7%).

According to a recent publication by the CHE publishing [188] and the Central Bureau of Statistic [162], 11% of all Ph.D. holders have left the country for a decade the last one. This figure places Israel in the middle of a table that ranks the departure of PhDs in countries. Selected: Below Belgium and the Netherlands (58%), but far above Sweden (2%) and Germany (6%). The option for the Israeli students for academic mobility are Countries such as Germany and France do not charge tuition to students who are not EU citizens. In addition, living expenses abroad are often lower - making the transition especially worthwhile for Israeli students, and the cost of tuition in Israel is not high, especially in comparison to the US, but the cost of living in Israel leads to the fact that students in Israel About 5,000 ILS a month, according to data from the Student Union. There are countries in which higher education is free or tuition fees and living is cheaper than in Israel. So that for Israeli students flying to study in these countries in the end, studies abroad are cheaper, which are the countries where you can study for free or cheap, **according to the university ranking site QS:**

1. **Germany**

At public universities in Germany, undergraduate students are not required to pay tuition at all. Studies are free for students with German citizenship and for students from other countries, regardless of country of origin. The only payment to the university is for registration and it ranges from 150 to 250 Euros (580-970 ILS). The cost of living is not included, and in order to obtain a student visa for studies in Germany, it is necessary to prove that the student has about 8,700 Euros a year (2,800 ILS a month) for a living. Higher education in Germany is considered good and more than 40 German universities are listed in the QS world ranking. However, there are signs that free studies in Germany may soon be over. The state of Banne Wurttemberg in the southwestern part of the country has already announced that it will start collecting tuition fees from students outside the European Union this year, and will raise about 1,500 Euros (about 5,800 ILS) per semester [165].

2. **France**

Although higher education in France is not free, tuition at public universities in France is about 184 Euros (about 710 NIS) a year for a bachelor's degree. There are certain professions, such as medicine, where tuition is higher but not much higher. Like Germany, most of the program for

undergraduate studies is taught in the local language and not in English. Students who wish to study French or German in a designated school prior to the beginning of the school year should add this cost to the general account. Living expenses in France are about 9,600 Euros (NIS 37,200) a year, but they are higher in Paris.

3. The Scandinavian countries

In Norway university studies are free for all students, regardless of country of origin. Most undergraduate programs are taught in Norwegian and foreign students will need to demonstrate that they are proficient in a language that is adequate for academic studies, and there are many more programs in English and in Denmark, and in Sweden and Denmark free and undergraduate studies are only for EU citizens. Which are open both to students from the Union and to students from abroad, and also enable doctoral students to receive a salary. In Denmark, university tuition ranges from 45,000 to 120,000 Danish kroner (NIS 23,400 - NIS 62,500). In Sweden tuition fees range from 80,000 to 140,000 kronor (NIS 32,600 - NIS 57,000). In Finland, students from outside the European Union will be forced to separate from 1,500 Euros (5,800 NIS) a year at least to study at state universities. In Iceland there is no tuition fee for studies in public universities, but there is a registration fee of about 400 Euros (1,550 NIS) a year. The cost of living in the Scandinavian countries is among the highest in Europe but Copenhagen, Helsinki, Oslo and Stockholm were ranked among the best cities for students.

4. Other European countries

Austria - Austrian students and students from other countries can enjoy two free semesters in all advanced degrees [170]. The tuition is then 363 Euros (NIS 1,408) per semester. Students from non-EU countries will have to pay a tuition fee of 726 Euros (NIS 2,814) per semester. Living expenses in the country are around 10,200-12,000 Euros a year (NIS 39,500 - NIS 46,500).

Belgium - Students from the European Union will have to pay a maximum tuition fee of 835 Euros a year (NIS 3,240) to study in Belgium. Students who are not European citizens will have to pay between 890 Euros and 4,175 Euros per year (NIS 3,450 - NIS 16,200). The annual living expenses for students in the country amount to about 11,400 Euros (NIS 44,200) a year.

Czech Republic - Studies in Czech are free for all students regardless of their country of origin, but anyone who wants to study in English will have to pay about 4,260 USD a year (about NIS 15,700). Living expenses are relatively low in the Czech Republic and range from 4,200 USD to 9,000 USD (NIS 15,500 - NIS 33,200) a year.

Greece - most undergraduate and graduate programs at public universities in Greece are free for students from EU countries. Students outside the EU will have to pay tuition fees of about 1,500 Euros (NIS 5,800) a year. Living expenses in Greece are considered among the lowest in the European Union.

Italy - Private universities in Italy are considered expensive but public universities can be studied for a bachelor's degree for 850 - 1,000 Euros (3,300 - 3,885 NIS) a year. Living expenses in Italy amount to about 12,000 to 18 thousand Euros a year (about 47,000 – 70,000 NIS).

5. Other countries around the world

United – State – The Preferred country (and most expensive) of the Israeli student

The United States is considered one of the world's leading countries in terms of higher education, which also explains the exceptionally high number of foreign students in the country - about 520,000 out of 17.5 million, and the annual tuition varies from $ 5,000 a year to an urban college. $ 1,000 in a prestigious university such as Harvard University, where tuition in the US is on the rise, while scholarships for students are declining, partly due to the economic crisis that has hit foundations and donors. Most universities require candidates to take the screening tests, in addition to the TOEFL score of at least 500 points and SAT. In addition to a high school diploma, American colleges also require the recommendation of the school principal and the recommendation of an English teacher. Students who flock to the United States choose to study economics or business administration - 20% of all foreign students.

The Higher education has become one of the leading export sectors in the US In the average year, foreign students spend 15.5 billion USD on their studies.

Argentina - All students with Argentine citizenship enjoy free studies, but students from outside the country are required to pay a tuition fee of 5,000 USD (NIS 18,400) per year.

India - Tuition fees for overseas students in most undergraduate programs in India do not exceed 7,300 USD (NIS 27,000) per year, but in postgraduate programs it is likely to be higher. In India, living expenses are very low and allow a very comfortable life for 5,000 USD (NIS 18,400) Per year.

Taiwan - Tuition fees at the best universities in Taiwan are attractive. Last year, National Taiwan University raised an annual tuition fee of 3,175 USD to 3,900 USD (NIS 11,700 to NIS 14,400). Tuition fees are similar to university tuition in Israel.

The reasons for academic mobility of Israeli students

According to the Higher Education Council in cooperation with the Central Bureau of Statistics, and cross- checking data against UNESCO tables, the number of Israeli students which studying abroad is about – **14,296** students per year (2018). This is a very high percentage for comparison against the total number of students enrolled. According to Adler [7, p; 34], There are some advantages to the demand of students for academic mobility outside of Israel. Maharum [100] wrote about the reasons for the academic mobility of Israeli student:

Admission requirements - Study outside from Israel, allow them to acquire an education in Israeli acceptance threshold is particularly high. For examples, we can include faculties such as medicine, veterinary medicine, dentistry, computers and psychology, Art, Management.

1. **The fields of study** - study outside of Israel allow knowing better another culture. The country in areas not taught, or taught in a small country, due to lack of demand or due to lack of practice. With these courses, include studies in art, game design and Veterinary.
2. **The location of the institutions** - learning centers near the center of events, actions, knowledge and the world's leading activity constitute an advantage. Examples are studying fashion design in Milan, Italy, studying cooking in France or acting classes in California, USA.
3. **Improving the professional career** - Study Abroad allows students to improve their professional status immeasurably, in particular if they are graduates of one of the most prestigious universities abroad.
4. **The quality of studies** - some institutions of higher education in the world boast high quality education most. Revolution's knowledge and culture, and global politics have grown addicted to our foundation, for example, the world's largest education centers - such as the Sorbonne University in France, Oxford, Harvard and others.
5. **Another language and experience** - study abroad give students another language. That it is clear that even when they were learning the language would not have the level of knowledge of the language as a whole do a degree in a foreign language. In addition, we can see that the study abroad experience allow one-time experience and knowledge of different cultures, language learning, development, independence and study at the same time.
6. **Employment opportunities and the expansion of knowledge** - study in a foreign country allow access to and knowledge of the local labor market and the region. If the student chooses not to return to Israel if he could under certainly conditions, to continue an education and work in the destination country.
7. **The process of approving credit for academic degrees** in Israel is similar to that of all the countries under the Bologna Baccalaureate (1999). As in all other countries, Israel has adapted its academic track to an academic degree track similar to that in Europe, and of course in the US Israel applied twice for admission to the reform but was rejected, and today academic institutions interact with a large number of academic institutions and countries. Europe (West and East), China, India, North American countries, Australia, UK.

Statistical findings of students in Israel. In her thesis, the author sought to conduct two research studies. One referred to Israeli students' preference questionnaire, examined using a quantitative research method in which 120 students participated. The second study explored the effects of factors associated with academic mobility on knowledge economy in the Israeli economy. First, the researcher presented questionnaire findings, quantitatively tested with Spearman tests, and adapting variables for correlation testing. The second study was comparative qualitative research whose purpose was to identify core factors influencing knowledge economy professions, to identify variable necessitating recommendation and improvement in a national program proposed by the researcher.

As part of an analysis of the findings of students leaving for academic studies in other countries, the study director decided to conduct an in-house study that analyzes authentic and reliable answers to the feelings and decisions regarding academic decision-making in Israel or in other countries. The sample of the questionnaire is attached (in Russian and English translation) as annex 7. **In this section** we will review and analyze the main findings that will contribute to drawing conclusions in this chapter and in the final conclusions and recommendations.

The questionnaire consisted of 15 questions that included gender questions about the gender of the respondent, ages, fields of study, stage of study (high school, academic, practical), academic stage (bachelor's degree, master's or doctorate), And professional preferences regarding the location of the studies, and the reasons for the selection. In total, the survey questionnaire was transferred among 120 students surveyed.

The main findings of the survey are:

Table 3.8. Age of the students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (17-21)	14	11.7	11.7	11.7
	2 (22-30)	**79**	**65.8**	**65.8**	**77.5**
	3 (31-45)	12	10.0	10.0	87.5
	4 (45+)	15	12.5	12.5	100.0
	Total	120	100.0	100.0	

Source: Made by the author

from analysis of the findings of **Table 3.8** shows that the age of the respondents is directly relevant to the thesis topic because it is a population of men and women **aged 22-30. 65.8%** of the respondents are of the same age. The author finds a correlation between thinking about acquiring a knowledge economy education for this age group.

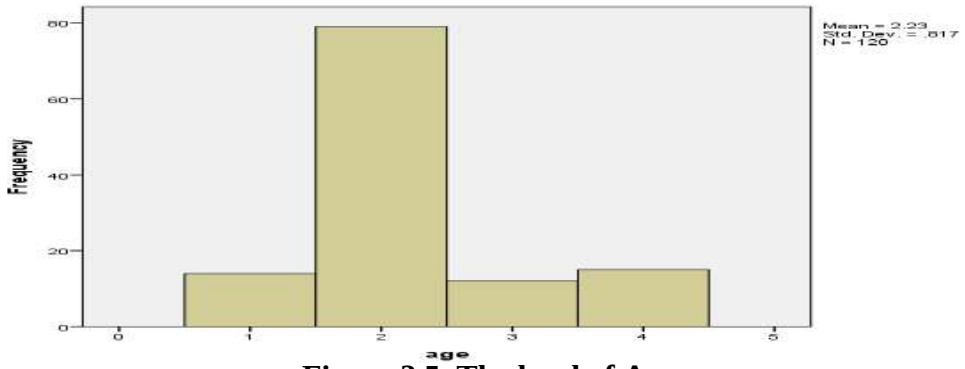


Figure 3.5. The level of Ages
Source: Made by the author

- Most of the respondents are aged **22-30 (65.8%),** 12.5% are older than 45:

Table 3.9. The level of Education

	Frequency	Percent	Valid Percent	Cumulative Percent
1 (High School)	12	10.0	10.0	10.0
2 (Practical Studies) Valid	25	20.8	20.8	30.8
3 (Higher Education)	**83**	**69.2**	**69.2**	**100.0**
Total	120	100.0	100.0	

Source: Made by the author

- Most of the respondents (69.2%) have a Higher Education, 20.8% - practical studies, 10%- only High School graduates.
- The author notes that the majority of the respondents are from the academic level, ie, the answers will be tailored to the needs, feelings and preferences of academics at various levels and stages.
- In Table 2.9, the thought of academic education is the most significant and influential. **69.2%** of the respondents said they belong to the academic level or intend to reach it.

The following histogram describes the planning of the respondents to study economics- based professions, for different education groups. The higher the education the respondents already have, the more they are planning to study economics- based course.

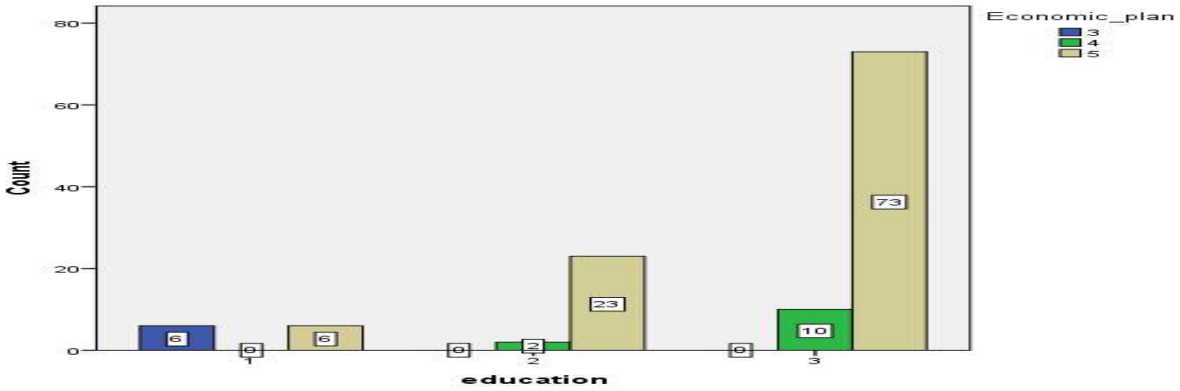


Figure 3.6. frequency of planning to study economic-based professions.
Education =1 for High School, =2 for Practical Education, =3 for Higher Education
Source: Made by the author

- **Figure 3.6** shows that the respondents intend to study in academic faculties in order to study knowledge economy and knowledge-intensive professions (medicine, engineering, industry, energy, economics).

The following histogram describes the satisfaction of the **current field of study, women and men**. There are no significant differences in their distributions. Most of the respondents are highly satisfied from the field of studies.

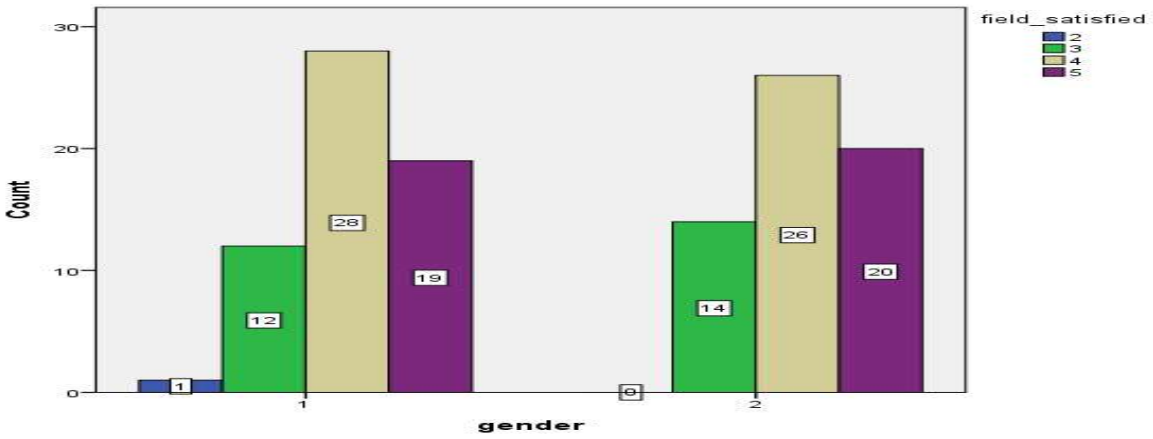


Figure 3.7. frequency of satisfaction from the current field of studies.
Gender =1 for male, =2 for female
Source: Made by the author

The following figure describes the considering to study out of Israel, by gender. About 20% of the respondents do not study in Israel. **About 57% are happy to study out of Israel. 16% consider seriously to study abroad.**

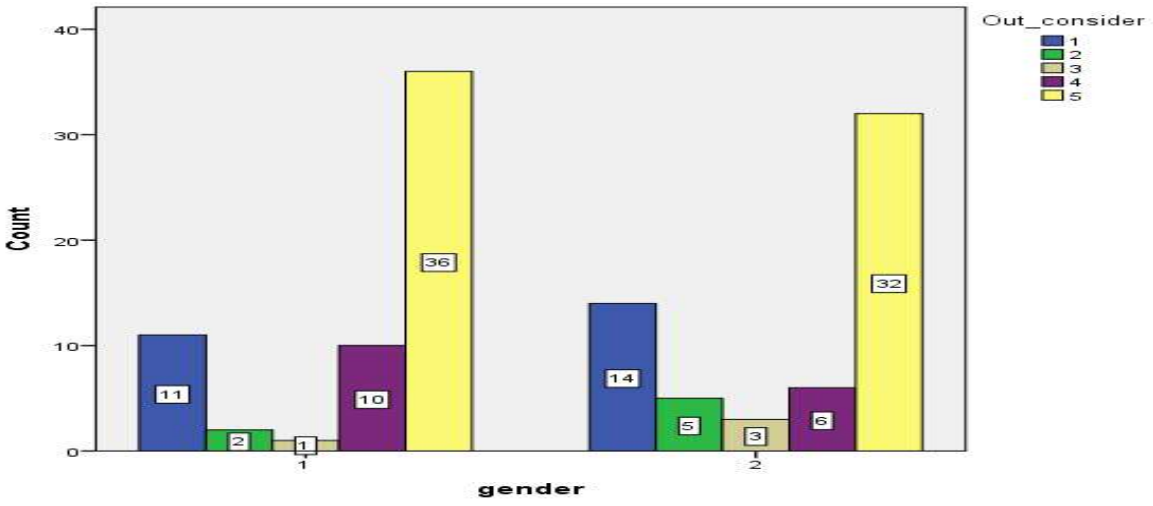


Figure 3.8. Motivation to study outside of Israel
1-Not studying in Israel 2- Didn't consider 3- Considered 4- Seriously considered
5- Very happy in choosing to study out of Israel
Source: Made by the author

- **Figure 3.8** shows that the settlements plan to study in countries outside of Israel. The lesbians were asked about this last question. However, according to this information, it seems that **78% seriously consider studying abroad**. Gender distribution was also expressed: **36% of women and 32% of men**.

The following pie chart presents the distribution of destination countries.

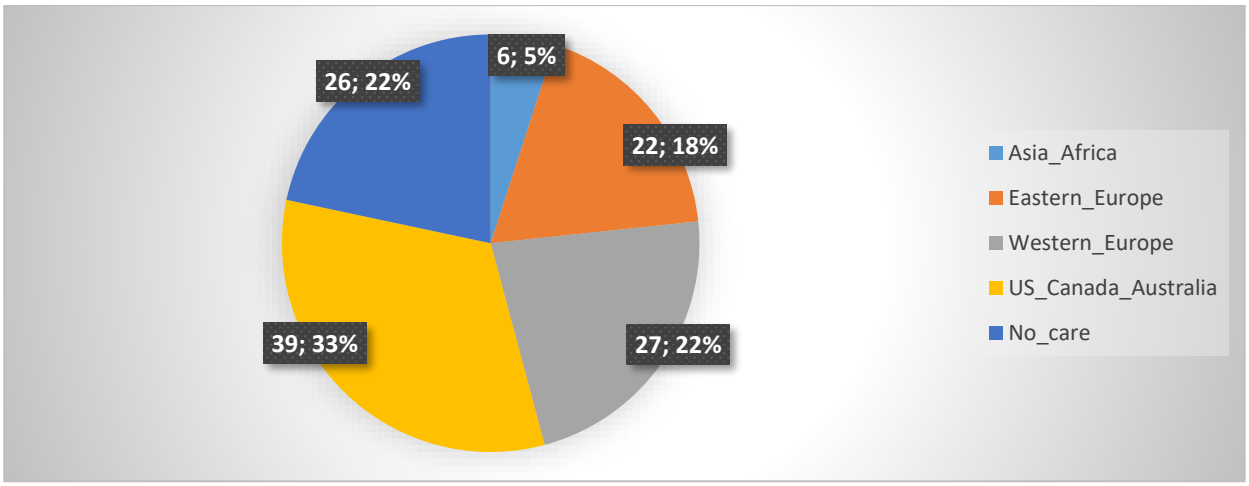


Figure 3.9. The distribution of destination countries for Israeli students

Source: Made by the author

- Most of the respondents **(39.3%)** plan to study in US, Canada or Australia. **26.2**% in Asia and Africa countries, 22,18% and 27.22% - in countries of Eastern and Western Europe, respectively. Only 6.5% don't care or do not plan to study abroad.

The following pie chart presents the **reasons to study and work abroad**

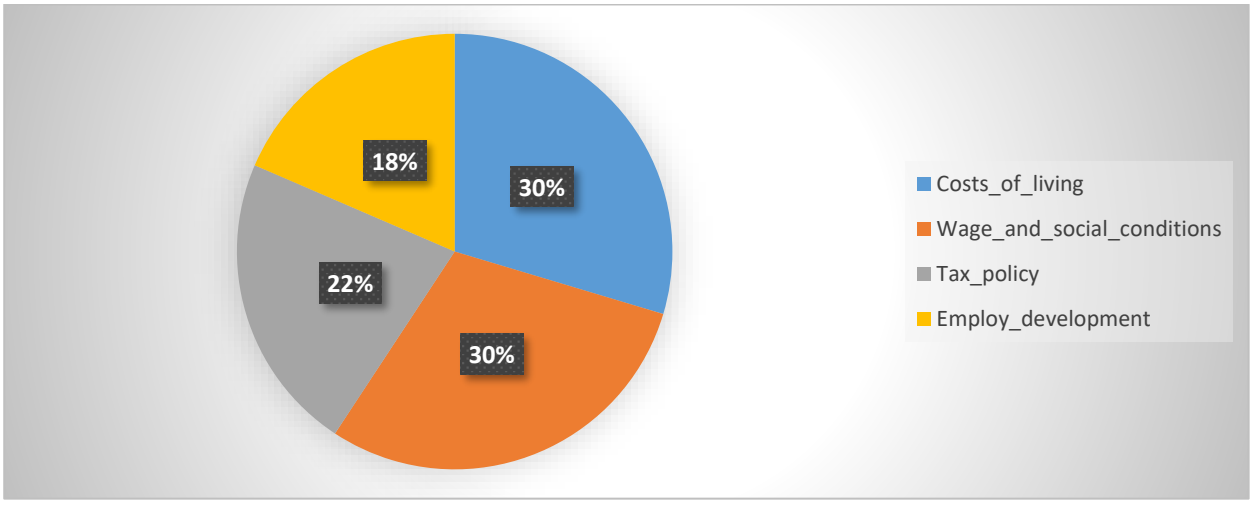


Figure 3.10 – The reasons to study and work abroad

Source: Made by the author

- **Figure 3.10** shows the reasons for seeking study options, professionalization, and the possibility of living in other countries. Respondents answered that **30%** of the reasons for **suitable employment**, **30%** answered that the main reason is the **cost of living in Israel**, and a central figure is that **77.5% answered that all the reasons together**.

The main conclusions from the survey questionnaire:

1. Lots of students and future students leave Israel to get Higher Education outside .
2. The main reasons are economic: the costs of living, the future wages and the social conditions .
3. Many also believe that studies outside are better from the professional point of view .
4. The majority believes it will not be hard to find a proper employment in Israel, but most of them do not plan to come back .
5. In addition, from the Spearman correlations it was found out that the age is positively correlated with education (p_value<0.001) and negatively - with satisfaction from studies in Israel (p_value<0.001), positively – with considering to study abroad (p_value<0.001) .
6. Age is negatively correlated with the believe it will be a suitable employment in Israel (p_value<0.001). In other words, the older is the respondent, the more education she is and the more interested in studying out of Israel, believing local education is not good enough and proper employment is difficult to find .
7. The more educated the respondent is, the more she plans to study economic-based studies (p_value<0.03), the less satisfied from the quality of studies in Israel (p_value<0.001) and more considers studying abroad (p_value<0.001).
8. The thesis concludes that analysis of the data, and the findings of the statistics, shows that the economic-occupational stability prevents the Israeli student (aged 22-30) who has already completed an academic degree or intends to study for an academic degree. The reasons for this are combined and include economic reasons (salary, cost of living, housing), professional reasons (exposure to globalization, desire to engage in knowledge economy, stability in the workplace) and social reasons.

The 120 respondents represent all strata of society in Israel (by age, by sex, by stage of study, preferences, fields of occupation and professional specialization). In her thesis, the author sought to conduct two research studies. One referred to Israeli students' preference questionnaire, examined using a quantitative research method in which 120 students participated. The second study explored the effects of factors associated with academic mobility on knowledge economy in the Israeli economy. First, the researcher presented questionnaire findings, quantitatively tested with Spearman tests, and adapting variables for correlation testing. The second study was comparative qualitative research whose purpose was to identify core factors influencing knowledge economy

professions, to identify variable necessitating recommendation and improvement in a national program proposed by the researcher. The following graph (3.11) will presents the number of students and graduates leaving Israel over years.

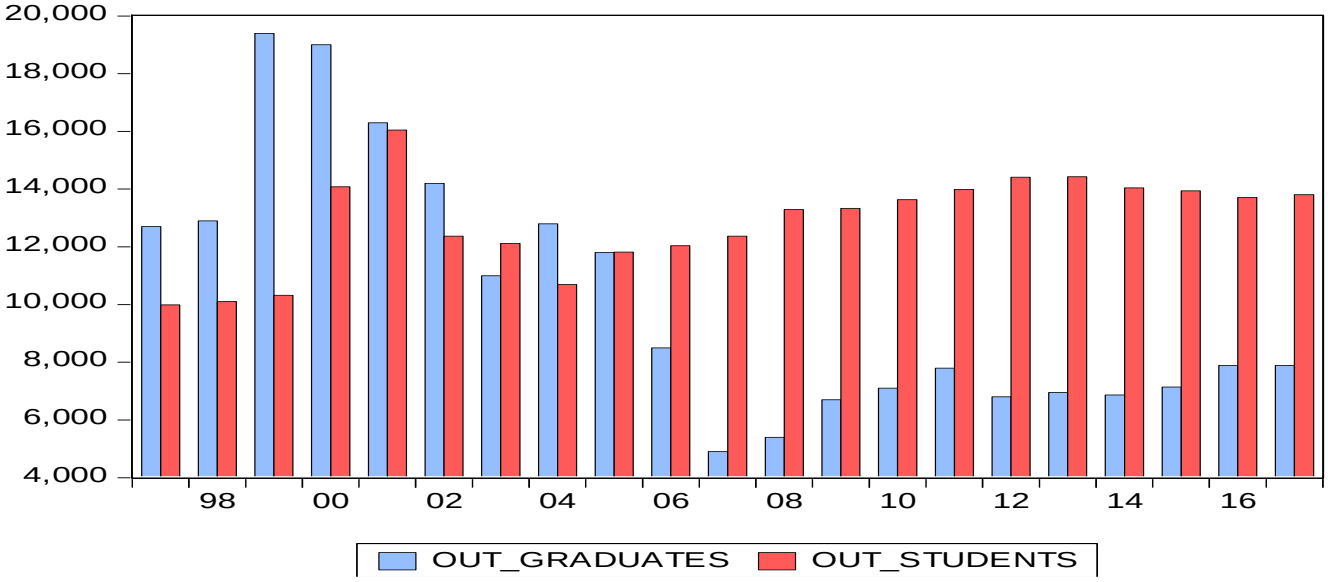


Figure 3.11. Out graduates compare to out-students in Israel 1997-2017

Source: made by the author

from the findings of figure 3.11, the author can conclude that over years, the number of "out" students (which means leaves Israel) grows slowly while the number of local graduates in generally decreasing.

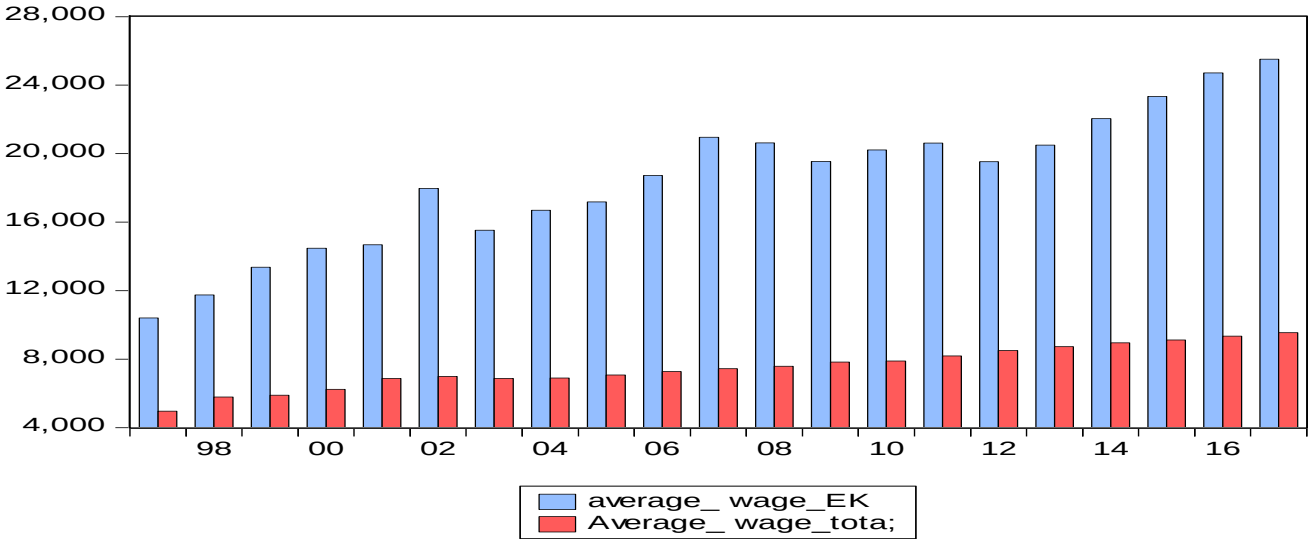


Figure 3.12. Average wage based on knowledge economy professional compare to classical average wage 1997-2017

Source: made by the author

From the figure 3.12, the author concludes that average wage of which based on knowledge economic fields is higher than the total average wage, both kept growing over the years.

The test of equality of means for both salaries finds that the differences are statistically significant.

Test for Equality of Means Between Series
Date: 10/18/17 Time: 00:28
Sample: 1997 2017
Included observations: 21

Method	df	Value	Probability
t-test	40	11.83231	0.0000
Satterthwaite-Welch t-test*	23.68223	11.83231	0.0000
Anova F-test	(1, 40)	140.0036	0.0000
Welch F-test*	(1, 23.6822)	140.0036	0.0000

*Test allows for unequal cell variances

Analysis of Variance

Source of Variation	df	Sum of Sq.	Mean Sq.
Between	1	1.26E+09	1.26E+09
Within	40	3.61E+08	9025805.
Total	41	1.62E+09	39626280

Category Statistics

Variable	Count	Mean	Std. Dev.	Std. Err. of Mean
AVERAGE__WAGE_EK	21	18494.48	4064.226	886.8868
AVERAGE__WAGE_TOTAL	21	7524.190	1238.418	270.2451
All	42	13009.33	6294.941	971.3305

The following graph presents the percent of students leaving Israel over years, from the total number of students: After growing fast toward the 99, is decreased fast and keeps decreasing over years.

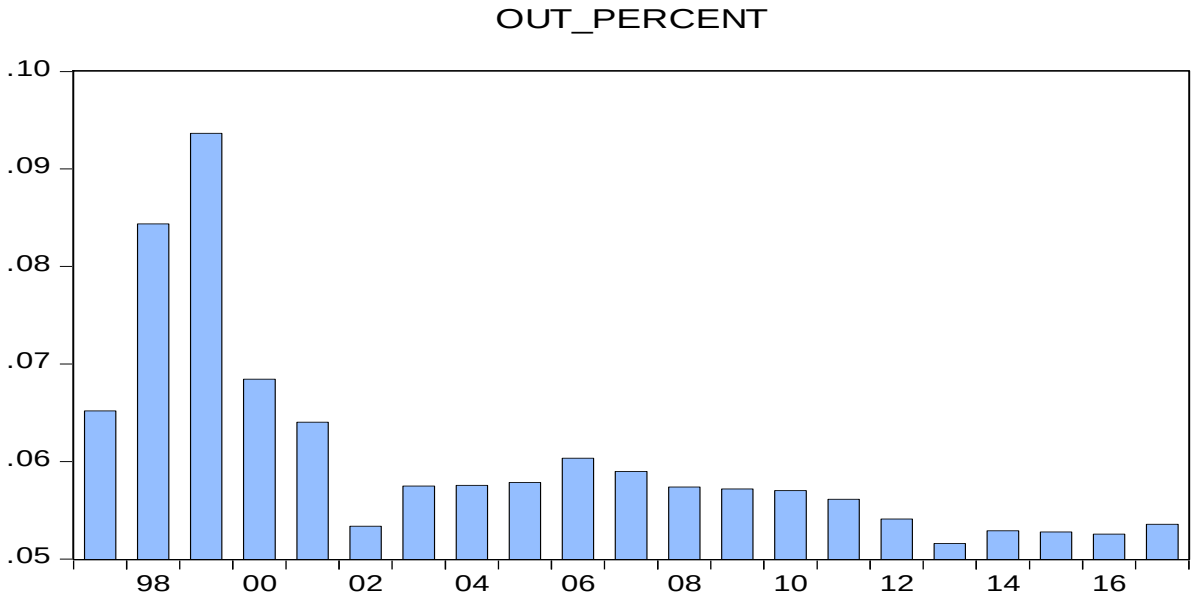


Figure 3.13. % Of leaving Israeli students over 1997-2017
Source: made by the author

An example of Israeli mobility students. According to the **Central Bureau of Statistics** [157], which conducted a survey among students going abroad to study, most of the students applied for medical studies and business administration (27%). The research found that the medical profession - 41% (with an emphasis on dentistry) - is the preferred profession, arts (7%), computers (11%), industry and infrastructure (6%), and design studies (6%). According to the examination conducted by the Israeli Ministry of Education, the reasons that cause academic mobility are not necessarily non-existence of faculties, but rather other socio-economic factors. As for the non-existence of the faculties, the correct approach is that the number of student absorption devices is very small. For example, **in the field of medical training**, a new faculty of medicine at Ariel University was recently established. This faculty is designed to deal, among other things, with an increase in the number of physicians in Israel due to a shortage of physicians who may torpedo the development of the public health system in Israel.

However, the main obstacle facing the opening of this faculty is the lack of appropriate study sites. Is this shortage real? Since the 1980's, three universities have been conducting courses in English language medicine, which are conducted in cooperation with American universities. Students in these tracks must be foreign citizens and the criteria for their admission to study in Israel are different from those presented to Israelis. Among the 900 students admitted to medical studies in Israel in 2017-2018, 27% were foreign students [180; 181]. These places were open only to them, for a high tuition fee (**22,000 USD per year**), but closed for Israeli students. It is important to note that most of the American students who graduate from these programs do not remain in Israel after completing their studies. The main beneficiaries of this situation are hundreds of foreign citizens, mostly Americans, who study medicine in Israel, while the price of this indirect privatization pays hundreds of young Israelis and their families who are forced to study abroad for large sums of money [187]. It is not unusual for American students who speak fluent Hebrew to be in the same department, along with excellent doctors, interns and interns who were born in Israel and who after military service were forced to spend six years abroad, only because their psychometric score was 730 rather than 750.

The medical study required from a medical student who studies abroad causes many young people to give up medical studies at all, and clinical medical studies require that the students stay in the hospital departments in small groups and study next to the patient's bed. In the wards and in the room intended for two patients, it is clear that the addition of foreign students leads to an increase in the number of medical students and increases the "competition" over the study departments, which are essential for maintaining a quality medical curriculum and whose availability is limited. At least in part, is artificial and can be solved by allocating all the existing study departments in Israel to Israeli students only, which will increase access to medical studies, increase the number of quality physicians available for medical work in Israel and reduce the inequality in availability for medical studies.

Also, there is confusion in the data between **OECD** and **UNESCO** data [163, 167]. **UNESCO's** data are almost 20% lower than **OECD** statistics. The reason is because there are Israeli students who have a European passport or a foreign passport (Germany, Italy, France, Ukraine) and when they come to study at the academic institution they identify as citizens of the host country. Such identification will enable them to receive tuition benefits, social benefits, discounts and local allowance housing [13, 104 p.]. The **OECD** identifies the country of origin, and understands that it is an Israeli citizen with a foreign passport. According to **OECD** data [167], there are over **18,000 Israeli students** studying abroad in academic studies. According to the **UNESCO** data – center [163] there are approximately 14,000 Israeli students studying outside of Israel. Below is the demand for higher education in Israeli universities.

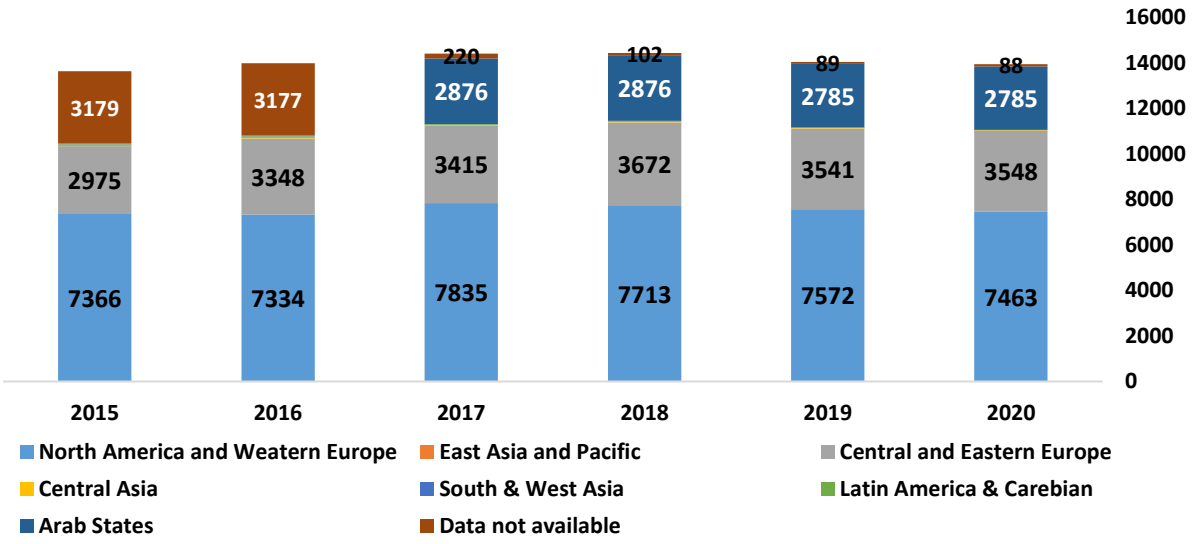


Figure 3.14. Total outbound Israeli student for academic mobility 2015 – 2020

Source: made by the author from source [163]

Analyzes the figure:

1. There is an identification of clear trends in demand of students to Europe and North America. Based on the data, it appears that the demand for the various faculties (especially in the field of medicine) is very large, and the demand is being adjusted.
2. The growing number for European and North American countries will create a problem in the knowledge economy that is supposed to be a factor in Israel during these years (the brain drains).
3. These data do not include Israeli students with foreign citizenship, which according to the OECD are estimated at an additional 4,000 students. These students will mainly raise the percentage of mobility and demand for European countries.

The academic mobility in Israel operates through the CHE [188], and for several years has been unable to raise itself to large proportions similar to other countries. The number of Israeli students stabilizes at about **14,000 students** (**18,000** according to OECD data). The number of international

students enrolled rose to about 10,000, and so remained. Of the recipients of degrees in the years 2008-2016 were among graduates of the **physical sciences** (8.11%) and the lowest among graduates of degrees in education and teacher training.(2.2%) Among Bachelor's degree recipients, the highest percentage was in **Mathematics**, **Statistics and Computer Sciences** (3.10%), in **sciences** ,(1.10%)and in **art**, **arts and applied arts** (9.9%), and the lowest percentage was among graduates of education and training for teaching. Among the holders of second and third degrees were high percentages in mathematics, statistics and computer sciences (2.13% and 1.20%, respectively). Among third-degree holders, relatively high percentages were found in the fields of biological sciences, paramedical studies, engineering and architecture.

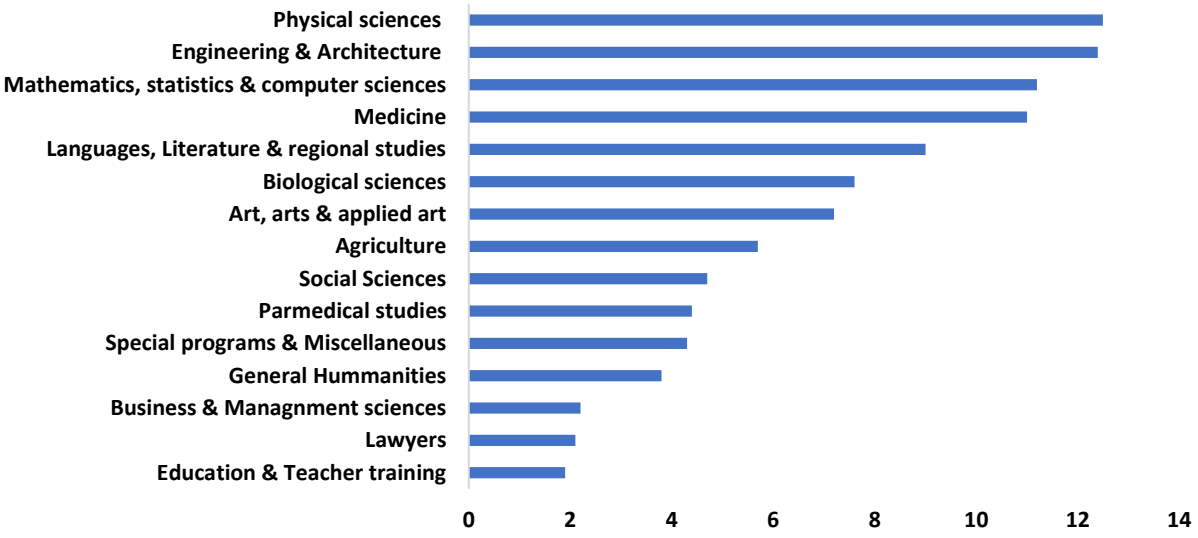


Figure 3.15. The Israeli Ph.D. degrees out of Israel in 2020

Source: [188; 165]

The author analyses figure 3.15, and see that the percentage of those who stayed abroad for three years or more who received their first degree from universities was significantly higher than that of first-degree recipients from academic colleges, colleges of education and the **Open University,** and reached 7.3% Was found among **Weizmann Institute graduates** (20.4%) and lowest among **Bar-Elan University graduates** (3.2%). But also, at Bar-Elan University, the percentage of those with degrees in the exact sciences and engineering is three times higher than those who studied in the social sciences and the humanities - about 3 times the third degree, 3.5 times the second degree and 2 times the first degree. The proportion of men who stayed abroad for three years was higher than the rate of Arab women, 5.6% versus 2.2%, respectively, and 10.4% compared to 11.9%, respectively. The percentage of those who stayed abroad for three years or more was relatively high among immigrants, especially among immigrants from the former USSR, immigrants from Uruguay, and immigrants from Argentina

who received a third degree in Israel (29.2%, 21.5%, and 20.1%, respectively) And Canada, who received a second degree in medicine in Israel (27.4% and 26.4%, respectively).

The report also shows that the balance between new departures abroad (from 2010 onward) and those returning is negative but stable. By 2017, 678-degree recipients had returned to Israel after a three-year extended stay, a decline after a peak of 862 in 2016. However, the number of people staying abroad for prolonged stays increases each year, since the number of new arrivals abroad is greater than the number of returnees. It also appears that there is stability in the balance of departures compared with those returning in recent years.

The influence from the academic mobility on the Israel economic. The most factor of economic influence is on the **phenomenon of brain drains of families and Israeli students**. Researchers have tried to characterize the emigration of Israelis and to assess its impact on Israeli society in various fields. For example, Levy [93] found that a high percentage of immigrants from Israel are educated and refer to the migration of educated Israelis as "drain brain" (in which there is a positive correlation between the tendency to emigrate from Israel and the level of education: The United States is sought as an immigrant destination for educated Israelis, partly because it is a center for studies, teaching and research at universities and prestigious scientific research institutes located in it. There are estimates that thousands of researchers, faculty And academics leave Israel every year, mainly This was presented in an article summarizing a panel held by "Calcalist" on the subject of brain drain, which included Israeli researchers who returned from study and experience in the United States from their experience on the subject, and some said that the decision to move abroad stems from the desire to progress in studies, It is written that if you want to join the academy, you have to go abroad to study. "According to them, there are many academics who do not run away from Israel, but travel abroad naturally to get ahead and cannot return for several reasons: imbalance between the country and abroad in terms of conditions, professional possibilities and careers personality.

The article quoted a survey carried out by the Ministry of Economy [163], Trade and Labor, according to which only 2% of Israeli researchers who traveled abroad in recent years believe that they can return to Israel for a suitable position. 90% report that they would have to compromise on wages and professional challenges. There are those who view the exit of Israeli academics to the United States as desirable because academia is an international field, so universities need to send people out and absorb them back. In the opinion of the panel members, this is a normal and acceptable process, but on the other hand, we can credit Israel for the fact that the academic level is good and the fact that it is the home [103]. The fact that some of them people with a higher level of education among immigrants leaving Israel are no exception.

According to the theoretical and research literature detailed above, if the rewards for education are higher in the target country than in the country of origin, then those who chose to immigrate will come from the higher levels of education and income, according to the neoclassical theory and the model of self-selectivity. In this respect, immigration from Israel is not unique in comparison with migration from many other countries.

High-skilled immigrants decided for themselves where they wanted to live. Those with legal status, academic degrees and skills that can be easily marketed in diverse environments are more likely to emigrate and at the same time maintain ties with the country of origin. In contrast, those with fewer skills and no citizenship status outside the State of Israel find emigration as more expensive, much more difficult and temporary [161]. This phenomenon includes the information revolution that makes job search and the transition to a foreign country easier than ever before, the rapid rise in the high-tech sector and the decline in the fertility rate in **Western countries** (such as the United States, Canada, Germany, and the United Kingdom) To adopt an immigration policy that encourages the absorption of high-skilled workers.

The greatest difference between Israeli-born in the United States and the comparison group living in Israel was in academic education, in the second- or higher-degree category, which was higher among those living in the United States. Given the high levels of education of Israelis, it is not surprising that their performance in the American labor market is higher than that of those born in the US Israeli immigrants in the US, both men and women, have higher socioeconomic characteristics than do native Americans:

Their skills, measured by education, occupation, or hourly wages, are higher than those of the US-born, where the "return" of skills is the highest, while the lowest-skilled Israeli emigrants chose to migrate to the Scandinavian countries , Where labor markets are relatively rigid, and the return on skills tends to be the lowest The selective choice for other European countries is somewhere in the middle, but the emerging, unregulated and unequal economies of Eastern Europe seem to attract few Israelis, especially those who have high qualifications.

These findings are consistent with selective immigration theories that expect highly qualified migrants to choose goals in which their skills will be rewarded in the most generous manner. The migration of high-skilled Israelis to the United States can be found in a combination of the motives reviewed by the professional literature: first, according to the neoclassical economy theory, these immigrants view the United States as the country with the most rewards, immigrate. According to the positive self-selectivity theory, high-skilled residents who choose to immigrate to certain target countries are not randomly selected from a pool of all Israelis. But there are two conditions that lead them to prefer

a particular country as a target country, and in particular to prefer the United States as a target country for their emigration:

A. There is a strong positive correlation between the income that this Israeli is expected to earn in Israel and the income that he earns an immigrant may expect them in the US (in both cases above average income).
B. The distribution of income in the US is more unequal than in Israel, and in the framework of the theory of globalization and the transformation of Israel into a part of the global economic system, there are highly skilled immigrants from Israel who, according to their employment requirements, are sent abroad. For example, academics during periods of study or teaching in institutions of higher education abroad, or multinational corporations, etc., especially the IT field, in which the worker and his family are required to migrate for a relatively long period of time (sometimes referred to as "**Relocation**"). Where technological, scientific and business knowledge is concentrated at a very high level. It seems that in the long run migration of this type may lead to two different outcomes:
    1. It has the potential to become a return migration to the country of origin after the end of the academic or employment period to which the employee was sent while advancing their status in the Israeli economy or to develop into circular migration characterized by periods of intermittent stay in two or more countries.
    2. In addition, according to the theory of the new economy model of migration, all the migration possibilities considered are derived from a perspective of family migration, and the theory and research point to the importance of the family as the nuclear decision-making unit and most important in immigration.

The Israeli students and professionals (Doctors, Engineers, Lawyers) prefer to move to work objectives. Table 3.10 present the countries, the criteria for obtaining a **work visa for IT employment**, and the financial implications. Of course, there is importance to the stability of the family unit in each of the considerations taken by the student or the professional.

Table 3.10. The most relocation prefer of Israeli Families and Students of IT professionals 2018 – 2019.

Country & Cities	Employment Professionals	monthly salary (USD)	Total average expenditure (USD)	Type of visa
United -State New – York San Francisco Los Angles	Software Engineer; Mobile programming; Internet	Leading Programmer - 11,000 Director of Software Development – 14,320 Product Manager -12,000 Sales Manager - 16,500	Single – 5,100 Family + 2 children – 7,500	H-1B visa For academics L-1 visa For managers
United Kingdom London	High-tech	Customer Manager - 9,850 Sales Manager - 9,500	Single – 5,150	Tier – 1 Tier – 2

	Computer Engineering Software Engineering	Programmer - 9,300	Family + 2 children – 7,000	
Germany Berlin Frankfurt Dusseldorf	The automotive industry High-tech automation Manufacturing - Management	Product Manager - 6,800 Customer Manager - 8,320 Sales Manager - 9,000 Mobile programmer - 8,350	Single – 2,850 Family + 2 children – 5,500	Blue Card Visa of the employer European Union
Netherlands Amsterdam	Energy High-tech Programming service	Programmer -9,300 Service Manager - 4,500 Customer Manager - 9,850 Energy - 9,500	Single – 3,950 Family + 2 children – 6,600	Visa of the employer European Union
India Mumbai Bangalore	hardware, software, Security Systems, Projects in the fields of water and green energy.	Activity Manager: 9,000-12,000 Software Project Managers: ;6,500-7,500 Integration Manager: 7,500-8,500.	Single – 1,500 Family + 2 children – 3,000	Visa of the employer

Source: made by the author from source [162, 167, 165,177]

The state of Israel They are mostly subsidized by human capital. Once there is a trend of demand for the brain drain, the effects are socio-economic, and a severe blow to the country's economic products. The medical industry in Israel is known to have high professional abilities, but suffers from the greatest labor force problems. There is a huge lack of professionals due to their departure to other countries. The same is true of the computer, biotechnology and other fields of employment.

In the business sector, there is a shortage of highly skilled personnel, mainly in computerization (computer science and computer and electronics engineering), with an emphasis on R & D positions, the shortage is not uniform across all professions, and in some professions, there may be surplus supply. The rapid growth in the high-tech industry, which is inconsistent with the insufficient pace of the increase in manpower in these areas Although it appears that the Israeli economy has a relative shortage of skilled manpower, the team did not clearly identify a large shortage of skilled manpower in the business sector in other areas, including exact sciences, other fields of engineering, and science The company, in particular, has identified the team has a significant supply surplus of skilled personnel in the life sciences. Most of the shortage appears to be outstanding graduates in the field of hardware and software with employment experience. It was also found that there are many cases in which the industry is reluctant to employ college graduates in the relevant professions. The current level of scarcity is still not to the extent that it severely damages the functioning of existing companies. However, it appears that the shortage already has negative effects on the Israeli economy, including a rise in wages that harms the competitive advantage of Israel's high-tech sector, a slowdown in the sector's growth rate and the

loss of potential jobs for outsourcing abroad. In the coming years and to create a significant growth barrier. The author of the thesis finds many examples, and concentrations of cities and countries. For example, A list of Israeli students and professionals which have joined to the Israeli community in Los Angeles is between 2013 and 2020.

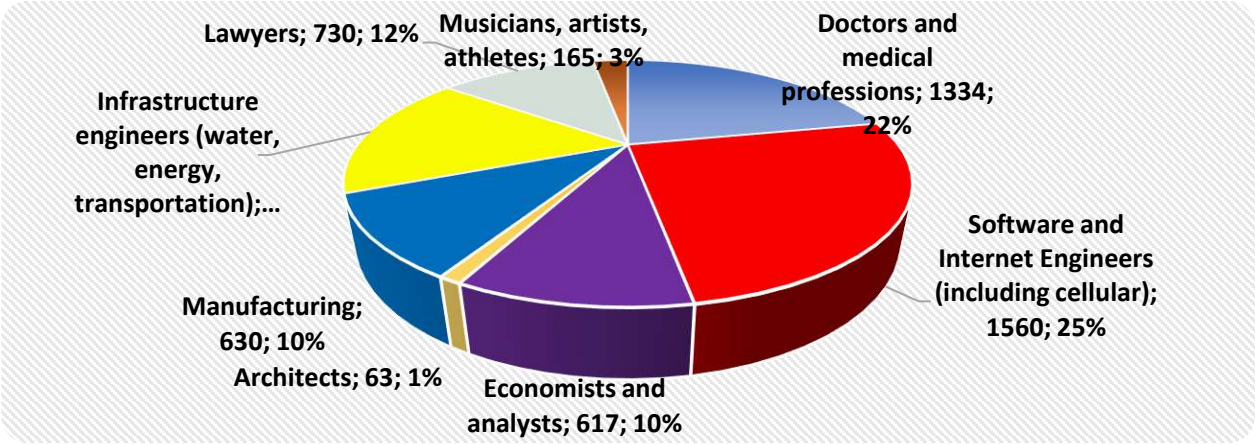


Figure 3.16. The numbers & percent of Israeli students and higher academic professionals in Los Angeles – 2020*

Source: Made by the author from source [166] *until 3.2020 (Covid 19 pandemic).

To understand the phenomenon presented in figure 3.16, there are 6,121 families, ie, 10,000 Israelis who joined between 2013 and 2020 in one foreign city (Los Angeles), in one country - the United States.

3.3 Analysis the impact of academic mobility on GDP

According to data from the Bank of Israel and the Ministry of Economics [176, 166], there was a decline in economic growth in the first half of 2017. The Central Bureau of Statistics [165] revised the growth estimate for the first six months of 2017 down from 2% to 2.1% in the initial estimate for that period. The gross domestic product (GDP) rose by only 2.0% in the first half of 2017, according to the second estimate published by the Central Bureau of Statistics today, following an increase of 4.6% in the previous half and an increase of 4.7% in the first half of 2016. **The estimate for half the first is updated after receiving supplementary information from the balance of payments, business surveys, financial reports of large companies, data on incoming and outgoing of international students or labor immigrants, construction surveys, labor force surveys and wage data for the first half of**. In terms of quarterly growth, 2017 GDP rose by an annualized 2.4%, compared with 2.7% in the previous estimate. The increase in GDP in the second quarter of the year reflects an increase in private consumption expenditure (6.5%), in public consumption expenditure (3.1%), in investments in fixed assets, ie investments by business companies, Of the general government sector and of non-profit institutions (10.7%), and a decline in exports of goods and services (7%), on an annual basis. In addition, import of goods and services increased by 3.4%.

In 2018, per capita GDP in Israel is about 88% of that in OECD countries and about 62% of that in the United States. Since 2010, these disparities have narrowed by 4%–6%. Disparities in per capita GDP are measured in terms of those in employment and labor productivity. The entire gap between the Israeli GDP and the OECD and US averages stems from a disparity in labor productivity. The gaps in the employment rate between Israel and the OECD and US averages (approx. 3% and 9% in 2012) have closed, because the employment rate in Israel has increased. If the employment targets adopted by the government for 2020 are met (and this seems likely, based on new policies of the academic mobility of students, and professional immigrants, and data), the employment rate in Israel will be higher than in most developed countries. This is definitely a significant achievement registered by the Israeli economy over the past decade. An analysis of the aggregate data, following conventional economic methods, indicates that the widening disparities in productivity stem from two factors:

1. A low rate of capital investment and a low rate of overall technological development and production efficiency (total factor productivity).
2. The level of education as a measure of human capital and the closed policy of combining a labor force from other countries, is a significant factor in explaining the productivity gaps that developed in those years.

The employment economy in Israel suffers from **large gaps** in the **labor wage** of workers [165]. We find wage gaps, on the one hand, the professions of the knowledge economy, with an initial salary of 15,000 ILS to 17,000 ILS (4,500 USD), and on the other hand, workers in service professions of 3,500-800 ILS (700- 900 USD). These gaps were not problematic, except for 22% of all employed persons. Other wage gaps also exist in the gender of women - men. In 2016, the average monthly salary of Israeli women was 67% of men's average monthly salary, compared to 68% in 2013 [108, p; 212]. In addition, we witness a non-economic, unregulated policy of low wage payments, and the exploitation of unemployment allowances for young employees.

These social norms create an economic and social gap between different sectors of the employment world, and cause workers to lose confidence in the employment system. This reality, combined with processes of globalization in the employment world, created a professional division of "employment professions at risk" (**high risk / low risk**). In the following figure 3.16 The writer attempts to present the map of employment in the future, with regard to the risk level of the professions:

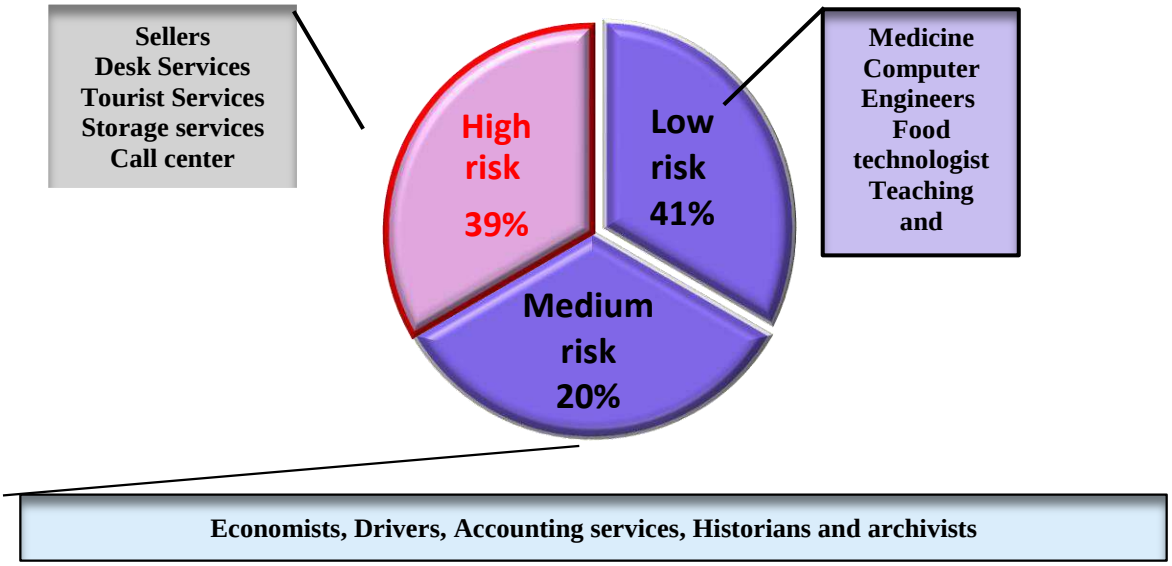


Figure 3.17. Labor Force in risk for employment change in Israel 2018-2019

Source: Made by the author from source [176]

Analyzes the figure 3.17:

1. The figure shows that 39 % of work hours are in occupations characterized by a high degree of computerization risk, 20 % in medium risk occupations, and 41 % in low-risk occupations.
2. Similar results are obtained when the distribution of employees is examined. This translates into a million Israeli workers in this age group who fall into the high- computerization risk category.
3. A similar number of workers are in the low-risk category, while half a million are in the medium risk category.

The State of Israel, today, is one of the countries with the highest percentage of employed persons (among the academics) in the world. It is comparable to above-average employment growth in the G7 countries [48, 19 p.]. The education currently given to the older population leads to employment growth that is appropriate to the professional needs that are required today. The goal of providing employment for academics led to a government-mandated policy of preferential employment for academics. The policy was to ensure employment for academics and to move researchers and academics to other countries such as the United States, Canada, Australia and Western European countries over the years, but in 2016 the Central Bureau of Statistics Immigration) that this year - 2016, the brain drain reached a peak since 2012.

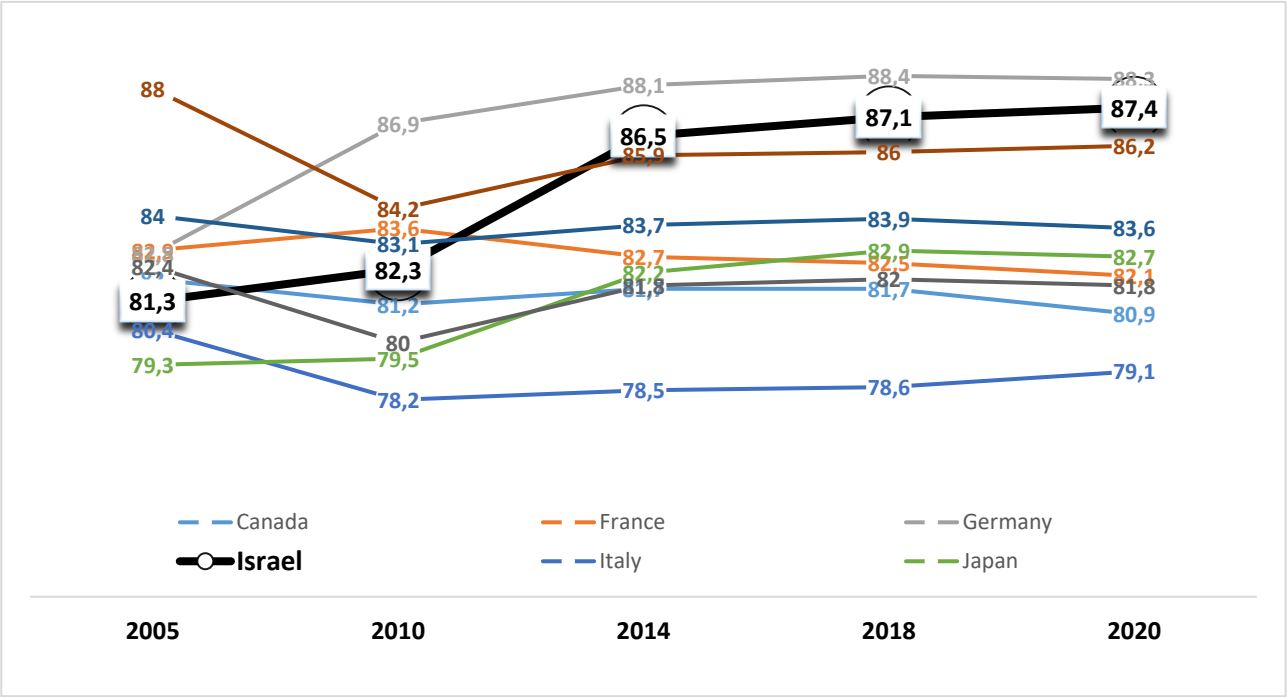


Figure 3.18. The percent of employed academics in age 25 – 64 (Israel, OECD & G7 countries), 2005 – 2020
Source: made by the author from source [167]

The figure 3.18 present the percentage of employed persons in Israel has improved significantly since 2010, reaching a high percentage (**87.69%)** among the developed countries – G7 and almost 4% more than the OECD average (**85.61%).** The reason for this is the great political pressure on reducing the percentage of unemployed Israelis in Israel. It is also known that Israeli academics compromise on their wages and are willing to work even at low wages.

The impact of academic mobility on the traditional industry - low technology in Israel. The past few years have not benefited the traditional industry in Israel. The headlines in the media are reporting more and more closed factories, while many other factories are facing difficulties. The problem of traditional industry is "rooted", and stems from a long lack of adaptability to changes in the international arena [59, 45 p.]. We pay the "price" because factories closed in the traditional industries are not re-established, hundreds and thousands of workers are dropped from the employment cycle, the share of imports relative to exports continues to grow, and Israel's balance of payments is damaged. According to data from the **C**entral **B**ureau of **S**tatistics -CBS [165], which reflect the state of Israeli industry in the six months ending in September 2016, traditional industry is the only industry in Israel that continues to contract steadily, with no change in sight. In fact, the real problem of traditional industry in Israel is the lack of competitiveness in the global market [184]. The lack of competitiveness stems from the lack of innovation, the decreasing relevance of obsolete products and methods of production

that have not Updated Q In the past few years, the Office of the Chief Scientist of the Ministry of Economics has formulated a program to encourage innovation in traditional industries, based on incentives, incentives, and incentives, Tailored to the needs of this industry and designed to implement technological innovation processes and assist in the development of new management strategies and concepts that will create competitive advantages in the local and global markets [6, 37 p.].

The situation of the traditional industry has an adverse effect on the number of employed persons in the industry, especially in the periphery, and leads to an increase in the unemployment rate [96, 26 p.]**.** Those workers, most of whom are adults, find it difficult to find other jobs - and thus create a situation in which they become a burden on the government for a long period in which they receive unemployment benefits. According to Levy [93, 175 p.] One of the ways to invest in innovation in traditional industrial enterprises is to introduce a global partner who invests capital in the factory, will bring knowledge that will help improve production methods and especially access to international markets. The international partner can open up new worlds of marketing and sales opportunities to countries that the country has not been able to reach.

Table 3.11. Development / regression of the percent (%) Industry employments in Israel 2012 - 2020

	Employment in industry	**2012**	**2014**	**2016**	**2018**	**2020**	**Change In %** ▲ ▼
"Traditional" industry Low - Tech	Agriculture, forestry, fishing	1.7	1.3	1.3	1.2	1.02	**0.5**
	Industry including energy	16.4	16.1	15.4	13.7	13.7	**4**
	Construction	5.5	5.2	5.4	5.3	5.2	**0.3**
Economic Knowledge	Information, communication	9.3	9	9.8	10.3	11.6	**2.3**
	Finance and insurance	6.6	6.6	6.6	6.6	6.7	**0.1**
	Professional, scientific, support services (High – Teck)	11	11.2	11.9	12	12	**1.8**

Source: made by the author from source [166]

From the analysis of the data the author understands that the percentage of workers in the traditional / low technology industry is decreasing in the years. The author recognizes that there is an increase in the knowledge economy professions in Israel, and the percentage of employees is increasing over the years. for examine the changes and their contribution to the country's economy, it would be appropriate to analyze the economic results. For this purpose, we will compare the export / import of goods and services, and we will also combine the profit to the state financial income (taxes).

Table 3.12. The volatility of goods and services compared with the financial income of taxes & the GDP in Israel 2012 - 2020

Production and income	Unit	2012	2014	2016	2018	2020	Change In %/USD ▲▼
Imports of goods and services	% Of GDP	35.5	36.1	36.4	37.8	38.1	2.6%
Exports of goods and services	% Of GDP	36.1	33.4	30.4	31.5	31.7	4.4%
Imports of goods	Billion USD	72.5	70.2	60	62.3	63.1	16.3 billion USD
Exports of goods	Billion USD	65	62.4	56.4	53.1	51.7	13.3 billion USD
Service trade balance: exports minus imports of services	Billion USD	8.8	13.2	12.3	12.1	11.9	3.1 billion USD
Imports of services	Billion USD	20.5	21.8	24.5	26.8	26.9	6.4 billion USD
Exports of services	Billion USD	29.2	35.0	36.8	37.1	37.3	14.6 billion USD

Source: made by the author from source [166, 176, 165]

When the author recognizes the figures, he found the next Findings:

- The author sees in table 3.12 a phenomenon **of decline in the number of employees in traditional industry**. As far as known, Industrial plants in Israel close all the time. The **textile industry** has almost completely disappeared, and today almost everything is imported from China or the Far East. We can see evidence in table 3.12 that imported goods only increase from year to year. The entire industry is disappearing (metal, cars, fishing) and on the other hand the building industry that requires Chinese and Ukrainian workers.
- There is an **increase** of **0.8**% in economic activity in the fields of communications and information. Greater demand of **2.8**% exists in the science economy. This significant increase is a direct result of the transition to a knowledge economy in the fields of employment, production and trade in Israel. In addition, there appears to be a **worrying figure of a slowdown**, which is apparently the result of a **brain drain** and the mobility of **research and development centers** to other countries. A natural process of **globalization**.
- There is a systematic movement of income transfers to the country as a result of changes in industry. We see an increase of **16.3 billion USD** in **8 years** of goods (a figure that attests to household expenditure and high domestic consumption in Israel), and **6.1 billion USD** in export income from products. If we compare the findings, we find that the State of Israel directly and consistently addresses knowledge economy and "slowly closes" the traditional industry.

- The significant value of service trade balance: exports minus imports of services actually presents the ratio of the expenditure and the financial income that the country has from the import of services and the export of services and products. This figure is still **positive** in **2017 (7.2 billion USD)**, but we should see the alarming trend of **reducing the benefit** (**starting in 2013**).
- The "**reds**" **figure** in the tables shows trends of declining data for various reasons. Some may be explained and some are influenced by socio-economic, demographic and global processes. For example, a significant decline in the existence of industrial enterprises (traditional industries) that produce food and basic needs (Table 3.12). Another "**red**" **figure** is the mobility of human capital that will harm the countries in long-term economic potential.

The influence of academic mobility on the labor force in Israel. According to Palickova [132], In the era of globalization, distance is no longer a barrier to academic mobility. Studying abroad has become so common over the past ten years that it is easier than ever before to go and study abroad as more and more students have this opportunity. Recently, for example, there was a threefold increase in students who chose to study in foreign countries [2, 439 p.]. Today the role of academic mobility seems to have become a key instrument for certain countries to cope with the labor market needs and to move from a Global South towards a Global North position. Since the beginning of the last decade, Israel has experienced an immigration of massive proportions from the former Soviet Union. Approximately 700,000 immigrants from the FSU have come to the country since 1989, increasing the population by over seven percent in the space of just 30 years, and by 24 percent in the first half of the 1990s. But on these years the author recognizes a **national crisis** which connects the **influence of academic mobility, especially in the negative context of brain drain from Israel**. Data from the Central Bureau of Statistics did not make a significant contribution of students or researchers or economic professionals who came from foreign countries to work in Israel. The phenomenon in question is mainly the mobility of students and professionals seeking work in other countries. The plan for the return of academics, which is shared by the **Ministries of Economics, Immigration and Absorption**, the **Finance Ministry and the Planning and Budgeting Committee of the Council for Higher Education in Israel**, headed by the Chief Scientist of the Ministry of Economics, presents data examining the Israeli brain drain abroad. The comprehensive survey, conducted in cooperation with the **Central Bureau of Statistics**, was conducted on the population of academics abroad for three years or more, with the understanding that this is usually the period of first post-doctoral residency, specialization, relocation, etc. In 2014, 21,400 Israeli academics Who have been abroad for more than three years, of whom 2,100 have third degrees and doctors, but there is a bright spot - the number of Israelis staying abroad has not increased between 2012 and 2014 [188]. In recent years, the trend of leaving academic and professional professionals from Israel occur. To this end, the Government of Israel decided in 2010 to set up a special

program to deal with the issue - the National Program for the Return of Academics - which was launched in June 2013. As part of the program, significant government efforts were made to halt the phenomenon and return those Israelis with high and relevant human capital abroad. The CBS [165], in its second comprehensive survey (the first was done in 2013), found a brake on the Israeli brain drain abroad, but if one looks at the group of academics who received an academic degree in Israel between 1985 and 2007, -19% between 2010-2012.

The author of the thesis, present in her article "*The effect of knowledge economy on the phenomenon of brain drain*" [106], the economic and employment impact from the brain drain, even for the case of Israel. In the words of the two sources presented earlier, Professor Ben David and the Knesset Committee, the brain drain from Israel mainly affects the quality and quantity of human capital for economic professions such as engineers, medical personnel, programmers, electrical engineers, communications and machinery [177].

A comparison by sectors indicates that productivity rose by 3.3% annually in the industrial sector (1990–2016), but by only 0.2% on average in the commercial and business-services sectors, where it has remained almost unchanged since 1990. These differences between the sectors are also expressed in disparities in wage growth; in fact, the growth in inequality is fully consistent with the different productivity rates of the various sectors. Studies conducted in Israel and abroad indicate that investment in R&D is strongly correlated with growth in productivity; the impact on the economy even exceeds the impact on the individual firm.

In effect from the **international mobility of students and investment,** the R&D investments in Israel are focused in high -tech; it hardly exists in traditional industries, in the service sectors, and in commerce. The level of R&D investment in these latter sectors is low relative to investment in industry. Government support for R&D through the Office of the Chief Scientist has declined considerably (from about 2.4% of industrial production in 2000 to 1% of industrial production in 2014). Business sectors with low human capital are mainly local producers in the fields of traditional industry, commerce, construction, and other services. To some extent, these are also the sectors with a particularly low level of competition from identical imported products.

Some claim that commercial entrepreneurship in Israel aimed at domestic marketing of products has been negatively affected hurt because there is no change in the policy government about the option of academic mobility of international students and researches, by the general hostility towards entrepreneurship, particularly in local business rather than in high-tech initiatives that target international markets. Such a hostile atmosphere is liable to exert a strongly negative influence, especially in a free and open economy like that in Israel today. The portfolio of overseas assets owned by Israeli consumers and companies is larger than foreigners' investment in Israel. This phenomenon may have negative

repercussions for investment in Israeli businesses and the ability to boost productivity and growth in Israel. It should be noted that an economy cannot grow in the long run based solely on investment in companies that export.

3.4 Conclusion of Chapter 3

1. Between the years 2010-2016, the academic mobility in Israel has reached peaks of international success. During these years, 7.1 million higher education students left the State of Israel in order to study in a foreign country with the purposes of acquiring academic education. The organization of academic mobility in the world presents a significant figure of an increase of demand by an annual 6.5 every year. Sixteen of the countries whom are members of the OECD share academic relations of higher education student exchange programs, staff of academic instruction and industrial and social projects via academic cooperation. Some of the countries even run academic and industrial relations with countries from other continents. These programs are operated by international programs such as the ERASMUS and other European-based programs. The ERASMUS organization is the central organization which sponsors these programs, even within the State of Israel.
2. The review of the development of the academic mobility shows that in Great Britain there are approximately 496,000 higher education students who study in a long line of prestigious and successful faculties in terms of the demand for higher education students is business administration, in which more than 28% of the students, totaling an amount of 138,335 students, study. 35,000 higher education students' study in Finland and they are spread out amongst various faculties, of which the leading one's deal with over 8,000 higher education students (which comprise of 25% of the higher education students). In France, there are 307.000 higher education students, 21% (71,000) of which prefer studying social sciences and humanities.
3. The analysis prepared by the author the thesis shows that only in the year 2010, did the State of Israel begin to place significance to the issue of academic mobility. In the years that preceded 2010, 3,000 foreign higher education students arrived in Israel. In present day (2019), over 10,000 foreign higher education students come annually to study in Israel. The mechanism in charge of the international academic policies is the Council of Higher Education (CHE). The revenue from each foreign higher education students is, on average, 45,000 USD for the whole academic degree (not inclusive of economic and housing expenses).
4. An analysis of the mobility data of Israeli higher education students in foreign faculties raises two contradicting measures. The data provided by the OECD shows that over 18,000 Israeli higher education students study outside of the Israeli borders. However, according to the UNESCO data, this figure is about 14,000. The difference between these data has to do with the

identification of each foreign higher education student upon registration. Many Israeli families have an Israeli passport as well as a European passport (Italian, Hungarian, Polish, German, and Spanish). When the Israeli higher education student presents a local European passport, he or she is eligible to the treatment and attitude reserved for the local students. This affects his or her registration to local universities. Thus, the data of UNESCO is lower than that of the OECD.

5. The UNESCO mobility rates have been relatively stable since the year 2000 with an average of 14,000 students. We see mobility of 31% (4,415) to Eastern Europe, and Jordan – particularly for the faculties of medicine and nursing (with 21%, which comprises e.g. 2,882). A quick calculation shoes us that the State of Israel loses an annual financial flow of 168 million USD (an average of 12,000 USD a year per student).
6. The brain drain of university graduates from various occupational fields affects the local world of employment in Israel. It is currently known that brain drain phenomenon exists for medical doctors and Para-medical professionals, to an extent in which the rates of doctors per resident has reached problematic magnitude to the operation of medical systems. The Israeli National Bureau of Statistics has declared exiting an average of 7,500 citizens exiting the country every year (16,000 exiting the State vs. 8,500 returning to it).
7. On the one hand, the occupational world in Israel is currently undergoing far-reaching changes, similarly to those which characterize the occupational economies in developed countries. As of today, 39% of employees are considered to be at a high risk as per their "occupational horizon" within their workplace, and 20% are considered to be facing an average level risk (see figure 3.16); the reason for this has to do with the entrance of computers and technology as a replacement to the human employee. When one connects the two figures together, it is evident that approximately 948,000 employees are at risk of losing their workplace within a decade. The system of adult training is supposed to prepare for this situation by beginning the training of at-risk work groups (20% + 39%) in order to avoid shocking the Israeli economy and to become a social-economic burden in the future.
8. On the other hand, the author of the thesis concludes that there is a paradox in these data since the State of Israel presents excellent employment rates in comparison to the G7 countries as well as in comparison to the OECD average (see Figure 3.6). This is because the Israeli scholar is willing to work in a part-time position and/or to work for a low income, in order to avoid being unemployed. Beginning from 2007, the unemployment wages for scholars have been drastically cut. The average employment rates of scholars in Israel is 87.69 % (as of 2018) whereas the average in the OECD countries is 85.61%, with an average of 81.4 % in Italy and the highest figure in Germany with 89.35%.

9. The analysis of the data exhibited in table 3.6 shows that the State of Israel indeed attempts to minimize the traditional/outdated industry vs. the improvement and increase of the industry which advances the knowledge economy. The author of this thesis reaches this conclusion in light of a 0.5% decrease in food production based on traditional industry, energy and natural resources. Contrary to that, the modern industry increases, on average, by 0.8% - 2.8% in each one of the occupational fields within the topics included within the knowledge economy.
10. In the past couple of years, the State of Israel has been a bit pessimistic in its economic estimations. The data published by the Israeli Central Bureau of Statistics, the Israeli Ministry of Economics, and the Bank of Israel shows that the economic forecast has been updated to more realistic values. The national gross product in the year 2016 was 4%. This figure was updated to 2.8% in 2018, with optimistic hopes for 3.3%. The author of the thesis concludes that the decline in economic values shall be expressed also by the manufacturing of products, the export to other countries (0.0% as per 2018), on the one hand. On the other hand, the percentage of unemployment is expected to decrease as well during 2018 to a rate of 1.5%. The author of the thesis believes that this data is merely a populistic wish of the leadership designed to present "good" economic data in order to pressure their governmental survivability.
11. According to the survey questionnaire, which is divided among 120 respondents from all the sample groups in Israel suitable for the examination of the capabilities of the knowledge economy in Israel. The author concludes from an analysis the data that the economic-occupational stability motivates the Israeli student (ages 22-30) who has already studied or intends to study an academic degree, finds himself looking for employment opportunities and studies outside the country. The reasons for this are combined and include economic reasons (salary, cost of living, housing), professional reasons (exposure to globalization, desire to engage in knowledge economy, stability in the workplace) and social reasons. The 120 respondents represent all strata of society in Israel (by age, by sex, by stage of study, preferences, fields of occupation and professional specialization).
12. The authors' conclusions are that lots of students and future students leave Israel to get Higher Education outside. Also, the main reasons are economic: the costs of living, the future wages and the social conditions. Many from the student's believe that studies outside are better from the professional point of view. The majority believes it will not be hard to find a proper employment in Israel, but most of them do not plan to come back. In addition, from the Spearman correlations it was found out that the age is positively correlated with education ($p\_value<0.001$) and negatively - with satisfaction from studies in Israel ($p\_value<0.001$), positively – with considering to study abroad ($p\_value<0.001$).

13. The age is negatively correlated with the believe it will be a suitable employment in Israel (p_value<0.001). In other words, the older is the respondent, the more education she is and the more interested in studying out of Israel, believing local education is not good enough and proper employment is difficult to find. In addition, the more educated the respondent is, the more she plans to study economic-based studies (p_value<0.03), the less satisfied from the quality of studies in Israel (p_value<0.001) and more considers studying abroad (p_value<0.001).
14. The author of the thesis concludes that analysis of the data, and the findings of the statistics, shows that the economic-occupational stability prevents the Israeli student (aged 22-30) who has already completed an academic degree or intends to study for an academic degree. The reasons for this are combined and include economic reasons (salary, cost of living, housing), professional reasons (exposure to globalization, desire to engage in knowledge economy, stability in the workplace) and social reasons.
15. In a representative view of the effect of academic mobility on the labor force, we see mainly a change in the negative trend. An analysis of the data in Figure 3.2 shows that there has been an increase in the number of foreign students who arrived in Israel, but the State of Israel is in no hurry to allow them to integrate into the local labor force. In addition, from the point of view of the writer, according to Figure 3.14, 3.15, there is a brain drain of quality professionals. Table 3.11+3.12 will present the decline in economic productivity and the decline in low industrial efficiency. According to the author's article [107] there is an impact of the brain drain on the economy and employment.
16. The author on her article [106] "*The effect of knowledge economy on the phenomenon of brain drain*", recommend that the Ministry of the Economy and the Ministry of Finance should formulate a detailed multiyear work plan with defined productivity targets for primary and secondary sectors and action in the following fields: Expanded investment grant programs to allow companies to acquire technological improvements that boost labor productivity. These programs should include accelerated depreciation and tax rates comparable to those set for export sectors. also, Increased funding by the Office of the Chief Scientist for R&D in industry, especially for traditional industries and other sectors. Lower taxes on capital in sectors with high taxation and a uniform tax rate on capital in all sectors. Investment in human capital in technical and other professions at a level similar to that provided to college and university students, and in all fields, with employer participation; in particular, development of training programs in traditional industries, construction, and computer. An end to entry permits for foreign workers and students for agriculture and construction.

4. WAYS FOR IMPROVING THE INTERNATIONAL EDUCATIONAL MOBILITY IN ISRAEL AS A FACTOR FOR FORMING THE ECONOMY KNOWLEDGE

4.1 Policies and solutions for improving the academic mobility and knowledge economy in Germany, Australia & France.

The knowledge economy is transforming the demands of the labor market in economies the world. In industrial countries, where knowledge-based industries are expanding rapidly throughout, labor market demands are changing accordingly. Where new technologies have been introduced, demand for high-skilled workers, particularly high-skilled information and communication technology (ICT) workers, has increased. At the same time, demand for lower-skilled workers has declined [76, 77]. It includes formal, non-formal, and informal education and training. Some countries recognize the opportunity of the academic mobility for contribution and improving the knowledge economy in their country. For analyzes the different policy of the countries, the author will present a strategic **policy of 3 of the G-20 countries** (World Economic Organization), Germany, France and Australia.

Germany

Germany has newly acquired the status of the country that benefits the most from intra-EU immigration: intra-EU immigration flows to Germany doubled between 2007 and 2013. The main factors behind this intra-EU immigration growth are EU enlargement to the central and eastern European countries, together with the current economic crisis, which has hit southern EU countries particularly hard [45, 65 p.]. According to the most recent statistics, among all EU immigrants to Germany in the past five years, the proportion of highly qualified workers has been as high as the proportion of highly qualified Germans among the domestic population. – Analysis of one of the three highly skilled professions characterized by the most acute labour shortage in Europe – medical doctors – shows that the number of non-German EU doctors practicing in Germany has more than doubled since 2005, which points to an intra-EU brain gain for this profession [40, 15 p.]. However, the brain gain status of Germany for this profession becomes more uncertain once German medical doctors leaving Germany are also consider: the number of **non-German** medical doctors registering with the German chamber of medical doctors has outperformed the number of German medical doctors leaving Germany only since 2011. With few exceptions, most key actors in German society support the increase in qualified immigration to Germany as a way of coping with the predicted demographic changes and to ensure economic growth and prosperity in the long run. However, the largest trade union (DGB) is the only actor so far that has acknowledged the potential emerging economic imbalances for the sending (EU and non-EU) countries experiencing the brain drain of which Germany might become a major beneficiary [35, p; 94]. International mechanism for academic mobility R&D – DAAD [173]**.** The DAAD (in Germany: ***D****eutscher* ***A****kademischer* ***A****ustausch****d****ienst*) is the world's largest funding organization for the international exchange of students and researchers. In the framework of the national machinery and a

policy aimed at increasing the demand for foreign students, a number of regulations have been adopted to attract foreign students to Germany [42, p; 44]:

1. **Initiatives pedagogic structures for internationalization.** This second action area focuses on creating and maintaining the structures that make academic exchange and mobility possible. As a national agency for EU mobility programs in higher education, the DAAD played an instrumental role in 2017 in transitioning Europe's successful Erasmus programmer to the new programmer generation Erasmus + Model projects for the future include transnational higher education projects such as the Turkish-German University, which opened its doors in September (2018), in Istanbul [98, 7 p.].
2. **Scholarship Program for Foreign Students.** Another study confirms that it pays to attract young people from all over the world and to get them to stay in Germany after they gain their degree. According to this study, which was drawn up by Prongs on behalf of the German Academic Exchange Service (DAAD) with funding from the BMBF, consumer spending by international students in Germany was 1.531 billion EUR in 2019 [169]. This spending raised 400 million EUR in tax revenues for public-sector budgets, which is about 2,500 EUR per student. The study also points to the positive effects on the national economy once studies are completed which clearly outweigh the costs incurred during academic studies. The study is based on the number of full-time international students in a master's or bachelor's degree program in 2016-2017. The total number of international students enrolled at German institutions of higher education in the winter semester 2012-2013 was around 282,000. Ever more German students are also choosing to go for a period of study abroad. There were 133,800 German students enrolled at an institution of higher education abroad in 2011 [26, 63 p.]. The Federal Government and the Länder adopted a joint '*Strategy of the Federal and Länder Ministers of Science for the Internationalization of the Higher Education Institutions in Germany'* on 12 April 2013 [129, p; 27]. The Strategy developed joint policy goals in key fields of action to promote internationalization. One key goal is to further increase the international mobility of students. Periods of study abroad allow university students to gain additional skills and to experience personal growth. Proof of international experience is also becoming more and more important in science and the work world. The Federal Government and the Länder aim to ensure that one in two university graduates gains study-related experience abroad and that at least one in three can claim a minimum three-month study period abroad and/or the acquisition of 15 ECTS credit points. Nearly one third of graduates of German institutions of higher education have now spent a period of study abroad.

3. **The fields of activity.** The DAAD strives to achieve the development policy goals mentioned above using the means of academic exchange in three fields of activity as defined in the DAAD Strategy 2020. they do this by building on the expertise and experience gained from years of cooperating with developing and emerging countries [170].
4. **Educating professionals and leaders of tomorrow.** In funding programs aimed to advance the development agenda, the DAAD provides academic opportunities to scholarship holders from developing and emerging countries.
5. **Building strong universities.** Through project funding, the DAAD contributes to strengthening universities in developing and emerging countries. Our portfolio of funding instruments ranges from providing alumni support to helping universities develop modern curricula. The DAAD mechanism support university partnerships which establish joint degree programmers and build international research networks that focus on the sustainable development goals. Such cooperation projects are born of mutual interests and are implemented on equal terms by universities in Germany and in developing countries.
6. **Expertise for academic cooperation.** The DAAD possesses extensive knowledge about the structures of higher education cooperation and scientific systems worldwide. Not only do we draw on the experience of our staff, but also on a global network of regional offices, information centers and DAAD Lectors [128, 179 p.]. These are engaged in ongoing dialogue with university representatives in the partner countries which carry out development projects. The DAAD institute also tap the knowledge and expertise of German universities by funding for example the "exceed" centers which promote excellence in higher education in developing countries. These countries require reliable research, local know-how and innovative ideas in order to successfully implement comprehensive education policies. The DAAD bundles this knowledge and makes it available to the partner countries, for example, through the program *"Dialogue on Innovative Higher Education Strategies* (DIES)", financed in part by the German Rectors' Conference (HRK), which aims to install quality assurance systems in the developing countries [82, 131 p.].

The magnificent results for this process are:

There are approx. - 400 higher education institutions in Germany. This total includes approx. 110 universities (Universitäten), and approx. 230 universities of applied sciences and Roughly 60 art and music colleges (Kunsthochschulen/ Musikhochschulen).

Political and **Public Voice of German Universities** - The German Rectors' Conference is the association of state and state-recognized higher education institutions in Germany. It is the political and public voice of German higher education and the forum within which higher education institutions form joint opinions. It currently has 268-member institutions at which more than 94% of all students in

Germany are enrolled: **675,000 staff** in total, **380,000 academic staff** – 2016 / **2.8 million Students** in total, **340,000 international students** (12.3%) -2016 / **G**ross Domestic **E**xpenditure on **R**esearch and **D**evelopment (GERD) at institutions of higher education: 14.9 billion EUR– 2016.

Research Activities. According to Engel & Janson [40], universities and other higher education institutions offer a broad spectrum of research activities, including basic research and applied research and development (R&D). Approx. 100,000 of Germany's 360,000 R&D researchers work at higher education institutions and university hospitals. Higher education institutions spend roughly 15.9 billion EUR on research and development. About half of this total – **7.3 billion EUR**– comes from third-party funding. The most important provider of third-party funding (2.4 billion Euros) is the publicly funded **G**erman **R**esearch **F**oundation (GRF); the Federal Government and the German states are also important providers of third-party funding (**2.1 billion EUR**). The largest share of R&D expenditure, roughly **4.2 billion EUR, goes to the fields of knowledge economy, mathematics and the natural sciences**. They are closely followed by medicine and health research, which have access to roughly 3.4 billion EUR a year.

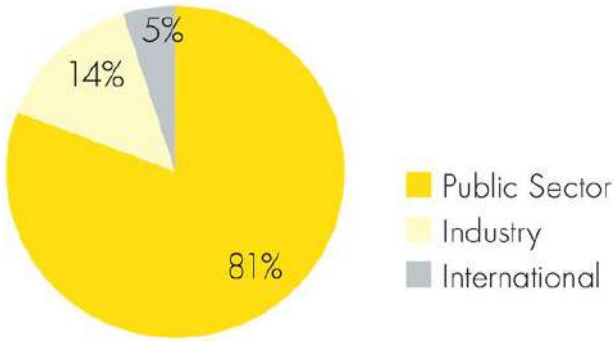


Figure 4.1. Expenditure on research and development (GERD) at institutions of higher education in Germany - 2019
Source: [174]

The Gross domestic expenditure on research and development (GERD) at institutions of higher education totals 15.9 billion EUR (2016) and is borne by the public sector (**81%**), industry (**14%**) and international funding **(5%).**

Australia

The Austrian administration, like the German administration, established a national mechanism that coordinates all activities of academic mobility (to Australia and abroad). Australia is considered one of the three countries with the highest academic mobility (along with the United States and the United Kingdom) and offers a long list of attractive benefits to foreign students. In anticipation of the **renewal** of the **Colombo 2018 program,** a novelty has been introduced encouraging Australian students to study

in other countries, then in favor of upgrading the country's **economic capabilities**. This approach is innovative thinking and opens a new and challenging world for Australian students [183].

Data figures about the academic mobility in Australia [183]:

- 564,869 – international students in Australia (July, 2019).
- This is 15% more than in July 2018.
- **Top 5 countries with 52% are:**

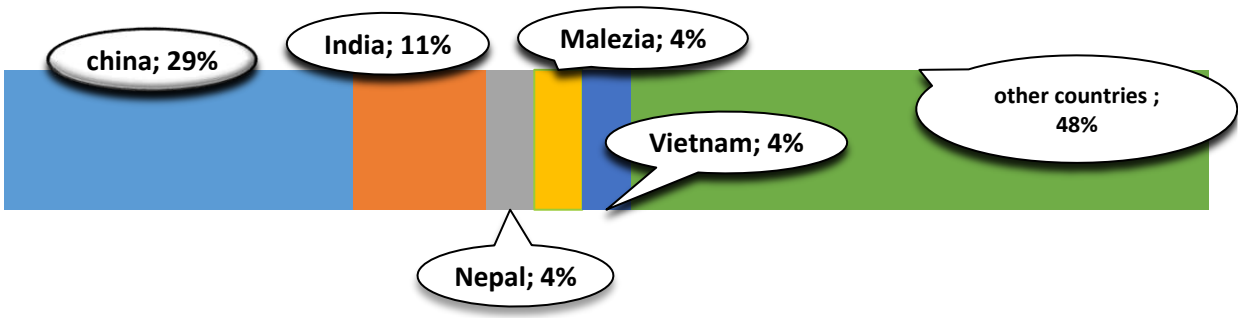


Figure 4.2. Top 5 countries with the most foreign students in Australia
Source: Made by the author from source [183]

France

France hosted 343,400 new international students in the academic study year, in addition to 251,634 who have already studied in academic institutes [167]. Hosting international students in France is different from hosting in countries as the USA, UK and Australia. Most of the international students in France come from neighbor countries in Western Europe and some of North Africa countries. In addition, France has managed to attract large number of students from China, which is one of the two promising markets in the world (India is the second). The quality of higher education system and scientific research in France had global acknowledgement. Many French universities and higher schools are placed high in the most prestigious international ranking as Times Higher Education, QS Ranking, Financial Times, Shanghai Ranking and U-Multi-rank of the European Union. Studies in France allow you to benefit this acknowledgement. The quality of higher education system in France is a result of continues governmental policy. Each year the authorities invest a lot of money in teaching and research. The education budget is the highest of all ministry budgets and is up to 20% of the total state budget [13, 99 p.].

This policy allows France to offer students one of the most excellent higher education system in the world, and especially one of the most accessible. universities and higher schools in France offer extremely qualitative study courses in relatively low tuition fee. France reputation also relays on outstanding rewards French researchers have gained. France holds no less than 13 Fields medals, what makes it the second country in the world in mathematics achievements.

In addition, France leads in Europe in investment in innovative technologies and presents a winning combination of creativity and innovation in various areas, from technology to arts. For many students it opens many doors for the after studies day and the also enjoy governmental assistance including various allowances, housing assistance, reasonable tuition and even an opportunity to work in addition to studying, even if they are not French citizens, these possibilities in France attract the students.

The tuition fee is one of the lowest in Europe [187], and therefore is a disadvantage since it brings limited income from tuition for funding the marketing and recruitment.

France is one of the countries that attracts quiet few international students over the years and is the fourth most popular country among international students, after the USA, UK and Australia and before Germany. France is also the first hosting country that does not speak English. After the president of France decision, the French government intend to improve the cooperation agreements and attract more international students and researchers, and also host them in better conditions to make them stay and fill in occupational shortages of advanced officials. For this matter, the permit for scholarship extension, benefits, incentives are new. France is open to the world and students are coming according to the following geographic distribution:

- 455 of international students came from Africa countries
- 19% from the European Union
- 16% from Asia – Oceania countries
- 9% from the United States
- 4% from Middle East countries (including Israel)

The main attraction is the excellence and reputation of the higher education system in France. The recognition of academic institutes are the two main assets that were invested to attract international students. With countries increasing their investments and pursuing aggressive attractiveness policy, including scholarship programs, but also leading countries are challenged now (President Trump's United States, Britain in the Brexit storm, Australia facing slow growth due to Chinese external mobility), France is taking advantage of the changes to establish its popularity in the global academic mobility market, in research, and in technological developments.

For compare the policy and the local solutions which every country attempt for dealing the challenge of academic mobility by international students, the author decides to compare the advantage and disadvantage on the table. The table presents the comparison of diverse variables examining the countries with regard to economic and academic policy, and the criteria of comparing the countries. All this is done while listing the pros and cons of each country and each criterion. Topics that are being compared include: Does **International Mechanism** exist? Is the state funded by **educational initiatives for internationalization**? Or by the institutions themselves? Does the State **Encourage Scholarship**

for Foreign Students? Does the policy allow for **Employment Opportunities**? What Types of **Policy of Visas**? Existing or upgraded faculties & **Level of Academic Institute**? Of course, you checked the **Cost of Living**? And above all, **International Cooperation** was tested.

For summarize the data in table, the author of the thesis identifies that each country has different organizational abilities that place them ahead of academic success. These are three countries that operate a mechanism that mobilizes tens and hundreds of thousands of international students every year .

1. **Australia** has a regional advantage in the Far East, attracting hundreds of thousands of students from neighboring countries .
2. **Germany** - the center of the European Union, with a competitive advantage over its neighbors .
3. **France**, which decided, as a strategic decision, to increase the number of international students by develop high level of faculties (especially in Paris) in Art (Fashion), soft engineer's, business administration, and create professionalization in medical professions .

There is no doubt that it is possible to learn from each country its capabilities and advantages in the geographical area - an academic area to which it belongs. All countries overcame the typical "obstacles" such as student visas, discounts for international students, cultural absorption and employment of the foreign student, and the possibility of future employment in the country .

The three countries also find a direct link between the academic contribution of the international student and the increase in the country's knowledge economy by enabling employment and absorption after the completion of academic studies.

Benefits from other countries for implementation in Israel - The state of Israel can certainly take advantage of existing program and mechanism evaluations in each country. The common denominator of the three countries reviewed in the chapter includes an independent national mechanism, a clear policy regarding the admission of international students, municipal support and assistance to students, universal and English language programs, investment in budgeting of academic institutions, acceptance of international lecturers.

Disadvantages from other countries that Israel should prevent - The State of Israel should avoid problems related to student visas. Unlike Germany, Israel has been screaming to develop English language programs and to open up a possibility for a number of permanent students to be admitted to the elite faculties in Israel (engineering, medicine, cyber and computer programming).

3.2 **The Israeli Policies and Solutions for Improving the Effect of Academic Mobility on the Knowledge Economy**

The Council of Higher Education [164] has placed internationality promotion in higher education as a main goal in the perennial program for 2017-2022. However, according to Getz et al [51], there is no doubt that such a move could also have an additional contribution to higher education institutions, as creating and strengthening international reputation, possibility to preserve unique issues with low demand, income sources diverse and possible profit source, reducing academic boycotts and more. Frenkel et al [50, 41 p.] notes that in addition, internationality promotion in higher education will certainly make great contribution to the State of Israel in the political – diplomatic aspect and in social contribution for creating multicultural – economic society. The Israeli government declared a clear policy line, and therefore Israeli policy in "declaration level" is interested in immediate application and seeks to promote higher education to international "places". Feldman & Abougamen [43] are already noted that such step will also improve training quality to local and global labor market, in doing so the higher education establishment in Israel will make a turn in integrating employees - international citizens. The Council of Higher Education program [188] sees in the main motivation the desire to increase the Israeli academy academic level and competitiveness. Within this program, the Council of Higher Education decided to develop internationality in higher education in four main levels:

1. Reaching international students
2. Imparting international skills to Israeli students
3. Promoting international research cooperation
4. Building local institutional abilities through international cooperation

In addition, to ensure the international activities success, the Israeli Ministry of Education saw already in 2019, the need to build institutional infrastructure in international aspect. The main moves of the Council of Higher Education were to lead strategic program that will start in several main characteristics: (1) formulating national vision and objectives, (2) leading national moves to branding and marketing Israel in the world as attractive study destination, (3) setting academic regulation, (4) setting budgetary and planned regulation in internationality subjects, (5) removing national barriers international students face when arriving to Israel (as residence and work visas), (5) promoting academic relations and cooperation with other countries.

The international venture leaders saw that "*internationality in higher education*" may be developed in several levels: promoting international research cooperation; arrival of international students to Israeli institute; imparting international skills to Israeli students and building local institutional abilities through international cooperation. This program had some opponents, some of whom were actually from academic institutions. Felsenstein et al [45] notes in his article that he believes the Israeli government will not sufficiently support the academic institutes and will not allocate

appropriate resources to create the required casing to maintain high standardization that creates competition to other countries of world academic institutes.

The possible contribution of international students to Israel. A research published by the researcher prof. Levy, "*The global diffusion of regulatory capitalism*" [93] concludes that the State of Israel must bring to the economic – social agenda the academic mobility issue, as part of the program for knowledge economy improvement for the following goals:

1. Creating research connections in economic subjects that contribute to domestic gross product – food, communication, environment, health, transportation, improving human capital.
2. Exchanging research and teaching staff in higher education in order to improve the educational – professional supply given to local students. The higher education system in Israel lacks experts in the fields of mass transportation and urban planning.
3. Academic cooperation lead to economic cooperation in production processes and support between countries to overcome economic difficulties and natural resource shortage.

The Israeli economy is known for its high abilities in communication and high technology products and also in innovation in many economic areas, even though the country has difficulty to fill standards in society and economy as modern agriculture, and therefore relies on unprecedented imports harming farmers in the industry itself [31]. Feldman & Abougamen [43] claims that the will to improve the professional – academic system of agriculture and food technology will significantly improve the knowledge economy in these two areas.

Currently the Israeli government understands he was wrong and is a little "late" compering to countries as Western Europe, Australia, the United States and Canada. In these countries immigration policy is based on responding local economic – industrial needs and prioritize integration of professional (programmers, doctors and nurses, industry and food, transportation, and environment) who have studied in the country, start an integration and immigration process if the local employer in interested in their services [105].

According to Bar el [12], the State of Israel allowed until now international employees' integration only in few roles and professions and approved international students' employment (especially in advanced education programs – M.A. and Ph.D.) only in special cases (science institutes, research). Today, it seeks to advance to a graduated integration program of students and graduates for roles that are directly contribute the local knowledge economy through option to integrate in workplace and join academic institutions teaching staff. For this purpose, the State of Israel has signed exchange agreements of student and teaching staff with China, India, the United States and recently also with several countries in Europe.

An Economic Model for implement in the Israeli system. Economic variables associating with and explaining socio-economic phenomena contributing to or harming economic and employment development based on professions with high human capital. For this purpose, data representing 16 variables over a period of 20 years from 1997-2017 was introduced .

The research variables are core concepts, most of which were examined and defined in Chapter 1, while carrying out critical interpretations regarding their contribution and influence on the association between knowledge economy and academic mobility. The researcher reiterates that she sees a direct association between essential academic mobility, its issues, varieties, and possibilities and growing knowledge economy in developed countries, including Israel. The global economy is changing from a locally resourced economy to a global knowledge economy, based on a complex and fragile network of economic dependencies between countries in aspects of production, commerce, consumption, and capital. As concepts were examined, knowledge economy based on intellectual capital is global and dynamic, technology slanted and based on supra-connectivity. The list of chosen variables includes the list detailed later in this chapter. This chapter will also include conclusions reached from findings and will emphasize mainly their application.

In order to deal with the issue of the impact of academic mobility on knowledge economy in Israel, the study argues that it is necessary to formulate an economic model that will focus on all existing variables. The economic model will include observations / data on socio-economic variables, and their ability to influence will be measured in favor of creating the economic-theoretical model.

The **goals** of the model are:

1. **To improve** the knowledge economy and academic mobility in Israel.
2. **To Improving the academic mobility** of international students, and minimizing the increase for outbound of Israeli students – phenomenon of the brain drains.
3. **Improving Israel's knowledge economy** with strengthening the local economy, improving the **export of goods and services**, and strengthening the **modern employment market** in Israel.

The **level** and the **focus** of the Model:

1. The model is aimed at the national level, while emphasizing the creation of international academic and economic relations systems. **The national level** also includes reference to the change in the policy of removing barriers on student visas, employment opportunities during studies.
2. The model is also aimed at local attention by creating urban and regional infrastructures in academic institutes, universities, colleges, response to industry, employment, local and tourism development.

3. However, the model is also intended for **local implementation** - a local authority and institutes - according to the implementation of two authorities that the thesis and the model were offered to them.

The performed research is comparative research that examined the relationship between variables to find the main influencing factors, and that can improve knowledge economy in Israel, through academic mobility that includes students, teaching teams and researchers and academic professionals. These criteria were selected after examining a similar comparative research of Menasha & Enu-Kewsi [122] in 2017 that examined similar criteria and its influence on blooming economies like South Korea.

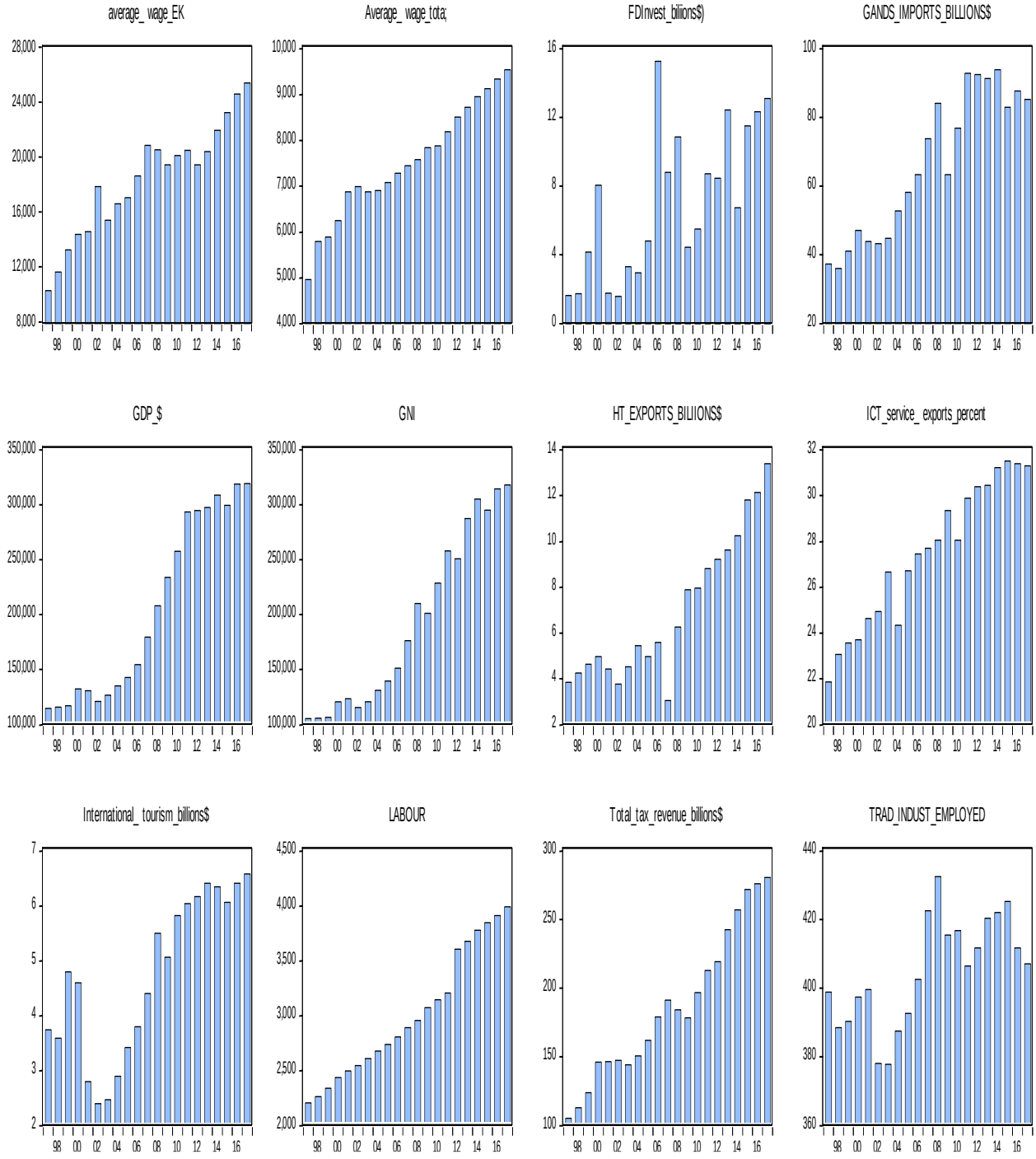
Underlying assumptions in selecting these variables is researching for relevant factors required for advanced managerial treatment to develop knowledge economy professions in Israel, and minimize the brain drain phenomenon in all industry, service, engineering and medicine areas, and the constant growth of academic mobility of students, teams and researchers, lecturers and teachers, and of course, academic professionals. Examining the reasons does not inconclusively and clearly explain the phenomenon. Therefore, the researcher has to select various criteria, and by using statistical tools as high multicollinearity and linear regression, the factors may be found, even if it is not significant. The high multicollinearity tool clears that a phenomenon in which one predictor changes in multiple regression, may linearly predict the model from others in a significant precision. Therefore, due to literature review and varied source examination, this case has to be examined basing on the mentioned statistic tool. In addition, linear regression is a mathematical method for finding the correlation parameters between independent variable X and dependent variable Y, assuming their connection is linear. I.e., the method will use the researcher to analyze statistical samples. The linear regression formula will calculate the straight line between the dots in the final sample, and if all dots are on the line, we found the indicators influencing knowledge economy development in Israel.

The selected indicators are related to the basic terms detailed and defined in chapter 1 as professional terms in the economy and society world, which may influence (for better or for worse) on the researcher's conclusions, and then on the recommendations that will be submitted to application. Out of all subjects and sections brought in the literature review and the methodology chapter, the following terms are showed in the regression model:

1. Outbound of academic mobility students – the number of Israeli students studying in outside the country in the years selected for research. Selecting reason: researching human capital departure to acquire higher education outside the country.
2. Inbound of foreign students – the number of international students arrived along the years to study in Israel. Selecting reason: employment potential foe enriching knowledge economy in Israel and for international cooperation.

3. GDP (US$) – the Gross Domestic Product. Selecting reason: economic index that indicates economic ability development, production rate, result of investing in other economic indices.
4. GNI – the financial incomes from economic activity conducted outside the country. Selecting reason: economic index that indicates the productivity of human capital, goods export, financial production success.
5. Average salary in Israel - Selecting reason: economic index that indicates life quality in the country, economic ability and a reason for brain drain (if salary is not sufficient).
6. Average salary in knowledge economy professions - Selecting reason: financial - economic index that presents increase or decrease in future profession salaries. Also uses as explaining indicator to manpower attraction to various professions.
7. The number of employed citizens in traditional industry (Thousands) – it is usually employees with basic skills. Selecting reason: index for development or withdrawal of traditional industry in Israel.
8. Labor force (Thousands) – labor force in Israel. An index presenting production, number of employees.
9. Foreign direct investment, net inflows (billions $) – financial – economic trust index of foreign investors in Israel. Selecting reason: indicator for international investment level and trust in the Israeli economic system.
10. Graduates of academic degrees in economics and knowledge faculties (B.Sc.) - Selecting reason: training increase in knowledge economy professions and institutes' ability to attract students.
11. Graduates of academic degrees in economics and knowledge faculties (M.Sc.) - Selecting reason: training increase in knowledge economy professions and institutes' ability to attract students.
12. ICT service export (% of service exports) – export of product and services, goods, information technologies and communication including computers and peripheral equipment, communication equipment, electronic equipment for consumer, electronic components and other information and technology products, out of all products and goods export (in %). Selecting reason: the larger the export, the larger the income, the GDP, GNI and production.
13. Import of goods and services (billions $) - Selecting reason: an index of service and products consumption in Israel.
14. International tourism, receipts (billions $)
15. Number of Brain Drain phenomenon in Israel - Selecting reason: index for harm in human capital in Israel.
16. Total tax revenue (billions $) – index presenting economic activity in Israel. Selecting reason: the higher the tax revenue, the higher the production.

In the first stage all variables were taken and inserted into the model to examine the various adjustments. The study variables were passed in data analysis through the SPSS software with statistical tools. Part of the data appears in the Appendix section (2,3,4). The following tables of the next figures presents different economic indicators over years, which has been analyzing by the author in the survey questionnaire:



Figures results of the survey questionnaire

According to the correlations table, there are very high positive correlation between most of the economic variables, excluding only exports and traditional industry. That's why, due to the risk of high multicollinearity problem, most of them cannot be explaining variables together in the same model.

Building a model. The only variable explaining out_percent could be the labor, since it is highly correlated with other candidates for explaining variables. The following table presents the output of this linear regression:

Dependent Variable: OUT_PERCENT
Method: Least Squares
Date: 10/18/17 Time: 00:05
Sample: 1997 2017
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LABOUR	-1.20E-05	3.15E-06	-3.804629	0.0012
C	0.096343	0.009639	9.995209	0.0000

R-squared	0.432416	Mean dependent var	0.060306
Adjusted R-squared	0.402543	S.D. dependent var	0.010594
S.E. of regression	0.008189	Akaike info criterion	-6.681750
Sum squared reside	0.001274	Schwarz criterion	-6.582272
Log likelihood	72.15837	Hannan-Quinn critter.	-6.660161
F-statistic	14.47520	Durbin-Watson stat	0.983665
Prob(F-statistic)	0.001197		

We can see that this model is statistically significant, but the DW statistic ,AC is far from 2, suggesting there is a possible auto regression (AC) problem.
The correlogram of out percent supports this assumption:

Date: 10/18/17 Time: 00:09
Sample: 1997 2017
Included observations: 21

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. |***** |	. |***** |	1	0.703	0.703	11.935	0.001
. |**. |	.**| . |	2	0.334	-0.317	14.767	0.001
. | . |	. | . |	3	0.068	-0.040	14.891	0.002
. | . |	. |* . |	4	-0.018	0.090	14.901	0.005
. | . |	. | . |	5	-0.011	0.003	14.904	0.011
. | . |	. | . |	6	-0.004	-0.048	14.904	0.021
. | . |	. | . |	7	0.019	0.068	14.917	0.037
. | . |	. | . |	8	0.016	-0.039	14.926	0.061
. | . |	. | . |	9	-0.021	-0.065	14.945	0.092
. | . |	. | . |	10	-0.048	0.022	15.046	0.130
. | . |	. | . |	11	-0.060	-0.020	15.221	0.173
. *| . |	. *| . |	12	-0.092	-0.104	15.674	0.207

1. The second model is supposed to fix this problem:
OUT_PERCENT = -5.41063082916e-06*LABOUR + 0.073657049773 +
[AR(1)=0.0974844855528,AR(2)=0.251002514868,AR(3)=-0.248642378079]

In this model, **Cockran-Orcutt** procedure was used to fix the autoregression of third order.

Dependent Variable: OUT_PERCENT
Method: Least Squares
Date: 10/18/17 Time: 00:10
Sample (adjusted): 2000 2017
Included observations: 18 after adjustments
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LABOUR	-5.41E-06	7.30E-07	-7.409906	0.0000
C	0.073657	0.002383	30.90417	0.0000
AR(1)	0.097484	0.054394	1.792194	0.0964
AR(2)	0.251003	0.056338	4.455301	0.0006
AR(3)	-0.248642	0.043333	-5.737898	0.0001

R-squared	0.940471	Mean dependent var	0.056845
Adjusted R-squared	0.922154	S.D. dependent var	0.004302
S.E. of regression	0.001200	Akaike info criterion	-10.38234
Sum squared resid	1.87E-05	Schwarz criterion	-10.13501
Log likelihood	98.44102	Hannan-Quinn criter.	-10.34823
F-statistic	51.34530	Durbin-Watson stat	2.624063
Prob(F-statistic)	0.000000		

Inverted AR Roots	.41-.42i	.41+.42i	-.72

The output table presents a very significant improvement of the model. DW statistic moved close to 2, suggesting the modelling problem of autoregression is solved. The R-squared is close to 100% of explained variance, which improves the model greatly. The following graph presents the rate of success of this model, which is fairly high. The latest result, after analyzing the findings, shows the factors affecting the reduction of outbound academic mobility by increasing employment opportunities especially in the low industry –

OUT_PERCENT = -1.19721855723e-05*LABOUR + 0.0963430556533

In this model, Cockran-Orcutt procedure was used to fix the auto regression of third order. The output table presents a very significant improvement of the model. DW statistic moved close to 2, suggesting the modelling problem of auto regression is solved. The R-squared is close to 100% of explained variance, which improves the model greatly. **The following Figure presents the rate of success of this model, which is fairly high.**

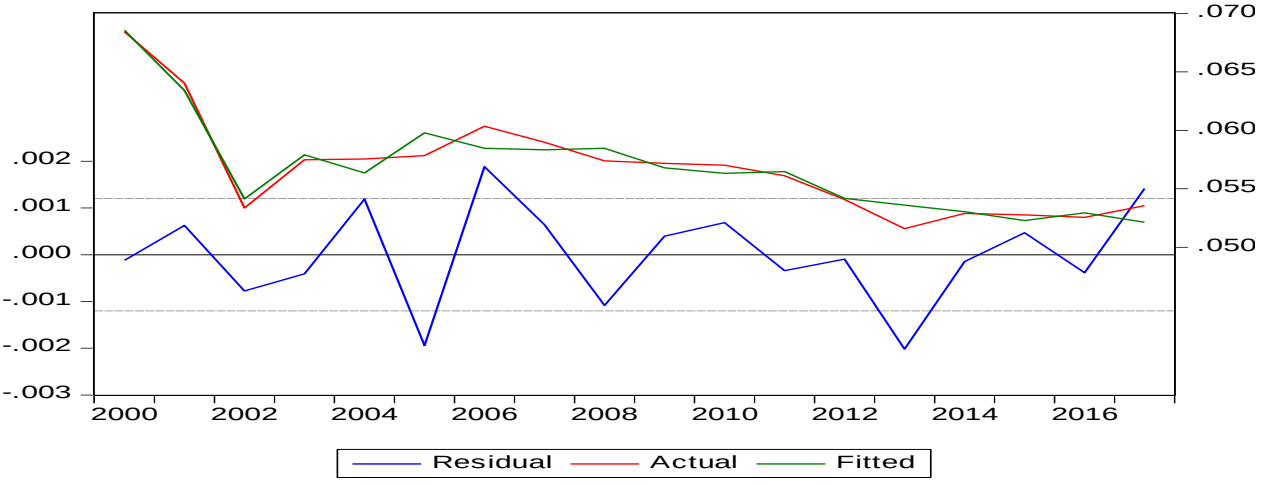
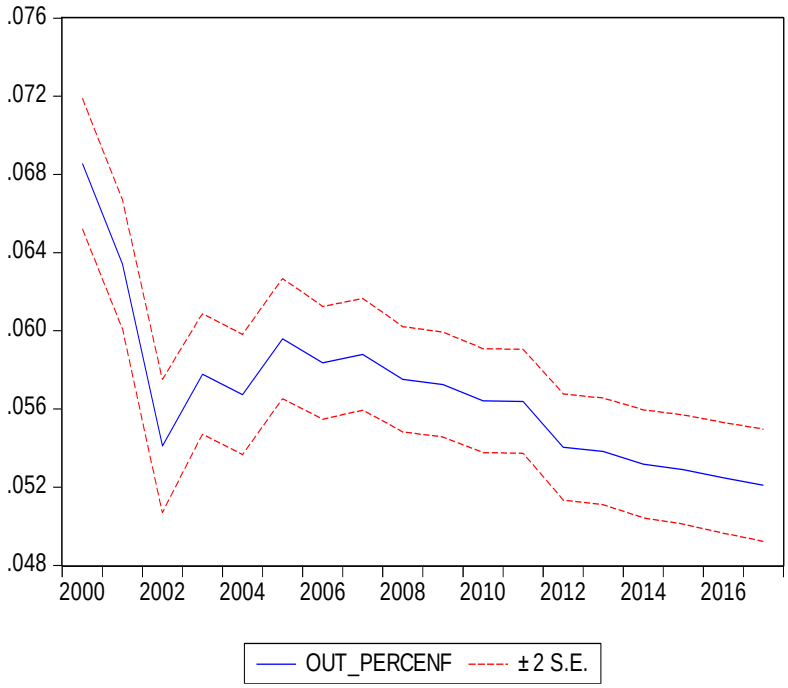


Figure 4.3. The rate of success of the Economic Model – 2000 – 2017

Source: made by the author



Forecast: OUT_PERCENF	
Actual: OUT_PERCENT	
Forecast sample: 1997 2017	
Adjusted sample: 2000 2017	
Included observations: 18	
Root Mean Squared Error	0.000956
Mean Absolute Error	0.000657
Mean Abs. Percent Error	1.170705
Theil Inequality Coefficient	0.008387
Bias Proportion	0.000132
Variance Proportion	0.027573
Covariance Proportion	0.972295

Figure 4.4 The forecast of out percent of Outbound of Professionals 2000 - 2017

Source: made by the author

The finals conclusions from these statistical tools are:

1. As the labor force in Israel is grow (and all the other economic indicator are better), the percent of outbound Israeli students is reducing.

   1.1 **Interpretation**: As labor opportunities rise, the labor force benefits from diverse employment possibilities, mobility and promotion. Employment opportunities should not only be for academics and students, but also for professional training. The data show that in order to reduce the brain drain (students, lecturers, researchers, professionals), the state must create jobs for the educated and academic population. Opportunities should be in the fields of ICT, biology, energy and water, advanced agriculture, medicine, engineering, nanotechnology, building, commerce and services, public service. **The author conclude that there is a direct connection between employment (full or part-time employment) and economic stability and academic mobility (reducing the brain drain).**

2. The percentage of outbound students is influenced be three last years.

   2.1 **Interpretation -** In the past three years, there has been a trend of closing employment sources and significant reductions in the labor market. More systems introduce technological solutions to the services, in order to save manpower. At the same time, hardening of admission to higher education institutions began, and on the other hand, special faculties were closed. These two factors are leading to an increase in the demand for academic mobility of students and professionals.

3. Students take into consideration the situation at the labor market and other economic aspect, which effect their decision to leave the country or stay.

   3.1 **Interpretation** - The students are exposed to culture and atmosphere, to the economic-employment situation, study possibilities, security situation, aggressive taxation policy, cost of living, high cost of real estate, and therefore are interested in finding possible mobility and migration to the European Union, the United States, Australia and Canada. Varied and raised in Chapter 1. Israeli students are no different from their peers in the world and are equally interested in succeeding, and national considerations are not at the top of their priorities.

4. It has been proven by the **model that economic indicators** are influence the percentage the demand for mobility out of Israel (students and the drain of professional brains).

   4.1 **Interpretation** - A comprehensive and integrated approach is required for all the influencing factors (which arose from the regression analysis). This approach, which will lead to the proposed changes, will create a different economic reality by raising the demand of international students, while at the same time reducing the migration and mobility of Israeli students and academic professionals.

5. When they are more labour force are in the traditional industry and in the High industry, the less a brain drain educated are living Israel (the % of students and professionals).

   5.1 **Interpretation** - The conclusion reinforces the assertion that traditional industry, combined with advanced industries, must be developed together without priority. A state that builds a strong and stable economy enables economic existence for all populations, with professional training and concern for the entire academic and professional workforce. The figure shows that in the years in which traditional industry succeeded, the percentage of emigration, brain drain, and academic mobility has declined.

6. When they are more **imports of goods** and **ICT services**, then we find more students of higher education decide to study outside Israel (outbound students).

   6.1 **Interpretation** - Importing goods and services increases mobility for two main reasons: international companies attract quality human capital, and offer them good living and living conditions (education, employment for the family, adequate housing, professional advancement and the possibility of personal development), and the second is that the State of Israel does not Creates employment and spatial excellence and development for human capital. In addition, it does not benefit wages, promotion opportunities, or employment infrastructures.

7. The growth of indices and economic variables such as **GDP, GNI** is adjusted to the rate of growth in the economy, and to the entry of foreign students. The same applies to tax collection.
   7.1 **Interpretation** - The production and development of advanced products and services creates a new space of economic development - national - academic. At the time of the integration of industry, the national interest (economic-civil-political-international) and academia opens up opportunities for local development, solving problems of employment of academics and advanced technological professionals, and remaining researchers and investing in local academia. Due to the reduction of the brain drain, attractive faculties will be opened for local students (reducing mobility) and attracting international students. The local industry will cooperate with academia and connect the world of theory with industry. The sectors that allow such integration are:
   - Energy, food technology and water sources
   - agriculture
   - Medicine
   - Engineering and infrastructure
   - Education
   - Local authorities
   - Tourism
   - Technology and service products
8. The economic data also affect the **average wage**, as well as **wages in the fields of knowledge economy.**
   8.1 **– Interpretation -** The economic data affect average wages and wages in the areas of knowledge economy by the fact that as employment supply increases (following the establishment and development of sources of employment), the demand for skilled and educated workers rises, and wages in the fields of knowledge economy increase. Of course, this process will also affect the average wage for all workers. The **initial salary increase** will be for **sectors such as economists, engineers and high-tech planners, medical professions, advanced industry, energy and food**. Improving their economic ability will lead to higher **consumption of services and thus will support all employment cycles.**
9. The analysis shows that the economic values include mainly demand for employment, wage increases, fluctuations in knowledge economy, production of advanced products, policies to boost exports, investment in domestic and international industries. All the factors create a positive effect (reduction) on the percentage of outbound.

9.1 **Interpretation –** All the factors that appear in the economic model must be implemented in order to make the percentage of departures and mobile devices decrease. Of course, this is also matched by an increase in the demand of international students. The state must maintain its knowledge economy and ensure that economic assets are developed within the country. Among the economic assets, emphasis should be given to traditional industries (food, textile, building, energy, education and welfare, tourism and leisure), advanced industry (medicine, communications, export of products, architecture, tourism and ecology). The administration should take care of external investment through cooperation and attraction of investors, while on the other hand, take care of the policy of producing products and services.

10. These conclusions will be implemented at the national level, the state is required to establish a **national mechanism**, which will be **operated independently**, while **integrating national considerations and interests**, but **independence is a professional decision**. The structure of such a mechanism will be detailed below.
11. **The relationship and the connection between the factors**: Each factor **unique** and **independent component of its importance**, within the model. **Each one affect and is affected by the improvement of the other**, and influences the success of a factor in the model. **For example, a renewed tax policy in favor of preferred sectors will reduce brain drain from Israel, improve tax revenues (due to international investments), and improve Israel's advanced industry.**
12. The Model:

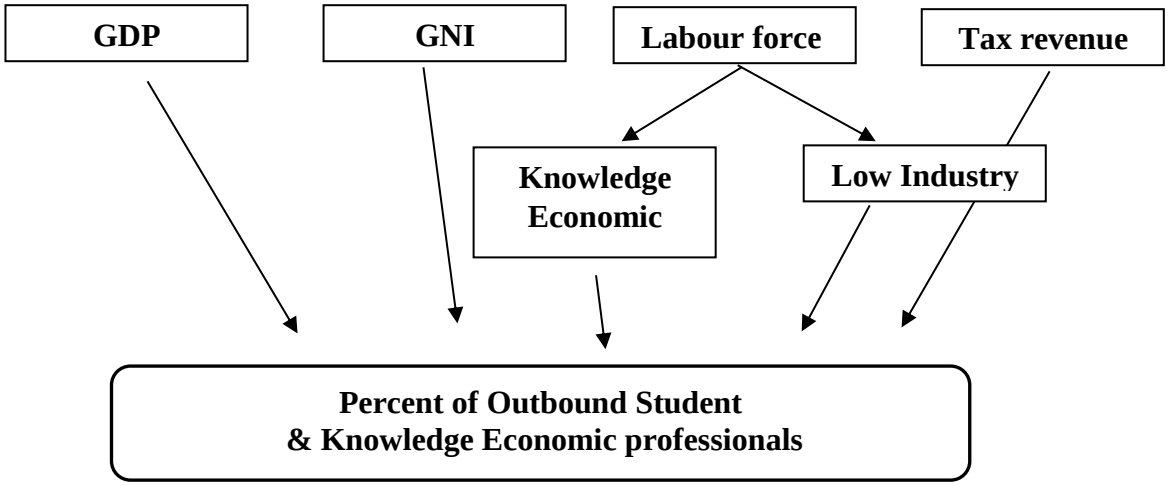


Figure 4.5 - The Economic Model
Source: made by the author

The principles of the model:

1. The **establishment of a National Mechanism** (similar to those in Germany / Australia / France), which will coordinate the overall activity. The mechanism will be independent and

devoid of politics and will be professional only. The mechanism will have independence in pedagogical / budgetary issues / national priorities.

2. The **goals of the National Mechanism** will be the same goals of the economic – model:

   2.1 To improve the knowledge economy and academic mobility in Israel .

   2.2 To Improving the academic mobility of international students, and minimizing the increase for outbound of Israeli students – phenomenon of the brain drains.

   2.3 Improving Israel's knowledge economy with strengthening the local economy, improving the export of goods and services, and strengthening the modern employment market in Israel.

3. According to the statistical analysis, the factors that create an effect and those who are most affected are:

- GDP – Gross domestic product
- GNI - Gross national income
- The Labor forces
- The level of taxation
- Economics of knowledge
- Low Industry

Each of them is affects to a certain **extent the other factors**, and is also **influenced** by **fluctuations** of other factors.

4. **GDP** - An increase in the demand for the exit of Israeli students will cause damage to local production, quality, and its ability to generate local trade and industry, resource development and economics - the phenomenon of brain drain. A decline in demand for academic mobility will result in an increase in domestic product due to the retention of an educated population with economic capabilities and high-quality human capital. And therefore, the impact on Israeli students. In addition, an increase in the demand of international students for academic studies in Israel will create the integration of new cultures and contribution to the local economy, including external investments, and global cooperation (**Teva Pharmaceuticals** and **Soda Stream** purchased by PepsiCo).
5. **GNI** - Revenues to the state, to companies, to academic institutions will increase greatly due to the increase in the demand for higher education in Israel by international students. Influencing demand growth is not only economic, but also the academic and political positioning of academic institutions and the state. At the same time, as human capital left the country, according to the income from the sale of services, goods, export of agriculture, advanced manufacturing, and less based on external imports. This factor also has a negative effect as a result of the increase in the demand for Israeli students to study in other countries.

6. **The Labor forces** - The labor force - the factor that absorbs the greatest effects, in every change, in any trend. This is the **populist component - media - political – economic - mental**, which is the main basis for change the policy and make solutions. Israel cannot afford the percentage of unemployed people (especially university graduates). The higher number of unemployed, and academics in particular, will cause an increase in the **brain drain,** and therefore all considerations revolve around the statistical data of the labor force in the economy. The percentage of employed academics is very high (over 86%). It is true that the level of wages, and the quality of life that surrounds the place of employment, is already a different variable.
7. **The level of taxation** - the level of direct and indirect taxation (state taxes) is higher than the OECD countries and developed countries. The thesis teacher sees a tremendous difficulty for independent professionals, as well as salaried employees. (E.g., academics, industrialists, high-tech, teaching, medical, paramedical, engineering) will cause a decline in the demand for academic mobility of Israeli students and the trend of brain drain. This integrated action – outbound Students - inbound students will increase the taxes, investment and cooperation which discussed earlier.
8. **Knowledge economy** - When changing policy and providing solutions for integrated academic mobility, the model succeeds in making knowledge economy in Israel successful. The economy is improving (GDP, GNI), and thus Israel's knowledge economy is growing automatically, as is its international standing as a stable economy, and a high credit rating. The local industry is able to increase domestic production, and less is based on imports of goods and services.
9. **Low Industry -** One of the results of the model's analysis is the need to develop the low industry back. Israel is known as a high-tech and technology state, but on the other hand neglects the low-tech industry and agriculture. There is an immediate need to re-develop the food, agriculture, energy, water, textile, services (mechanics, trade) and natural resources industries. There is a brain drain and the problem of future employment, which without reference to and change in economic policy will cause great unemployment among non-academic populations. Those who can rebuild the low and basic industries in each country are students and professionals (local and international).

Only a <u>combination</u> of policy change, a strategic plan, and an integrative plan of action for all the factors will result in a positive effect and the success of the model.

The <u>proposed model will be offered to state authorities</u>, but <u>previously proposed for implementation in local authorities in the southern region of the country, where it is implemented.</u>

Integration and verification of all results and information (including review of theories from the world) of the various factors (included in the statistical Regression Model) show that there is a direct link between full (optimal) employment and economic stability (expressed in GDP, GNI, employment of academics, export of goods and services, promotion of paid employment for traditional industry employees), and Brain Drain (mobility of Israeli students).

10. Barriers to entry/ implementation - the barriers to entry and implementation depend mainly on the **change in government policy**, and especially on his worldview on how to lead the Israeli economy. We are witnessing various industries in which **emphasis is placed on importing foreign students and opening the local economy to professional labor force from other countries**. For example, the infrastructure of transport.

Today professionals from China, Ukraine, Brazil and other countries are building the transportation infrastructure in Israel. The conditions for lowering the barriers:

10.1 - Change of work visas for students and professionals.

10.2 - Granting permits to companies to import workers.

10.3 Preparing the academy for the absorption of foreign students and researchers.

10.4 Opening of standards for the absorption of researchers at universities and technological development institutes in Israel.

10.5 - The possibility of developing international trade channels with foreign countries.

10.6 Granting autonomy to the local authorities to develop social infrastructures in order to absorb these foreign workers / students.

The Administration system of the model - The system of administration for the implementation of the model will be operated on an independent national mechanism composed of representatives of various government ministries who are partners in the strategic line for implementing the project. The main **government ministries** will be: The **Immigration and Population Authority**, the **Ministry of Education, the Council for Higher Education** in Israel, the **Ministry of Economy**, the **Ministry of Labor force,** representatives of the **academic institutions** (universities and colleges), the **Ministry of Industry and Trade** and the **Ministry of Health**. From the all ministries, 2 of them will lead the project - Ministry of Industry & Trade, and the Ministry of Education - Higher Education. The other of the offices will be as a "*policy-supporting*" office, and will supposed to address mainly approvals, changes in employment, doing the regulations, and infrastructure support.

All the partners of the national mechanism will under management system which should be responsible for the pedagogical-office-operational-marketing operation of the project. The budget, the labor force, the decision-making, the approval of the operation, will be by the administrative apparatus, independent, independent of interest, a government agency that will reveal other interests. The next

scheme of administrative management model will present the structure of the system, by **government ministries**:

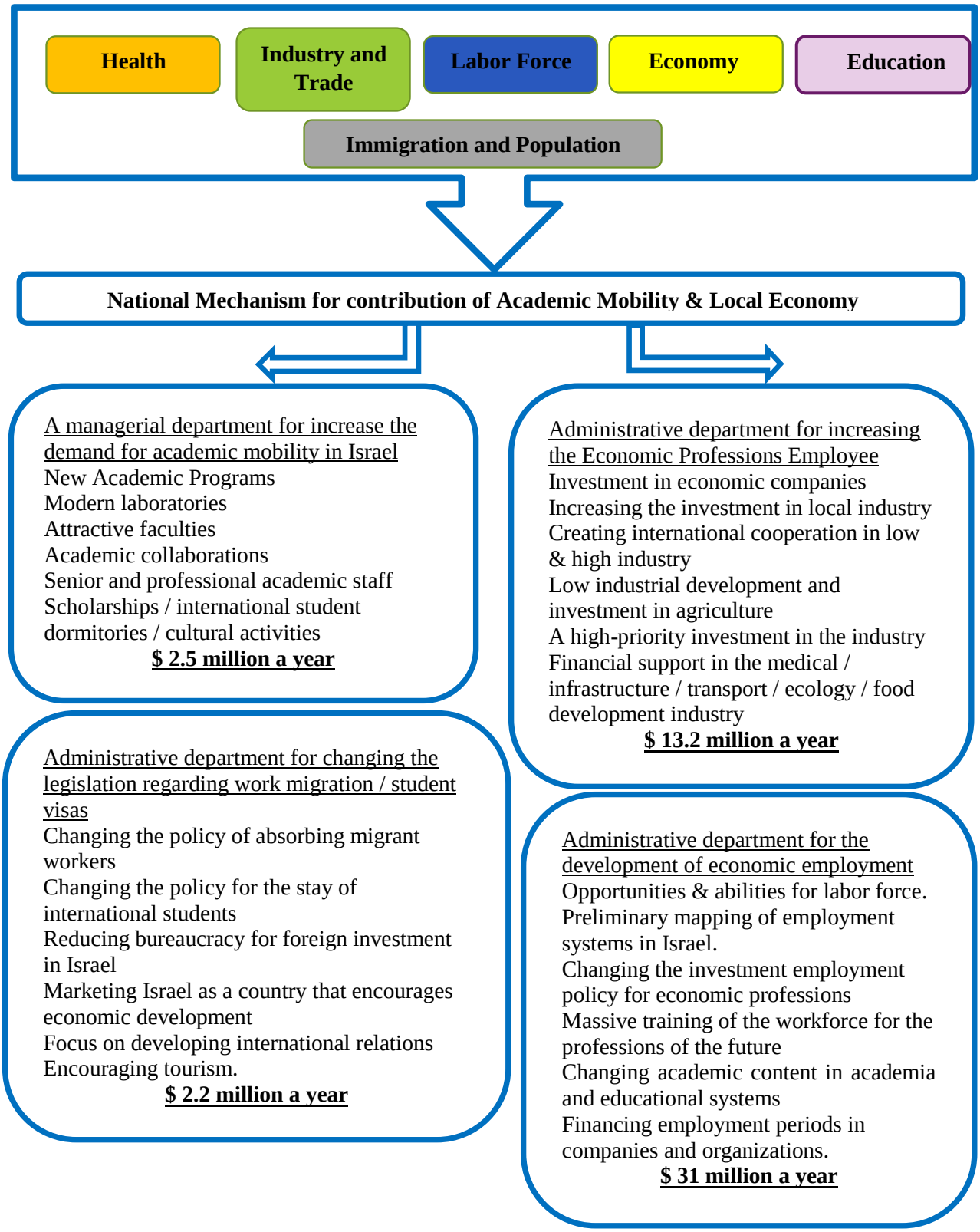


Figure 4.6. The National Mechanism
Source: made by the author

The level of the mechanism – The management levels of the mechanism will be on the one hand national, ie, it will be a national- mechanism that will manage the entire project through government ministries. On the other hand, they should have to be delegation of authority and division of duties according to the proposed illustration. That is, the division of topics for treatment by each of the departments. In addition, a **local forum** will be held which will be responsible for the implementation of the communities in cooperation with local authorities, academic institutions and local industry. This mechanism will be a local authority. Each department will have a work program that **receives guidance from the national machinery**, while ensuring that the goals of each year are met.

Methods and resources - the mechanism will provide financial resources, but mainly will have to be a change in approach and policy. **The State of Israel has mechanisms that operate in the direction of the proposed contents in the management model of the mechanism, but do not receive any impetus or significance in decision-making for national policy and priorities**. The government will have to finance the mechanism, both by professional manpower and by national preference over a long period, in order to advance the work plans. The mechanism will be built from a national mechanism with extensions to each professional field. **Only a work plan that improves and connects the work of the four subjects will succeed in establishing the project**.

The advantages of the independent (national-local) mechanism - the establishment of a national strategy in the development of international academic mobility and the idea of promoting economic power in Israel is a significant advantage in looking at the economic and employment future of Israel. The benefits that will appear are:

1. The pooling of resources in one independent mechanism - the responsibility for these issues is now divided into various government ministries (academic education, economy, employment, immigration authority). There is no satisfactory outcome at the level of academic institutions (international mobility stands at only 10,000 students in the past 4 years), and in the level of economic production and employment productivity (Israel ranks low among the OECD countries).
2. Development of economic-employment-academic capabilities with an international connection - Promoting Israel's status as an economic and academic knowledge force.
3. Support for academic institutions interested in finding sources of financial income (not by the local government)
4. The ability to cope with brain drain from Israel by leaving them in Israel.

Coping with barriers - Today the main barrier is on the political side. There are political elements in Israel who are not interested in opening Israel to the world, both academically and economically. These factors think that the State of Israel should remain with local production capabilities

and not open the economy and academia to international factors. If this barrier is overcome, it will be possible to change the policy regarding immigration / residence permits, work permits, the absorption of an advanced and advanced labor force into the local employment market, and of course it will be possible to cope with the growing phenomenon of brain drain. A second factor is the financial side - it is an investment of $ 50 million a year, which the State of Israel must find a significant factor in supporting the mechanism.

Evaluation of expected results - Assuming proper investment and granting freedom of operation to the mechanism, including all its departments, the project is expected to succeed. The State of Israel is presently assessing the situation regarding its academic and employment capabilities and understands that this step is obligatory. Only by synchronizing and sharing the four factors shown in Figure 4.6 will the project succeed. With proper management, Israel can increase the demand for academic mobility by 15% each year (similar to the model of Germany and Australia), and increase its economic success similar to the American model - creating sources of income for the employment and economic sectors.

4.3 Implementation strategy for developing academic mobility and knowledge economic for the economics and education ministries in Israel.

From the author's point of view, it can be said that the formulation of international policy in the various countries stems from the perception that education systems are adapted to the international academic world and to the global labor market in the 21st century, because it has a significant contribution to raising the quality of education.

The author of the thesis sees raising the level and competition of the Israeli academic system as the main motive for advancing the subject. Therefore, the author's suggestion is that the proposed administrative mechanism [Figure 4.6] will accept all the goals and the implementation plan. The author's proposal was presented in her article [112], "*Changes and concussion in the global labor force*," and in her article on the required change [119] "*Implementing globalization on the transition to knowledge economy in the labor market (A brief look on the Israeli Market)".* Implementing this mechanism, as suggested by the articles, and already implement in 2 authorities [annex 7], will increase the demand and arrival of international students, the development of the local economy, and the cessation of brain drain based on the following principles:

1. **Establishment of a National Mechanism for the management of knowledge economy and academic mobility in Israel**. This mechanism will be independent in decision-making, and will have a mandate to act professionally, without political considerations. The mechanism will consist of representatives of the Council for Higher Education, the Ministry of Economy,

representatives of academic institutions, representatives of companies and strategic partners from the business establishment, and representatives of local authorities. The mechanism will deal the following main issues:

1.1 Academic mobility in Israel (international students / Israeli students).

1.2 Improving Israel's knowledge economy by contributing to the employment market, developing international capabilities, a strategic plan for brain gain (academic retraining plan).

1.3 Cooperation with the Ministry of Economics and Higher Education in the field of integration of students, lecturers, and international researchers in the local employment and research system.

1.4 Developing a strategy to increase the demand for academic mobility of students and international researchers in Israel, in cooperation with **Erasmus programs**.

1.5 The "keys" of control and success of the mechanism will be:

a. Raising the demand of international students
b. Demand for international cooperation
c. Reducing brain drain from Israel
d. Improving the employment situation of the selected sectors.
e. change in the overall policy regarding the issue of academic mobility and knowledge economy in Israel.

Today, there is **no such mechanism in Israel** that deals specifically with the issue of academic mobility and its effects over the years. Every academic institution in Israel, with a small budget, tries to recruit international students, and without any comprehensive reference to **the contribution to knowledge economy - employment - brain drain - financial** impact on institutions and the state.

The development of such a model constitutes organizational innovation and the integration of a focused strategy with future assets. The initial mechanism will join in the second stage with the Ministries of Tourism, Transport - Infrastructure, and Health.

2. **Determining National policy and Planning** - setting a vision and goals for the system on international students (general and individual as needed) and coordination between the various institutions; keep track of your data and analyze trends. Facing the institutions:

2.1 The regulatory series of various aspects - budgetary and economic (including tuition fees and remuneration of lecturers).

2.2 Planning and academic Initiation of processes in institutions for the formulation of international vision, strategies and goals.

2.3 Initiation of processes for building appropriate infrastructures in institutions, out of the intention that subsidies will be limited in time until the institutions can continue without the subsidies.

2.4 Consulting for institutions in building international programs and marketing strategy.

2.5 Differential compensation of academic institutions that increase the demand of foreign students by rewarding the faculties, contributing to the establishment of advanced academic infrastructures, and a push for academic-international recognition.

2.6 Creating a connection between academia and the knowledge industry and advanced economic sources, which develop advanced fields of employment and industry. Creating "joint forums", and connecting from the academia to socio-economic policy considerations.

3. In front of international students

3.1 Marketing and branding efforts are concentrated in Israeli academia

3.2 Implementing a scholarship program for outstanding students

3.3 Assistance to international students in information, and in consultation with other offices - including visas, health insurance, and banking services.

Ministry of Economic

The three goals of a mixed economy that are most relevant to the study of macroeconomics are **full employment**, **stability**, and **economic growth**. Full employment is the condition in which all of the economy's available resources are engaged in the production of goods and services. Stability is the condition in which the economy avoids large changes in production, employment, and especially prices. Economic growth is the condition in which the economy's production possibilities are expanding over time.

Increased investment in advanced industrial infrastructure that develops products and services, not only for sale to other countries (as exists today). The investment will be expressed in the **following projects**:

1. A change in government policy on development areas, preference for areas with employment problems.
2. Establishment of technological centers (shared with academia).
3. Proposals to neighboring countries regarding the creation of a joint advanced industry.

There is an urgent and simultaneous improvement in the implementation of two educational and transportation infrastructures that complement each other. When good education will be given in areas that are now considered "periphery" and these areas will be linked to the large population centers through railways and roads, the state would change its face. Today's periphery can become a suburb of tomorrow

because almost the whole population of the country is within a half hour train ride at most from one of the major population centers.

Real estate price gaps will constitute the catalyst that will enable educated families to increase and upgrade their space living outside the big cities without giving up the education of their children and without significantly extending the time to commute to work. Social integration will do itself. A side effect will be when not only will families prefer to relocate and work in the suburbs, but also many businesses where their workers already live in the suburbs and travel and transportation costs will decrease significantly. Increasing the number of employed persons in the economy is not only a matter of increasing the desire and increasing the ability to work. Must also significantly increase the number of jobs in the economy. The key to this is productivity. Labor productivity in Israel is low relative to other Western countries. This makes it difficult for Israeli businesses to compete with foreign companies, and adversely affects the demand for Israeli workers. Critical areas of productivity include:

1. **Primary and Secondary Education (schools) and Higher Education**
    - The level of education should improve in the basic fields of study. Even the achievements of Israel's outstanding higher education students are below the achievements of the outstanding students of each of the Western countries.
    - The gaps in education in Israel are the highest in the West. The level of education in the basic fields should be equal in all the educational systems and in all the settlements and neighborhoods in Israel. Substantial reinforcement should be given to student's Socio-economic backgrounds associated with low achievability to enable their potential to be found.
    - Efficiency and transparency in the education system - The low source of performance is not a lack of adequate investment, but a whole range of teachers' standards, deficient curricula, poor management and wastefulness, and lack of flexibility and transparency throughout the education system, which accelerated and accelerated the deterioration.

When today's children become tomorrow's workers, they will have to change jobs frequently that their parents did not know. Therefore, the state must equip them with a "toolbox" that will fit the future market needs. As more children receive improved education, the circle that will be able to turn to the academic track after completing high school will grow, which will serve the children as well as the country.

2. **Transportation infrastructure**

The transportation infrastructure in Israel does not meet the needs of the economy and society. The existing situation causes a disconnect between a labor force located in the "periphery" and workplaces located in large population centers. Instead of turning the periphery into a suburb, huge sums were

invested in setting up failed factories and helping factories in industrial musical chairs throughout the country.

Transportation "bottlenecks" weigh heavily on the free flow of inputs and products into the market. The high congestion on the roads, and the absence of serious railway alternatives, increase production costs and significantly harm the economy's growth rate. The better the transport infrastructure, the lower the cost of production, which will enable Israeli, companies to become more competitive with foreign companies. The improvement in competitiveness means that these companies will be able to increase their sales, which will increase their demand for additional workers.

Transportation infrastructure today:

- The level of overcrowding on the roads of Israel is among the highest in the world.
- The overcrowding on the roads of Israel is increasing at a rate when the density level has doubled for only 15 years ,then is common in Western countries. The implications of the under-investment are a reduction in the percentage of Israeli GDP.

It will not be possible to provide all transportation needs in Israel by financing the private sector - as is being tried today - without drying out the sources of financing for private sector investments. In other words, there is no escape from using the government budget, the issue of funding is simply a matter of national priorities.

3. Improving the local Industry

The picture is becoming increasingly severe in view of the movement of the clamps - the difficulty of dealing with competition from the east on prices on the one hand, and with the competition that rises from the west on quality and sophistication on the other. Therefore, the continuation of the industry as a "business as usual" model is the erosion of Israeli industry to the point where factories are collapsing due to their inability to cope successfully with market competition.

But should the state accept this reality and make do with a limited number of leading innovative enterprises in their field, which stand out against the background of most of the outdated, closing factories? The author of the thesis focuses that while it is likely that obsolete plants will continue to close, we estimate that there are sectors and companies in the manufacturing industries that can be transformed, change their DNA and become competitive at the global level. In order to bring about this transformation, the management paradigm must be changed: to take calculated risks, to invest in the development of technological innovations, and to strive to create new and high-quality value for customers. The Innovation Authority (formerly the Office of the Chief Scientist) is here just for this purpose.

Why is support for innovation in the manufacturing industry so important?

- Upgrading factories, which serve as subcontractors of companies in Israel, will raise the quality of the value chain and contribute to a healthier ecosystem. A prominent example is the metal industry, which serves, inter alia, as a subcontractor of the defense industry.
- Supporting breakthrough start-ups in the manufacturing industry will push them to a leading position in the global market and may lead to the development of new manufacturing and employment sectors.
- Upgrading the industry, which will require the acquisition of advanced skills by employees, will contribute to raising productivity, increasing wages and reducing gaps. Even if, in the short term, the number of jobs in manufacturing is likely to decrease, in the medium to long term, upgrading and development of the industry will ensure employment in the manufacturing industries and may contribute to an increase in the number of jobs in manufacturing.

4.4 Conclusion of Chapter 4

1. A review of the implementation policy on the impact of student mobility on the knowledge economy in different countries shows that such a policy exists in some countries. **Germany**, where the government established a national mechanism called **DAAD**, which strategically manages all academic activities in the country, which includes student departures (mainly through programs such as **ERASMUS**) and excellent activity of bringing foreign students to study at German academic institutions. This policy contributes to the knowledge economy, the traditional industry, and the innovative knowledge industry a sum of 4.2 billion Euros, plus 675,000 International students and researchers into Germany.
2. The implementation of similar successful policies is taking place in **Australia**, which is an exceptional source of attraction for foreign students due to the local authorities' proactive policies. The policy in Australia mainly emphasizes investment by industry and academia in the development of academic institutions. This contribution is understood as a long-term investment, improving the employment situation and academic quality of teaching and research, while on the other hand, offers many possibilities for the foreign student. The Australian mechanism also offers the foreign student the opportunity to be accepted as an employee in the Australian establishment after completing his studies (especially in the required fields).
3. **The solutions and policies which exist today in Israel do not find such a connection of the foreign students contribute to the knowledge economy of the country**. With the exception of theoretical programs (2017-2022), that combine the academia and advanced industry, there is no "**Master Plan**" or any national new mechanism, that promotes a similar policy to the countries presented in the thesis (Germany, Australia, Hungary). Today there is an increase in the demand

of foreign students, but there is no future contact that leads to an employment-economic-cultural impact between the two variables.

4. The applied economic model, which proposed by the author of the thesis, **based on a large number of variables, which provide a possible picture for advancing the impact of foreign students on knowledge economy in Israel.** This **theoretical economic model** is the result of statistical observation data for a statistical regression model that attempts to accurately estimate the factors that will positively affect knowledge economy in Israel. The theoretical model is **only** the basis for the ideas for the proposed **administrative- management mechanism** (Figure 4.6) and to develop the conclusions of the economic model in the creation of an applied administrative mechanism according to the definitions and principles proposed in the national mechanism model. It is true that all components are applied in a synchronous manner
5. An analysis of the results of the model concludes that the larger the labor force in Israel (and all the other economic indices are better), the smaller the percentage of students leaving Israel. In addition, the percentage of students who leave school is influenced by a continuous process of the past three years. In addition to the following conclusions:
   5.1 Students consider the situation in the labor market and the other economic aspect, which affect their decision to leave the country or remain.
   5.2 The model has been proven that economic indicators influence the percentage of those leaving (students and the drain of professional minds).
   5.3 When they work more in traditional industry and higher industry, less educated brain drain is living in Israel (percentage of students and professionals).
   5.4 When they import more goods and ICT services, we find more students of higher education decide to study outside of Israel (outbound students).
   5.5 The growth of indices and economic variables, such as GDP, is adjusted to the rate of growth in the economy and to the entry of foreign students. The same applies to tax collection.
   5.6 The economic data also affect average wages and wages in the areas of knowledge economy.
   5.7 The analysis shows that the economic values include mainly demand for employment, wage increases, fluctuations in knowledge economy, production of advanced products, policies to increase exports, investment in domestic and international industry. All factors have a positive effect (reduction) on the outgoing percentage. OUT_PERCENT = -1.19721855723e-05 * LABOR + 0.0963430556533.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. The author of the research discovers that since the beginning of the twenty-first century, we find that the leading economic factor of the developed industries has become technologically-based knowledge and production and distribution of information. These new technologies, which were developed in the 1950's, have caused an accelerated change with the spread of personal computers. The extended use of e-mails and Internet communications was also dramatically accelerated. This technological-social factor had caused a great increase in the economic potential, and, in particular, had changed the nature of the work and of the economic occupation. An updated definition to the term "globalization" has to refer to the process in which the entire world has become connected, and the spatial shape of social relations is undergoing a major change. The "updated" globalization includes the organization and operation of "power- full" at an international scale, which is expressed in networks connecting people from all over the world. Their significance is constantly increasing and is more appropriate to the structural perception, according to which the institutional way of doing things generally shapes our decisions (contrary to the ways of a particular social group or social institute).
2. The term "world economy" refers to a large group of activities relating to creation of connections between the extent of consumption and the resources which are at their disposal. The economic market surrounds the entirety of activities having to do with creation, consumption, and trade of goods and services everywhere. The economy affects each person who must deal with bodies such as corporations and governments. The economies of given continents or countries are controlled by the local culture, laws, history, and geography (amongst other factors) and develops due to a particular need. For this reason, there cannot be to identical economies.
3. The renewed definition of the author of the research, which publish in her article *"The impact of knowledge economy on global employment status*" [107] regarding the knowledge economic is a result of a wide review of the definitions of a great deal of researches. The author of the research believes that the term "knowledge-based economy" derives from a full recognition of the importance of knowledge and technology within the economic growth. The knowledge, as it is depicted in humans ("human assets") and technology has always been a central part of the economic development, however, only in recent years, has the concept of knowledge-based economy been recognized for its relative importance. Knowledge-based economies are more dependent on the production, circulation and usage of knowledge than ever before. The output and occupation are expanding at the fastest rate yet within the elite technological industries, such as computers, electronics, and space. the information in the article and the thesis, presents the change in the industrial pattern as well as the changes (in percentages) which affect each country

in the transition process from a traditional industry to an advanced industry of knowledge. Based on the data presented in the table, the author can conclude that in each country there is an increase of three to ten percent as well as a significant growth in the percentage of products (out of the entire national product).

4. Academic mobility was proved as accelerating improvement of economic processes that directly contribute to gross product, labor productivity and filling employment standards unmanned by local population. Table 1.2 summarizes the academic mobility influence options in world countries. In the years 2016 – 2018 we find that 27.5% increase in foreign students in Germany increased the national product in 2.75% and the employed percentage in labor economy increased in 1.6%. the influence, like the other countries presented in the table, is positive since the mobility influences are expressed both in international student integration who become professionals and stay to contribute their abilities to local economy and in local students that go to acquire education in other countries and return to a role or profession as professionals with higher labor productivity. Some European countries, Australia and Canada, which are immigrant integrating countries, large groups that get fast permit course are based on international students that arrive to academic studies.
5. The State of Israel began to survey and to create an analysis of the data concerning the arrival of foreign higher education students formally and with intent for future planning in the year 2010. Nowadays, there is an average of 10,000 foreign higher education students who pay the institutions in which they study a total of 22,500 USD for their degree studies, not inclusive of their housing and economic costs. All of the higher education institutions who receive support from the Israeli Council of Higher Education lead a program designed to increase the level of demand through international cooperation through the European-based ERASMUS Project. At the same time, it was found that few academic bodies develop industrial ties with the occupational market and that no connection exists between the needs or the interface of economic interests amongst the economic institution and the various industries (the traditional and the knowledge-based industries).
6. The economic sector in Israel has undergone a great deal of changes, amongst them a constant downfall of the traditional industry. Like most of the western countries, Israel has also begun working with production lines based in the Far East (for products such as textile, paper, metal, plastic, and wood). This global process has created a clear division of occupational jobs which shall be considered "at-risk" due to the changes which the world of occupation is undergoing. the author explains in her article " *The necessity for adult education in the world*" [104], The modern industry, which includes products and services from the hi-tech, medicine,

communications, information, advanced agriculture and highly developed energy, is very advanced in Israel, however, on the other hand, Israel hires a very narrow percentage of employees, in comparison to the rates of available employees on the market. There is a small but quality percentage of scholars amounting at 87.1%. As a result, the State of Israel is heading towards a problem of irrelevant work power. At the same time, a phenomenon (whose average rates vary) exists of academic brain drain. The author of the research concludes from these finding that a major program for the advancement of learning and training of adults to the relevant occupations which are suitable for the innovative knowledge of economy does not exist.

7. The researcher concludes from the entire research process that the issue of academic mobility of local and international students is highly significant for the countries' economies, including Israel. This global trend can address the negative effects of brain drain from the country, and even constitute a possible solution also as a cyclic movement of experts and academics in various disciplines. The research objectives, which included studying aspects of globalization, analyzing academic mobility and its effects, characteristics, and mapping its scope in different countries, and the impact of the knowledge economy, were achieved and presented in Chapter 1 (Subsections 1.1-1.3). The research objectives regarding the analysis of academic mobility and its effects on the local economy, with emphasis on aspects related to the knowledge economy, are presented in Chapter 3 (Section 3.2-3.3), and in the fourth chapter, there is a discussion of possible solutions to the dynamics of and dependencies between variables of academic mobility – knowledge economy -and brain drain tendency in Israel. All of these are summarized and interpreted in a regression model that raises the main factors influencing the scenarios, which need to be renewed in order to solve the research problem using a theoretical management model that will be proposed to Israeli authorities, whose ideas are already being implemented in two Israeli authorities (Annex 8).
8. The authors' conclusions are that lots of students and future students leave Israel to get Higher Education outside. Also, the main reasons are economic: the costs of living, the future wages and the social conditions. Many from the students believe that studies outside are better from the professional point of view. The majority believes it will not be hard to find a proper employment in Israel, but most of them do not plan to come back. In addition, from the Spearman correlations it was found out that the age is positively correlated with education ($p\_value<0.001$) and negatively - with satisfaction from studies in Israel ($p\_value<0.001$), positively – with considering to study abroad ($p\_value<0.001$).
9. The age is negatively correlated with the believe it will be a suitable employment in Israel ($p\_value<0.001$). In other words, the older is the respondent, the more education she is and the

more interested in studying out of Israel, believing local education is not good enough and proper employment is difficult to find. In addition, the more educated the respondent is, the more she plans to study economic-based studies (p_value<0.03), the less satisfied from the quality of studies in Israel (p_value<0.001) and more considers studying abroad (p_value<0.001).

10. The author of the thesis concludes that analysis of the data, and the findings of the statistics, shows that the economic-occupational stability prevents the Israeli student (aged 22-30) who has already completed an academic degree or intends to study for an academic degree. The reasons for this are combined and include economic reasons (salary, cost of living, housing), professional reasons (exposure to globalization, desire to engage in knowledge economy, stability in the workplace) and social reasons.
11. In accordance with findings emerging from the literature review data, including an analysis of global definitions, trends and phenomena, strategies and administrative policies that take place in different countries, and comparison of the data in Israel (through analysis of data from national sources and a survey questionnaire), the research hypothesis was confirmed, that is, it was found to be correct: the academic mobility of Israeli students to acquire education in other countries leads to brain drain, which hinders improvement of economic-industrial processes in Israel, with an emphasis on employment in knowledge economy professions. Knowledge economy and government support for those with higher education in economic-industrial professions (according to the model in Figure 4.5) and a government mechanism (Figure 4.6) can address the same barriers to improvements that exist today.
12. After analyzing the information from the literature review focusing on the review of management theories, global trends of academic mobility, and the integration of the knowledge economy in employment and industry, the researcher identifies the negative impact of student mobility to other countries and the inability to create international students' academic mobility compared to other developed countries. In addition, there was an analysis and discussion of factors and barriers that can solve this problem by a statistical survey that placed at the forefront of research the key nodes required for innovation and upgrading. All data were compiled and presented, from which an orderly process of a solution is proposed that can lead to higher education policy in Israel, including increasing academic mobility on the part of international students, and reducing the trend brain drain to minimize the phenomenon. The author presents a theoretical mechanism based on strategic and applied cooperation with policy changes in academic mobility and the knowledge economy in Israel. All proposals and solutions are adapted to the research hypothesis discussing the effects of academic mobility (positive and negative), and the aspects of the knowledge economy on Israel. Therefore, the researcher sees that the hypothesis was confirmed

and found to be correct. In other words, proper action by the government in Israel, in the form of establishing a national mechanism (Figure 4.6), will enable a positive response to the research problem

Recommendations

1. The author of the research recommends the implementation of a series of initial steps within the lines of the policies of various Israeli institutions, inclusive of the Immigration and Population, the Ministry of Economy (which deals with the industrial and occupational fields), and the Ministry of Education. Only the change of perception and the appropriation of policy lines shall provide the proper results which are necessary for the issue at-hand – the influence of the academic mobility on the knowledge economy in Israel. The suggested recommendations derive from an in-depth review of models used in other countries. The suggested theoretical economic model is based on the analysis and data, whilst their positioning into a mathematical model of regression which is based on the data relevant to the State of Israel. The first abiding change is the recommendation for **using the terms of obtaining visas to international higher education students wishing to study in Israel.** This is recommended both as far as the bureaucratic process is concerned, as well as in the granting of **rights and future occupational possibilities** (which do not currently exist). At the same time, it is also recommended to simultaneously provide occupational permits for high-demand occupations in order to allow the higher education students to work, in the course of their studies, in companies and establishments whom are interested in their vocational abilities. This is, of course, also relevant for those occupational fields which provide the country with economic results.
2. This recommendation has to do with the narrowing down of the brain drain of professionals which are necessary to Israel and of higher education students wishing to study abroad. The author of the research suggests **a management model which is supposed to provide a hands-on offer** for combined needs: **The increase of influence of higher education students on the knowledge economy in Israel,** on the one hand, and **an upmost usage of the human resource which exists in Israel.** All of the above are designed to narrow down the extent of the brain drain phenomenon and to prevent the dependency on the human resources abroad.
3. Of all the variables which were raised in the regression models, the affecting variables had mainly to do with such economic variables as: Gross Domestic Product (GDP), Gross National Income (GNI), taxes revenues, and most of all, the contribution of the various occupations and the traditional and advanced industries. All of these are presented in figure 4.1. The results of the model

OUT_PERCENT = -1.19721855723e-05*LABOR + 0.09634305565330

show a 96% significant regression connection between the outbound percentage and the labor force. **This means that it is necessary to invest in the various occupational fields, and it has been proven that the greatly the occupational possibilities in the appropriate occupations for outgoing groups (particularly in the knowledge economy**) **the greater crucial influence these shall be on the outgoing percentage, on the one hand, and on the enrichment of the knowledge economy, on the other hand.**

4. In light of all of the above, the author of the research advises **the Ministry of Economics and Occupations** to act as follows:

The Ministry of Industry and Occupation

4.1 **Increasing the number of technological institutes which develop products and services in modern industry,** and on the other hand, it is necessary to avoid the selling of these institutes as a business initiative (start-up) to large companies. In addition, it is necessary to increase the government investment in providing benefits for the workers and higher education students of these companies.

4.1.1 **Establishment of training foundations for unskilled workers in order to assist Their professional conversion and instability** to the innovative industry which is ascribed to the fields of the knowledge economy.

4.1.2 **Creation of international relations with other countries** in favor of exchange of human capital in the high-demand occupations (such an agreement currently exists with China as per the field of building construction and civil infrastructure).

4.1.3 An investment and renowned establishment of the **traditional culture with accommodations suitable for the global age.** This is based on the understanding that a given country is unable to give up its basic production abilities and base itself solely on import. This clause also includes the creation of a competitive competition against other world markets and finding the specific fields in which Israel is able to lead (energy consumption, water, ecology, medicine, plastic, high-tech products, and selling of knowledge economy to developing countries).

The Economics Ministry

4.2 **Due to the increase of taxes revenues,** the author of the research recommends to divert budgets to providing tax benefits to populations at risk of work immigration. Such tax benefits can include changing lower taxes, providing benefits to the fields of housing, education, health, and academic training for the young generation.

4.2.1 The author of the research recommends that the Ministry of Education **invest a greater number of resources in the technological education** (via the Ministry of

Education) due to a lack of accommodation of the existing curriculums (from the personal experience of the author of the research as a teacher in high school).

4.2.2 It is recommended that the Ministry **increase its investment in the traditional industry** and to make it a major source of income which develops the commitment of employees. The investment should come about mainly in the way the production workers and the mid-level management are rewarded. **Based on the examined variables a correlation was found between** the increase of salaries in Israel and the narrowing down of the brain drain phenomenon.

4.2.3 The author of the research recommends combining proper investments between the correlations which are exhibited in figure 4.1 and which will be expressed in the local raw product, the national product, the occupation (the knowledge industry and the traditional industry), and the taxes revenue – all in favor of the enrichment of the knowledge economy in Israel.

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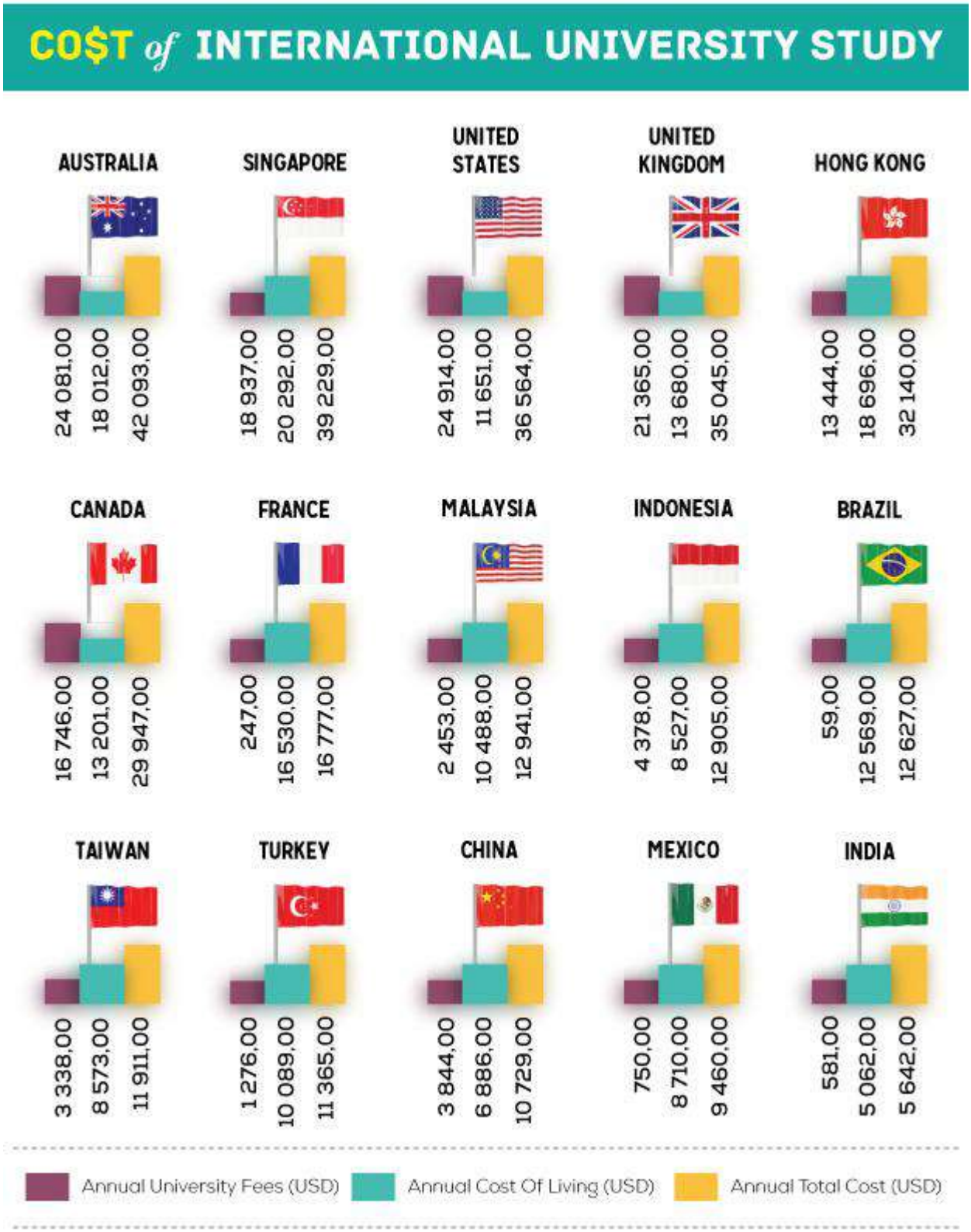
ANNEXES

Annex 1

Financial cost of International University– 2017



Source: [179]

Annex 2

The findings of correlation statistics (part 1)

year	out_students	in_students	GDP_$	GNI	Average_v	average_v	Trad_indus	Labour	FDInvest_I	out_percer	Graduates	Graduates	ICT_servi
1997	9988		114544	105418	4966	10406	398.9	2209	1.63	0.065203	7.1	3.6	21.86
1998	10111		115838	105845	5792	11746	388.5	2265	1.73	0.084367	7.9	3.8	23.06
1999	10319		117212	106652	5890	13366	390.4	2341	4.15	0.093645	8.4	3.8	23.56
2000	14082		132397	120539	6242	14480	397.4	2435	8.04	0.06844	8.7	4.2	23.7
2001	16042		130752	123425	6877	14681	399.6	2498	1.77	0.064032	8.4	4.7	24.63
2002	12370		121093	115320	6988	17970	378.1	2546	1.58	0.053363	9	4.7	24.94
2003	12121		126750	120589	6877	15530	377.8	2610	3.32	0.05749	9.2	4.8	26.66
2004	10694		135419	131009	6902	16697	387.5	2678	2.94	0.057553	8.4	4.8	24.34
2005	11818		142838	139551	7075	17175	392.6	2740	4.81	0.057839	9	5	26.72
2006	12040		154511	151518	7277	18732	402.6	2809	15.26	0.060349	10.6	5.7	27.45
2007	12368		179564	176481	7445	20958	422.5	2893	8.79	0.058983	10.8	5.9	27.7
2008	13291		208069	209910	7583	20627	432.5	2957	10.87	0.057389	11	6	28.05
2009	13334		233755	201310	7836	19542	415.5	3072	4.45	0.057183	11.4	6	29.35
2010	13630	2892	257642	228611	7884	20214	416.7	3147	5.51	0.05702	11.5	6	28.04
2011	13985	3946	293315	257950	8190	20610	406.5	3204	8.72	0.056124	11.8	6.2	29.88
2012	14414	4506	294711	250711	8503	19530	411.7	3606	8.46	0.054093	12	6.5	30.38
2013	14432	10407	297324	287567	8724	20500	420.3	3677	12.44	0.051593	12.5	7.2	30.45
2014	14042	10070	308769	305258	8955	22050	422	3778	6.73	0.052893	12.4	7.1	31.22
2015	13939	10430	299416	295109	9123	23342	425.3	3845	11.51	0.052761	12.5	7.3	31.5
2016	13711	10608	318777	314536	9336	24711	411.7	3912	12.32	0.052555	13.6	7.2	31.4
2017	13806	10977	319201	317911	9543	25517	407.1	3989	13.1	0.053554	14.4	7.5	31.3

Annex 3

The findings of correlation statistics (part 2)

Israel	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
outbound of student of academic mobility	9,988	10,111	10,319	14,082	16,042	12,370	12,121	10,694	11,818	12,040	12,368	13,291	13,334	13,63
inbound of foreign students														2,89
GDP (US$)	114,544	115,838	117,212	132,397	130,752	121,093	126,750	135,419	142,838	154,511	179,564	208,069	233,755	257,64
GNI	105,418	105,845	106,652	120,539	123,425	115,320	120,589	131,009	139,551	151,518	176,481	209,910	201,310	228,61
Average salary in the Israel	4966	5792	5890	6,242	6877	6988	6877	6902	7075	7277	7445	7583	7836	788
average wage in the economic knowledge professions	10406	11746	13366	14480	14681	17970	15530	16697	17175	18732	20958	20627	19542	2021
The number of employed citizens in the traditional industry (Thousands)	398.9	388.5	390.4	397.4	399.6	378.1	377.8	387.5	392.6	402.6	422.5	432.5	415.5	416
Labour force (Thousands)	2209	2265	2341	2435	2498	2546	2610	2678	2740	2809	2893	2957	3072	314
Foreign direct investment, net inflows (billions $)	1.63	1.73	4.15	8.04	1.77	1.58	3.32	2.94	4.81	15.26	8.79	10.87	4.45	5.5
Number of Outbound students from total students (by %)	0.065203	0.084367	0.093645	0.06844	0.064032	0.05336	0.05749	0.057553	0.057839	0.060349	0.058983	0.057389	0.057183	0.0570
Graduates of academic degrees in economics and knowledge faculties (B.sc)	7.1	7.9	8.4	8.7	8.4	9	9.2	8.4	9	10.6	10.8	11	11.4	11
Graduates of academic degrees in economics and knowledge faculties (M.sc)	3.6	3.8	3.8	4.2	4.7	4.7	4.8	4.8	5	5.7	5.9	6	6	
ICT service exports (% of service exports)	21.86	23.06	23.56	23.7	24.63	24.94	26.66	24.34	26.72	27.45	27.7	28.05	29.35	28.0
High-technology exports (billions $)	3.84	4.26	4.64	4.97	4.43	3.76	4.52	5.44	4.97	5.59	3.06	6.27	7.89	7.9
Imports of goods and services (billions $)	37.32	36.1	41.12	47.09	43.91	43.22	44.81	52.75	58.14	63.37	73.74	84.15	63.34	76.8
International tourism, receipts (billions $)	3.74	3.59	4.8	4.6	2.8	2.4	2.47	2.9	3.42	3.8	4.4	5.5	5.06	5.8
Number of Brain Drain phenomenon in Israel	12700	12900	19400	19000	16300	14200	11000	12800	11800	8500	4900	5400	6700	710
Total tax revenue (billions $)	105.34	113.2	123.95	146.35	146.67	147.55	144.33	150.83	162.15	178.95	191.29	184.21	178.28	196.8

Annex 4

The Data [1,2,3] for the Economic Model

Probability	OUT_GRADUATES	OUT_PERCENT	OUT_STUDENTS	TOTAL_TAX_REVENUE	LABOUR
OUT_GRADUATES	1				

OUT_PERCENT	0.133289	1			
	0.753	-----			
OUT_STUDENTS	-0.591974	-0.41854	1		
	0.1221	0.3021	-----		
TOTAL_TAX_REVENUE_BILLIO	0.350605	-0.766171	-0.156592	1	
	0.3945	0.0266	0.7112	-----	
LABOUR	0.15215	-0.843702	0.057972	0.949298	1
	0.7191	0.0085	0.8915	0.0003	-----
INTERNATIONAL__TOURISM_B	0.29828	-0.741254	0.196853	0.749267	0.810151
	0.473	0.0353	0.6403	0.0324	0.0148
IN_STUDENTS	0.164467	-0.88703	0.020566	0.939866	0.908614
	0.6971	0.0033	0.9614	0.0005	0.0018
ICT_SERVICE__EXPORTS_PER	0.20587	-0.814208	0.166579	0.903012	0.905776
	0.6248	0.0139	0.6934	0.0021	0.0019
HT_EXPORTS_BILIIONS$	0.516208	-0.590256	-0.276492	0.951769	0.895847
	0.1903	0.1235	0.5074	0.0003	0.0026
GRADUATES_EK_MA	0.165476	-0.879903	0.074804	0.952865	0.953268
	0.6953	0.0039	0.8603	0.0003	0.0002
GRADUATES_EK_BA	0.597685	-0.537977	-0.255352	0.856338	0.829269
	0.1176	0.169	0.5416	0.0066	0.0109
GDP_$	0.425616	-0.720127	0.089158	0.862643	0.858538
	0.2931	0.0439	0.8337	0.0058	0.0063
GNI	0.374395	-0.781984	-0.096932	0.965613	0.9069
	0.3609	0.0219	0.8194	0.0001	0.0019
G_ANDS_IMPORTS_BILLIONS$	-0.114272	-0.379864	0.687328	0.060612	0.155322
	0.7876	0.3533	0.0596	0.8866	0.7134
FDINVEST_BILIIONS$_	0.476548	-0.68055	0.098258	0.73786	0.709326
	0.2325	0.0632	0.8169	0.0366	0.0488
AVERAGE__WAGE_EK	0.655881	-0.415216	-0.543113	0.889985	0.764103
	0.0774	0.3063	0.1642	0.0031	0.0273
AVERAGE__WAGE_TOTA_	0.365696	-0.75624	-0.101594	0.984618	0.97167
	0.373	0.0299	0.8108	0	0.0001
TRAD_INDUST_EMPLOYED	-0.693627	-0.416948	0.176915	0.154218	0.168426
	0.0564	0.3041	0.6751	0.7154	0.6901

Probability	INTERNATIONAL__	IN_STUDENTS	ICT_SERVICE__EXPOF	HT_EXPORTS_BILIIONS$	GRADUATES_EK
OUT_GRADUATES					
OUT_PERCENT					
OUT_STUDENTS					
TOTAL_TAX_REVENUE_BILLIO					
LABOUR					
INTERNATIONAL__TOURISM_B	1				

IN_STUDENTS	0.787492	1			
	0.0203	-----			
ICT_SERVICE__EXPORTS_PER	0.728335	0.842542	1		
	0.0405	0.0086	-----		
HT_EXPORTS_BILIIONS$	0.715088	0.820041	0.817079	1	
	0.0462	0.0127	0.0133	-----	
GRADUATES_EK_MA	0.815385	0.980799	0.875209	0.872745	1
	0.0136	0	0.0044	0.0047	-----
GRADUATES_EK_BA	0.846342	0.760201	0.686798	0.931991	0.80891
	0.0081	0.0286	0.0599	0.0007	0.015
GDP_$	0.870125	0.789213	0.931256	0.823255	0.818504
	0.005	0.0199	0.0008	0.012	0.013
GNI	0.841018	0.950143	0.893879	0.886768	0.937752
	0.0089	0.0003	0.0028	0.0033	0.0006
G_ANDS_IMPORTS_BILLIONS$	0.42607	0.135678	0.420923	-0.072117	0.134096
	0.2925	0.7487	0.299	0.8652	0.7516
FDINVEST_BILIIONS$_	0.696574	0.728647	0.67021	0.767368	0.777073
	0.0549	0.0403	0.069	0.0262	0.0233
AVERAGE__WAGE_EK	0.607291	0.740422	0.674948	0.949881	0.753414
	0.1103	0.0357	0.0663	0.0003	0.0309
AVERAGE__WAGE_TOTA_	0.81817	0.908271	0.905155	0.965523	0.945487
	0.0131	0.0018	0.002	0.0001	0.0004
TRAD_INDUST_EMPLOYED	-0.185663	0.334301	0.12754	-0.075066	0.260938
	0.6598	0.4183	0.7634	0.8598	0.5325

Probability	GRADUATES_EK_BA	GDP_$	GNI	G_ANDS_IMPORTS_E	FDINVEST_E	AVERAGE__	AVERAC	TRAD_INDUS
OUT_GRADUATES								
OUT_PERCENT								
OUT_STUDENTS								
TOTAL_TAX_REVENUE_BILLIO								
LABOUR								
INTERNATIONAL__TOURISM_B								
IN_STUDENTS								
ICT_SERVICE__EXPORTS_PER								
HT_EXPORTS_BILIIONS$								
GRADUATES_EK_MA								
GRADUATES_EK_BA	1							

GDP_$	0.812697	1						
	0.0142	-----						
GNI	0.848301	0.912035	1					
	0.0078	0.0016	-----					
G_ANDS_IMPORTS_BILLIONS$	-0.018223	0.493814	0.23004	1				
	0.9658	0.2136	0.5837	-----				
FDINVEST_BILIIONS$_	0.774236	0.693972	0.702698	0.072147	1			
	0.0241	0.0562	0.0519	0.8652	-----			
AVERAGE__WAGE_EK	0.902281	0.724128	0.841416	-0.216689	0.646009	1		
	0.0022	0.0422	0.0088	0.6062	0.0835	-----		
AVERAGE__WAGE_TOTA_	0.907818	0.900636	0.953637	0.111117	0.756317	0.880742	1	
	0.0018	0.0023	0.0002	0.7934	0.0299	0.0039	-----	
TRAD_INDUST_EMPLOYED	-0.287149	-0.176593	0.095442	-0.15851	-0.128032	-0.124815	0.036	1
	0.4905	0.6757	0.8221	0.7077	0.7625	0.7684	0.933	-----

Source: Made by the author

Annex 5

Upgrading of the exports and Economic Value from the Knowledge Economy

	Exports of products (by %)		Value added to the local economy (by%)	
Country / Year	**2011**	**2018**	**2011**	**2018**
Canada	9	12.4	10.2	12.6
U.S. A	25.9	37.3	18.2	24.2
Japan	20	36.7	16.4	22.2
Denmark	11.9	18.1	9.3	13.4
Netherlands	16	22.9	15.1	16.8
United Kingdom	17.1	32.6	16.3	22.2

Source: Made by the author from sources [193]

Annex 6

GDP per capita in countries by USD – 2018 -2020

Country	2018	2019	2020
Germany	54,954	55,891	53,694
Canada	50,239	50,660	48,072
China	15,608	16,772	17,311
Singapore	100,581	102,573	98,525
France	46,659	49,377	46,226
Romania	29,248	32,299	31,945

Source: made by the author from [162]

Opinion polls – Students – English & Russian

Opinion polls – Students

My name is Bushra Masri, and I'm doing a survey for my Doctoral dissertation. The survey is anonymous and used for research purposes only. I will thank you for filling out the questions with the correct answer.

The survey was written in male, but intended for both sexes.

Personal information: Please include the correct answer.

1. **Sexual gender**: a. Male b. Female
2. **Age:** a. 17-21 b. 22 - 30 c. 31 - 45 d. 45 +
3. **The field of study:**_____
4. **Name of Education Institute:**_____
5. **Graduation certificate:**
   A. High School Graduation
   B. Practical studies
   C. Academic degree: B.A / M.A / PH. D
6. **Do you intend to study the faculties of knowledge economy (Economics, Medicine, Engineering, Infrastructure & Energy, Industry, Exact sciences)?**

Not at All	I may choose such a faculty	There is a good probability	I will probably choose a from the Faculty of Knowledge economy	I'm sure I'll choose a faculty of knowledge economy
1	2	3	4	5

7. **Are you satisfied with your field of study?**

Not satisfied at all	Unsatisfied	Satisfied	Very Satisfied	Very happy in choosing the faculty
1	2	3	4	5

8. **Are you satisfied that you are studying this profession in Israel?**

Not studying in Israel	Unsatisfied	Satisfied	Very Satisfied	Very happy in choosing to study in Israel
1	2	3	4	5

9. **Have you considered studying out of Israel?**

Not studying in Israel	Unsatisfied	Satisfied	Very Satisfied	Very happy in choosing to study in Israel
1	2	3	4	5

10. **If you have selected answer options <u>2-5 in question 9</u> - in what other country would you like to study?**

I do not care	Asian / African countries	Eastern European countries	Western European countries	United States Canada Australia
1	2	3	4	5

11. **Do you think that studies in another country are more professional than Israel?**

Studies in Israel are the best!	Depending on which other countries	Studies in Israel and other country are similar	In our profession it's recommended to study **<u>out</u>** of Israel	Studies in other countries are always better
1	2	3	4	5

12. **Do you think you will be employed in Israel (in your profession)?**

I will not have employment	I'm not sure I'll have employment	I'll have employment	I will have partial employment	I'm sure I'll have employment
1	2	3	4	5

13. If you do not find employment in Israel, would you like to work in another country?

Not interested in being employed outside of Israel	I did not think about that possibility	I thought about the possibility of working out of Israel	I may check the option	In any case, I intend to be employed **outside** of Israel
1	2	3	4	5

14. If you were studying in a foreign country, would you come back to Israel?

Yes, at the end of my studies, I will return to Israel	I may return to Israel	I'll only be back if I cannot find a job there	I will make efforts to find a job there	There is no chance that I will return to Israel
1	2	3	4	5

15. What are the main reasons you think students want to study and work in other countries?

Cost of living - food, health, education, housing, transportation, family expenses	Wages and social benefits	Unfair and beneficial of tax policy	Employment options after graduation + quality of life and possibilities of professional development	All answers together
1	2	3	4	5

I would to thank you for filling out the questionnaire and for your cooperation

Bushra Masri

Анкета для учащихся

Моё имя- Бушра Масри, эту анкету я распространяю в рамках диссертации на степень доктора. Анкета анонимна и будет использована только в целях исследования. Буду благодарна за точное и полное заполнение всей анкеты.

Анкета обращается в мужском роде, но относится и к женщинам в равной степени

Личная информация: Просьба точно ответить на вопросы.

1. **Пол: а.** Мужской **Б.** Женский
2. **Возраст: а.** 17-21. **Б.** 22-30. **В.** 31-45. **Г.** 45+
3. **Область обучения: _____**
4. **Наименование образовательного учреждения: _____**
5. **Справка об окончании:**
   А. Окончание средней школы
   Б. Стажировка
   В. Степень высшего образования: B.A / M.A / PH. D

6. **Собираетесь ли Вы изучать дисциплины, включающие экономические знания (Экономика, Медицина, Инженерия, Строительство и Энергия, Промышленность, Точные Науки)?**

Вовсе нет	Возможно	Вполне возможно	Вероятно, я выберу факультет, включающий обучение экономическим знаниям	Абсолютно точно, я выберу факультет, включающий обучение экономическим знаниям
1	2	3	4	5

7. **Довольны ли Вы своей областью обучения?**

Очень недоволен	Не удовлетворён	Удовлетворён	Очень удовлетворён	Счастлив своим выбором
1	2	3	4	5

8. **Довольны ли Вы, что изучаете профессию в Израиле?**

Я не обучаюсь в Израиле	Не удовлетворён	Удовлетворён	Очень удовлетворён	Счастлив своим выбором учиться в Израиле
1	2	3	4	5

9. **Думали ли Вы учиться за пределами Израиля?**

Я не обучаюсь в Израиле	Не думал	Думал	Серьёзно обдумывал	Счастлив своим выбором учиться вне Израиля
1	2	3	4	5

10. **Если Вы выбрали ответы <u>2-5 на вопрос 9</u>, в какой другой стране Вы хотели бы обучаться?**

Не важно	Страны Азии/ Африки	Страны Восточной Европы	Страны Западной Европы	Америка, Канада, Австралия
1	2	3	4	5

11. **Считаете ли Вы, что обучение в другой стране более профессионально, чем в Израиле?**

Обучение в Израиле самое лучшее!	Зависит от конкретных стран	Обучение в Израиле и в других странах одинаково	В нашей профессии, рекомендуется учиться **<u>не</u>** в Израиле	Обучение в других странах всегда лучше
1	2	3	4	5

12. Считаете ли Вы, что найдёте работу в Израиле (по своей профессии)?

Я не найду работу	Я не уверен, что найду работу	Я найду работу	Я найду частичную занятость	Я уверен, что найду работу
1	2	3	4	5

13. Если Вы не найдёте работу в Израиле, захотите ли работать в другой стране?

Не заинтересован работать в другой стране	Я не думал о такой возможности	Я думал о возможности работать за пределами Израиля	Стоит обдумать	В любом случае, я собираюсь работать **за пределами** Израиля
1	2	3	4	5

14. Если Вы обучались за границей, пожелали бы Вы вернуться в Израиль?

Да, в конце обучения я вернусь в Израиль	Я могу вернуться в Израиль	Я вернусь только если не смогу найти работу за границей	Я постараюсь найти работу за границей	Я не вернусь в Израиль ни в коем случае
1	2	3	4	5

15. По Вашему мнению, по какой причине студенты хотят учиться и работать в других странах?

Стоимость жизни- питание, проживание, образование, здравоохранение, транспорт, семейные расходы	Зарплаты и социальные условия	Неудобная и несправедливая налоговая политика	Шансы на трудоустройство по окончанию обучения + уровень жизни и возможности профессионального роста	Всё вышеперечисленное
1	2	3	4	5

Благодарю Вас за заполнение анкеты и участие

Бушра Масри

Annex 8

Recommendation Letters

قسم التربيه والتعليم
אגף החינוך

بلدية رهط
עיריית רהט

26.10.2018

FOR:

Ulim university
Free international university of Moldova

PH. D Thesis – Masri Bushra

As a representative of the ministry of labor and economic, I would like to congratulate Ms. Masri (ID: 56917727) on her doctoral dissertation – PH. D thesis " The impact of academic mobility on the knowledge economy in Israel is abroad". The research of Ms. Masri's analyzes made by professional process and include a literature review, analysis of economic situation, plans about future employment training, and analysis the data of Israel.

This thesis developing the conclusions and recommendations of the study attest to a correct understanding of the Israeli reality. I would like to confirm that the ideas and the recommends of the thesis are already implement in our organization until the June 2018.
We combine in our authority lectures, PH. D teachers, and engineers which graduate their high academic education out of Israel, and we success to bring them back to here.

In addition, we implement and adopt all the ideas and results of the thesis in our organization in occupational contexts and economic considerations.
We wish to Ms. Masri a big success with her high academic career.

Best Regards,
Dr' Ali Elhuzael
Manager of Education department
Rahat Municipality

ד"ר עלי אלהוזייל
מנהל אגף החינוך
עיריית רהט

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doc.בשורה C:\Users\Ali.Hozil\Desktop\

מועצה אזורית
אל-קסום
المجلس الإقليمي القيصوم

26.10.2017

For

Ulim University

International University of Moldova

As a representative of the Ministry of Labor and Economics, I would like to congratulate Ms. Masri (ID:056917727) on her doctoral dissertation – PH.D thesis
The impact of academic mobility on the knowledge economy in Israel is broad. The research of Ms. Masri's analyzes made by professional process and include a literature review, analysis of the economic situation, plans about future employment training, and analysis the data of Israel.
This thesis developing the conclusions and recommendations of the study attest to a correct understanding of the Israeli reality.
I would like to confirm that I will adopt the research thesis and to integrate the research ideas, results of the economic-theoretical model into the international labor programs of the Ministry of Economy and Labor of the province.

I would like to congratulate Ms. Masri for her work and wish her success in her future endeavors

בברכה,

בכרייה רפעת

מנהל השכלה קידום נוער

מנחה תכניות אגף שחר

ד"ר כבריה רפעת
מנהל השכלה קידום ונוער
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CERTIFICAT

de implementare a rezultatelor cercetărilor științifice
realizate în procesul de elaborare a tezei de doctor în științe economice cu tema **"International educational mobility in Israel as a factor for forming the knowledge economy (Mobilitatea educațională internațională în Israel ca factor pentru formarea economiei cunoașterii)"**.
Specialitatea 521.03 – Economie și management în domeniul de activitate,
autor **BUSHRA MASRI**

Prin prezenta, confirmăm, că rezultatele cercetării științifice obținute în cadrul tezei de doctorat **"International educational mobility in Israel as a factor for forming the knowledge economy (Mobilitatea educațională internațională în Israel ca factor pentru formarea economiei cunoașterii)"**, elaborate de BUSHRA MASRI au fost examinate, evaluate și preluate spre implementare de către Universitatea Liberă Internațională din Moldova în procesul didactic.

Menționăm, că elementele de valoare și originalitate științifică și aplicativă, dezvoltate în teza de doctorat, abordând domeniile mobilității educaționale, al economiei cunoașterii, al educației internaționale și-au găsit materializare, în special, în programele de studii ale: ciclului I licența, facultatea Științe Economice, specialitatea "Business si Administrare" și "Economie mondială și relații economice internaționale", luând în considerare specificul subiectului mobilității educaționale și aspectului său international.

Totodată, teza de doctorat dnei BUSHRA MASRI "International educational mobility in Israel as a factor for forming the knowledge economy (Mobilitatea educațională internațională în Israel ca factor pentru formarea economiei cunoașterii)" constituie un suport bibliographic important la elaborarea proiectelor de an, tezelor de licență, tezelor de master și a tezelor de doctorat cu tematica conectată la domeniul cercetării.

Prorector ULIM
Strategie Academică și Programe de Studii
Doctor în drept, conferențiar universitar **CAUIA Alexandr**

Annex 9

The advantage and disadvantage of policy and solutions for academic mobility and knowledge economy, by countries

country	Criterion	Information	Advantage	Disadvantage
Germany	**International Mechanism**	Governmental mechanism - operates Independently - **DAAD**	Managing academic mobility in a centralized and controlled manner	
	Initiatives pedagogic for internationalization	Developing programs for international students in **400** Academic Institutes	A variety of international programs throughout the country	In some institutions, German language is required
	Scholarship for Foreign Students	EU scholarships / discounts for non-European students	Fair tuition fees	Prestigious faculties - high tuition fees 10,000 – 12,000 Euros for Year
	Employment Opportunities	Employment opportunities during study, and after graduation	Possibility of migration	Brain – Drain in Country of origin
	Policy of Visas	Automatic student visa after admission to the institution	Fair process requirements	
	Level of Academic Institute	A high academic level in the world	Research funds and academic collaborations	
	Cost of Living	Average of 1500 Euros for Month	The average cost of living compared to a German citizen	
	International cooperation	Academic relations, and R & D with many countries	Connection to employment in the European Union and Germany	
Australia	**International Mechanism**	Independent **department** - with a government program "**Colombo Plan**"		The mechanism does not minimize the **outbound** mobility of Australians
	Initiatives pedagogic for internationalization	Diversity of Education with Higher Technology	**The third most popular destination** for international students	
	Scholarship for Foreign Students	possibility of scholarships for International students	International students from "poor" countries	
	Employment Opportunities	International Students are allowed to work up to 20 hours per week	Students combine employment and studies and contribute to industry, commerce and local service	**Brain – Drain** in Country of origin (India, China, Malesia)
	Policy of Visas	Automatic student visa after admission to the institution	Receive immediate approval visa after registration	
	Level of Academic Institute	High level of Academic Institute.	Schools and employers all over the world	

		Universities of top rank	recognize degrees from Australian schools.	
	Cost of Living	Living expenses and tuition costs are considerably lower in Australia than they are in the United States and United Kingdom.	Integration of employment and studies	
	International cooperation	Integration and cooperation with industry and employment sources in Australia		Because of the distance, cooperation is mainly regional, and less global
France	**International Mechanism**	Government Ministry department for international students	National Strategic for International Students	Political considerations that override professional considerations
	Initiatives pedagogic for internationalization	A network of 355 French institutions and research organizations, united within the Forum Campus France	**Innovative programs mainly in the medical, MA and Ph.D. Emphasis on enriching the country's knowledge economy (direction from internationalization)**	
	Scholarship for Foreign Students	There are scholarships for international students Most of the internationals go to the prestigious faculties Low tuition fees	Possibility of foreign students without financial ability	The prestigious faculties are very expensive
	Employment Opportunities	European students can integrate at work in France		Local workers deferred to promotion Priority for internationals
	Policy of Visas	Every international student has to get a visa for student.	Commitment to EU visa regulations	
	Level of Academic Institute	High level in most universities 355 institutes	Specialization in medical professions, Art, Engineer, Business	
	Cost of Living	Average cost of living (like western Europe)	The average of her life as in all of western Europe prosperity of academic tourism	2200 – 2500 Euros for Year High level of tuition fee
	International cooperation	International cooperation with popular institutes from Western of Europe, US, Canada.	France is the 4-high level with an international student	

Source: made by the author from sources [124, 158, 154, 162, 163]

RESPONSIBILITY STATEMENT

On my signature, I, Masri Bushra, declare my personal responsibility, which are presented in the materials doctoral thesis, are the results of my scientific studies, independent, and processing. I am aware that otherwise, I will carry the responsibility under the law in force.

Masri Bushra

_____

(signature)

Date: 10.01.2022

CURRICULUM VITAE – BUSHRA MASRI

Personal Information

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Nationality: Israel

Academic Education

2013 - Now Ph.D. thesis in Economic – Free international University of Moldova

2010-2012 M.A in Education – " Beit Berl college" – Kfar – Saba.

2001-2003 B.Ed. in management education – "Hachva" college.

Professional Education

1997- 2000 Training of a preschool teacher - certified for preschoolers – Kaye college

Employment History

2004 – Now Teacher & lecturer in High School for Deaf Students – "segev Shalom"

2009 – 2010 Supervisor of the Ministry of Education on kindergartens

1997- 2004 Teacher & lecturer in "Amal" High School

1977 – 1997 Kindergarten teacher in "Umm al-Fahm"

Personal Skills

- Ability for varied and interesting teaching
- Control of Office software
- Effective training ability and achieving results
- Ability to work in a multidisciplinary work team

Knowledge of languages

Hebrew – excellent – Mother Language Arabic – excellent – Mother language /English – good

List of Articles:

1. MASRI, Bushra. The necessity for "adult education" in the world of new labor force (case study in Israel). În: *Journal Scientific light*. Wroclaw, Polonia, 2017, vol. 1, nr. 11, pp. 17-19. ISSN 0548-7110.

2. MASRI, Bushra. The impact of the Bologna reform on the Arab students in Israel. În: *European Journal of Social Sciences studies*. București, România, 2017, vol. 2, pp. 211-215. ISSN 2501 – 8590.

3. MASRI, Bushra. The effect of knowledge economy on the phenomenon of brain drain. În: *Journal Scientific light*. Wroclaw, Polonia, 2017, vol. 1, nr. 8, pp. 44-47. ISSN 0548 – 7110.

4. MASRI, Bushra. The impact of the knowledge economy on the global employment status. În: *Scientific Journal – Fundamentalism scientism.* Madrid, Spania, 2017, pp. 4-6. ISSN 1817 – 5368.

5. MASRI, Bushra. The effort of the academic mobility on knowledge economy in the world. În: *European journal of social sciences studies*. București, România, 2017, vol. 2, pp. 211-215. ISSN 2501 – 8590.

6. MASRI, Bushra. The international factors of knowledge economy development in global world. În: *International Journal of Research in Business, Economics and Management.* India, 2017, vol.1, nr. 3, pp. 185-192. https://www.ijrbem.com/volume-1-issue-3-nov-dec-2017/.

7. MASRI, Bushra. The trends of international academic mobility in the world. International journal world – wide. În: *World Wide Journal of multidisciplinary research and development*. India, 2017, vol. 3(8), pp. 84-86. ISSN 2454 – 6615.

8. MASRI, Bushra. Changes and concussion in the global labor force (A brief look on the Israeli labor). În: *International Journal of Modern Research in Engineering & Management (IJMREM).* India, 2018, vol. 1, nr. 2, pp. 6-9. ISSN: 2581-4540.

9. MASRI, Bushra. Equal opportunities for higher education in Israel. În: *AL Arab Economic News Paper*, Nazareth, Israel, 2020, nr. 370, p 10. In Arabic language.

10. MASRI, Bushra, CROTENCO, Iuri. The neo – realistic approach in modern economic immigration policy. În: Revistă științifico-practică "Relaţii Internaţionale Plus", Nr.1 (17), 2020, Chișinău, IRIM, 2020, P.215-219, ISSN 1857-4440, Categoria B, 0,7 c.a.

11. MASRI, Bushra, CROTENCO, Irina, Research of the correlation between education and economic growth (the case of Israel & Moldova) În: Revistă științifico-practică "Vector European", Nr.1, 2021, Chișinău, Universitatea de Studii Europene din Moldova, 2021, P.84-90, ISSN 2345-1106, Categoria "C", 0,8 c.a.

12. MASRI, Bushra, CROTENCO, Irina, BALAN, Igor. Modern trends in the development of international education in the knowledge economy. În: Revistă științifică "EcoSoEn", nr. 1-2, 2021, Chișinău, Universitatea Liberă Internaţională din Moldova, 2021,.P. 52-58, ISSN 2587-344X, Categoria B, 0,7 c.a.

13. MASRI, Bushra, 21st century, the time lifelong learning (The case study in Israel). În: *Proceedings of international scientific conference "International Scientific Integration '2020", 9-10 noiem. 2020.* Seattle, Washington, USA: «ISE&E» & SWorld in conjunction with KindleDP, 2020, pp. 404-407. ISBN 979-8-5776002-6-6.

14. MASRI, Bushra. Educational Mobility international according to bologna agreement. În: *Materialele conferinței științifico-practice internaționale "Managementul politicilor de securitate ale Uniunii Europene în Europa de sud-est", 3 mai 2017.* Chișinău: IRIM, 2017, pp. 443-448. ISBN 978-9975-56-444-1.

15. MASRI, Bushra. Implementing globalization on the transition to knowledge economy in the labor market (A brief look on the Israeli Market). În: *Материалы международной научно-практической конференции «Стратегия устойчивого экономического развития и ее особенности на современном этапе эволюции мировой цивилизации», 24 нояб. 2017.* Chișinău: Universitatea Slavonă, 2018, pp. 173-176. ISBN 978-9975-117-41-8.

16. MASRI, Bushra. International mobility as a factor of knowledge economy. În: *Teze ale Conferinței științifico-practice internaționale "Probleme geopolitice și istorico-geografice ale Bazinului Mării Negre", 4 iun. 2019.* Chișinău: IRIM, 2019, pp. 230-233. ISBN 978-9975-3076-7-3.

List of academic conferences

1. Education for International Colture. By "MOFET Institiute", 21.1.2014 – Tel Aviv, Israel. **Confirmation without speech.**
2. Building the road to a Practice- Based Education - Doctorate in Israel. By the "MOFET Institute", 28.10.2014 – Tel Aviv - Israel.
   Confirmation without speech.
3. Management processes and academic education in the age of multiculturalism By the "MOFET Institute", 21.01.2015 – Tel Aviv - Israel.
   Confirmation without speech.

4. International Education in Israel. By Kinneret Coleege, 29.3.2016. Hemek – Hayarden, Israel. **Confirmation without speech.**
5. International Scientific Conference - MANAGEMENTUL POLITICILOR DE SECURITATE ALE UNIUNII EUROPENE ÎN EUROPA DE SUD-EST. Materialele Conferinţei ştiinţifico-practice internaţionale, 3 mai 2017. Chisinau, Moldova.
   Name of the speech - Educational Mobility international according to bologna agreement. In management of security policies of the European union in southeast Europe
6. International Scientific and Practical Conference. Third Edition "STRATEGY FOR SUSTAINABLE ECONOMIC DEVELOPMENT AND ITS PARTICULARITIES IN THE CURRENT STAGE THE EVOLUTION OF WORLD CIVILIZATION – VIII" International Scientific and Practical Conference, 24.11.2017 – Chisinau, Moldova.
   Name of the speech - Implementing globalization on the transition to knowledge economy in the labor market.
7. International Scientific CURRENT PROBLEMS OF CONTEMPORANIETY: RESEARCH SCIENTIFIC AND WAYS OF RESOLVING, 24-27 April, 2018. Slavona University, Chisinau, Moldova.
   Name of the speech - The influence of the academic mobility to the motivation for international academic studies.
8. International Scientific Conference - COMPETITIVITATE ŞI INOVARE ÎN ECONOMIA CUNOAŞTERII Ediţia a XXI-a 27-28 septembrie 2019. Chisinau, Moldova.
   Name of the speech - The Influence of Management Process of Academic Mobility On Knowledge Economic in The World.
9. Modern economics student symposium- International Conference **– ACTUAL PROBLEM & REALITY INNOVATION.** Free International University of Moldova, 26 of April, 2021, Chisinau, Moldova.
   Confirmation without speech.
10. International Conference - Round Table with Internal Participation: "Economic diplomacy of the European Union in the modern conditions of globalization". 16 of April, 2021.
    Confirmation without speech.