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GEMM PILOT PROJECT

"WORKING IN PARTNERSHIP TO BETTER MATCH SKILLS OFFER AND DEMAND IN THE SOUTH OF ISRAEL"

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February 2015

European Commission

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The project has been funded with support from the European Commission. This working document reflects the views of the author only. The Commission, the ETF or any other EU institutions, cannot be held responsible for any use which may be made of the information contained therein.

EXECUTIVE SUMMARY

Project Objectives

Alongside the many achievements of the Israeli economy in recent years, there are also quite a few weaknesses. High poverty rates, high inequality and low labour productivity are the main weaknesses of the Israeli economy in recent years. More than 30% of Israeli youth have an inadequate education that does not enable them to acquire a profession in the future.

Israel lacks midlevel professionals and therefore is often forced to export jobs or recruit workforce from overseas. There is a high demand for workers, especially in the industrial sector and construction industry.

Facing this image, the project aims to create implementable improvement plans for the TVET system in Israel, which hopefully can bring change to this situation. The three major cities of the southern district of Israel – Ashdod, Be'er Sheva and Ashkelon – were chosen as a pilot for this project.

Main Findings

The socio-economic situation in the South of Israel

- In 2014 there were 1,180,400 residents in the Southern District of Israel in 307,912 households.
- The Southern District consists about 14.4% of the population in Israel.
- In the three major cities of the district – Ashdod, Be'er Sheva and Ashkelon, there were 542,500 residents.
- The poverty rate of the Jewish population in the southern district is 3.4 percentage points higher than the national Jewish poverty rate.
- The Southern cities have a 69%-90% higher proportion of immigrants and apart from Ashkelon, a more negative migration balance than of average Israeli municipalities.
- In the Southern District 6.9% of the labour force are unemployed, compared to 5.9% in Israel in total, featuring relatively high unemployment rates in technical and traditional industries.
- 61.6% of people aged 15 and above living in the Southern District are part of the labour force, 2.6 percentage points lower than the national average.
- Salaried Employees in Ashdod, Ashkelon and Be'er Sheva earned 9.4%, 15.1% and 7.6% less than the national average, respectively.
- The self-employed in Ashdod, Ashkelon and Be'er Sheva have an income lower by 4.5%-12.3% than the national average.

Labour market review

- The southern district has the highest rate of employment in jobs that do not require higher education, and in jobs that require professional training other than higher education.
- The southern district has the highest rate of vacancies that do not require higher education, and the second highest rate of vacancies that require professional training other than higher education.

- The Southern District has the highest rate of businesses in the industries of Water supply, sewerage and waste management; and Transportation, storage, postal and courier activities.

- The South of Israel has the highest rate of business births out of all active businesses.

The Israeli Education System

- In the past four years there has been a very slight increase in the National expenditure on education as a percentage of GDP, but still far from its peak in 1996. The expenditure rate is now at the same level it was 25 years ago. According to OECD data, between the years 1995-2011, while the level of the OECD national expenditure on education average as a percentage of GDP increased by 14.9%, a decrease of 7.1% occurred in Israel.

- From 1970 to 2014, there was a significant increase in the rate of pupils in Ultra-Orthodox high-schools (654.4%). Accordingly, a decrease of the rate of pupils attending State and State-Religious high-schools have occurred (-20.8% and -22.4% respectively).

- From 1995 to 2013, an increase marked both in the rate of pupils who take the matriculations exams (rise of 16.1 percentage points) and in the eligibility rate (rise of 14 percentage points in relation to all 17 year olds and of 5 percentage points in relation to all examinees).

- In 1998-2013: The rate of pupils in the Technological-Vocational education track increased (4.7 percentage points), while the rate of pupils in the general track remained in a relatively same level.

- In the 2014/2015 school-year, 39.3% of all the pupils in grades 10-12 studied in the technological-scientific or vocational tracks, 166,910 pupils. 152,575 pupils studies under the supervision of the Ministry of Education and 14,335 pupils under the Ministry of Economy.

- More than 75% of the state (non-religious) supervised schools in the pilot cities Ashdod, Be'er Sheva and Ashkelon, offer TVET tracks. From the schools which offer TVET tracks, about 62% offer only technological-scientific programs, about 21% of the schools offer only vocational tracks, and only 17% offer both tracks.

Views of Educational Staff

Due to lack of resources, the views of the educational staff as well as those of the industrialists, business owners and managers were collected by questionnaires. The population was not a representative sample and was not approached in accordance with the statistical standards. However, in this document, the results are mainly presented in numerical terms in order to convey the information clearly. More about the analysis method can be read in the methodology section, on page 12.

- Approximately 72% of the educational staff indicate that businesses do not take part at all or a very low part in designing curricula of the scientific-technological and professional courses.

- Approximately 76% indicate they receive between none and moderate relevant training for teachers and principals.

- Approximately 73% indicate the level of courses is not sufficient enough to integrate the pupils into the labour market. And Approximately 80% indicate the pupils get between none to moderate practical experience for the labour market.

- Approximately 71% indicate the pupils and graduates are between not at all and moderately employed according to their professions.

- Approximately 64% indicate the existence of a gender gap in professional and technological courses. Among those who indicated the existence of a gender gap, about 78% believe there should be investment of resources in order to reduce the gap.

- The respondents think that the best way to integrate into the labour market is through experience in working with professionals and experts in the field (39%), relationships and networking with relevant people (27%), broad theoretical knowledge (22%) and independent experience in actual work (12%).

- Over 56% of the respondents indicate the financing of professional and technological courses is not high enough in order to receive proper training. The average answer to the way the funding should be distributed is that 43% of the funding should come from the government, 34% from the employers and 23% from the pupils (in the form of unpaid internship outside of school hours).

- In the eyes of the educational staff, Hi-tech production professions have the highest demand, followed by computer professions and Medium-Hi-tech production professions. In addition, Hi-tech production professions will continue to have the highest level of demand in the near future, followed by ICT and electricity professions.

Views of Industrialists, Business Owners and Managers

- 70% of the respondents indicated that none of the hired employees received any prior relevant training.

- Almost 60% of the respondents indicated that their business invested very greatly in training of hired employees.

- 92% indicated that they do not employ any or very few pupils or graduates of technical-professional education.

- All of the respondents indicated that their business does not take part at all in designing curricula in the various institutions of professional training. However, all of them think they should take part, some moderately and some very greatly.

- 40% of the respondents are not willing to combine training of pupils in their businesses, 40% are moderately willing and 20% greatly or very greatly willing.

- Only 37.5% indicate there is a gender gap in their business. However, they do not believe that resources should be invested in closing the gap.

Conclusions of the analysis

The Southern District (and Southern cities) is poorer, consists of more immigrants, has a higher rate of unemployment and has a lower income than the national average.

There is a great demand in the Southern District for skilled workers who have relevant professional training, other than higher academic education.

The educational staffs indicate very low cooperation with businesses and factories, a low level of appreciation of the level of the courses, the extent and level of their training and a very limited use of VET graduates by employers.

The views of industrialists, business owners and managers roughly match those of the educational staff. They indicate hiring of many under qualified workers and consequently their need to invest many resources for their training. They have a very low involvement in designing curricula or in active training in the TVET institutions.

Concerning the gender gap in the TVET system, while the educational staffs indicate a large gender gap that should be repaired, business-owners do not think there is a gap, or think that the gap is due to physical differences.

Main Achievements of the project

There were two main accomplishments achieved in this pilot project:

- Building the capacity of stakeholders involved in the project. Establishing a well-functioning dynamic of the national committee, which hopefully will lead to further cooperation in promoting vocational training in the South, and in Israel as a whole. The private sector, through the Manufacturers Association of Israel has been more involved of its role in designing the curricula and taking a more active role in the actual training. This has been done in the framework of the national committee and through additional activities of informing relevant HR managers of the ways they can contribute to the cause. Moreover, contacts between relevant actors have been established, which can have great importance to continuing the necessary dialogue between the partners.

- Better understanding of skills matching needs in the South of Israel with emphasis on vocational education for youth, based on the analysis, in order to improve sustainable employability of the population in the South of Israel and of youth in this area in particular.

Recommendations

The results indicate disparities between the labour market demand and the ability of the TVET system to meet the demand. The following recommendations are aimed to address the issue both on the demand side and on the supply side.

- **Investment in soft skills acquisition:** These skills can be divided into two major categories: practical soft skills (e.g. language skills, computer skills, social networks skills, mathematical abilities and basic financial skills) and emotional / social soft skills (e.g. resume writing and preparation for job interviews, team work skills, interpersonal skills and life skills).

- **Strategies for reducing gaps by increasing productivity:** The introduction of advanced production methods and an increase in capital per worker (physical and human) will lead to a higher marginal productivity of employees, higher average salaries and thus an increase in the quality of living.

- **Investment in R&D in Traditional Industries:** If the government will divert half of its expenditure on R&D allocated to universities and to the promotion of industrial technology, about 3 billion NIS, to traditional industries, who have higher growth potential it could have a significant impact on economic growth and reducing social disparities. In addition, it is recommended to establish regional R&D centres, in order to provide more support to small businesses and self-employed who employ about 60% of the workforce.

- **Supply and demand mismatch:** creating a feedback mechanism which should consist of three key components: regularly updating of new information and data regarding the labour market, sharing representatives of the business sector and the industrialists in decisions about opening and closing courses of study and designing of curricula of existing courses and strengthening the partnership with the business sector. This can be achieved, among others by the creation of a sophisticated model that will facilitate the allocation of workers to open positions and by creating a framework in which business representatives take an active part in training both in the schools and in the workplaces.
- **Strengthening the partnership between the private sector and trade unions** in order to increase the integration of graduates in the industry, while ensuring the professional training of

the employees during their on-going work as determined in the collective agreements of various unions (for example, the union of Construction and Wood Workers, the Engineers Union and the Technicians and Practical Engineers Union).

- **Establishment of a fund**, together with employer associations, trade unions and the government, **to promote TVET** in accordance with the trends in the labour market.

- **Building a model for career development for a TVET pupil, starting from high school to the military service and up to working in the industry and the economy**.

- **Creating continuous information:** carry out a periodical survey among graduates of the TVET system detailing what was their main specialty in school and where they are currently working. The IDF should also be included in such a survey because an organization of this size can be used as a lever of professional development and experience for the industry.

Resources

- **Insufficient professional level:** can be repaired by allocating resources in several different paths: increasing training courses and seminars for the educational staff, recruiting high quality personnel to the TVET system, investing in more modern equipment in the classrooms witch is suitable to the latest technologies and providing financial incentives for businesses and factories which participate in the process of vocational training of pupils.

- **Poor image:** creating a system of high quality certificates with international recognition in the TVET system can somewhat help improve the image. Other measures that can be used to increase the attractiveness is investing in the visibility of the schools, i.e. making them more modern, both in the designing as well as in more up-to-date training aids. In addition, there is a need to invest in marketing and branding, among others, by highlighting the high level of earning potential of professions in the traditional industries and to consider an annual compensation of government employees in traditional industries (remuneration similar to the "preferred work" remuneration that exists among discharged soldiers).

Future Prospects

- **Expansion of project to other regions:** There other regions in Israel which are lagging behind when it comes to the TVET system and matching supply and demand in the labour market (e.g. the Central and Northern periphery of Israel).

- **Promotion and dissemination of the project at a national level.**

- **Strengthening the partnership with the business sector** and the creation of a sophisticated model that will facilitate the allocation of workers to open positions.

PROJECT OBJECTIVES AND PARTNERS

Main Objectives of the Project

1. Identify and modify or develop a suitable forecasting model (instruments, processes and procedures) for better skills matching in the South of Israel with emphasis on vocational education for youth and specific attention to gender equality, based on the analysis and the local needs assessment to be performed in order to improve sustainable employability of the population in the South of Israel and of youth in this area in particular.

2. Build the capacity of stakeholders involved in the project related to the activities that are mentioned below and the objectives mentioned above.

3. Systematize and analyse an information feedback mechanism in the areas of consultation, identify the needs of local stakeholders and promote real dynamics within these spaces.

Specific Project Objectives

1.1 Conduct a quantitative economic analysis of the South of Israel: Ashkelon, Be'er Sheva and Ashdod area. Including, among others, sectors of the economy, labour supply and demand, number of employees by industry, value Added to GDP, GDP per employee and work integration among vocational training graduates.

1.2 Enhance and update existing and available prediction models for required professions in the South of Israel.

1.3 Conduct an in-depth analysis of vocational training institutions in the south of Israel: Creating a profile of the average pupil (age, sex, socio-economic background, religion etc.), Which professions have the highest amount of pupils, which have the highest demand and quality of Teachers.

2.1 Facilitate stakeholders: to express their needs; to exchange experiences that work well; to analyse, reflect on and evaluate the emerging outcomes of the project; to dialogue, negotiate and agree on joint actions that need to be taken; to gain knowledge and know-how related to school-enterprise partnerships; to effectively contribute to and/or make best use of supply-demand data for the enhancement of VET; to analyse the forecasting model under consideration of the needs of the relevant social partners.

2.2 Taking into consideration the trans-national dimension of the GEMM project by learning from the experience of other countries as well as sharing our conclusions in a trans-national level.

3.1 Develop strategies for which actors from the industry and the business sector will form a key part of the process of vocational training in the south of Israel, in forms of apprenticeships, sharing expertise etc.

3.2 Organize a systematic information feedback mechanism based on a skills needs analysis model in order to promote greater adequacy of the training / employment.

3.3 Important step for future research (not to be performed in this phase): Offer an economic stimulus package to prevent the departure of vocational training graduates from the South of Israel.

Coordinator and Project Partners

The project was coordinated and managed by a Local Facilitator – Dr. Roby Nathanson, Director General of the Macro Center for Political Economics – in close collaboration with the ETF and with active participation and involvement of:

-The Vocational Training Division in the Ministry of Economy

-The Ministry of Education

-The two main educational networks of schools and colleges who practice TVET programs in Israel – ORT Israel and Amal Group.

-The Histadrut – the General Federation of Labour in Israel

-The Manufacturers Association of Israel (MAI)

-School managers of several main educational institutes in the South of Israel.

-Municipal Authorities

-The Central Bureau of Statistics (CBS)

These partners assisted in defining the support area and economic sectors, collecting the information and its diffusion, providing insights on relevant topics and sharing their experience and expertise. They have also supported the project in establishing links with businesses and vocational education institutions and in understanding the needs of the labour market.

Furthermore, the pilot project is part of the GEMM program that works on a regional level with the Countries in the Southern and Eastern Mediterranean (SEMED) region. It has benefited from offering and exchanging ideas on many topics and experiences with the other GEMM countries. The common fields have been: the assessment of the labour market's needs in term of skills and human resources, vocational training policies and strategies for their implementation.

METHODOLOGY

The Local Labour Market Analysis and the Analysis of Local Technical and Vocational Education System

In this report, several data sources and methods were used in order to formulate an as accurate as possible picture of the socio-economic and educational situation in the pilot project area, and to correctly comprehend the balance and trends of supply and demand in the area and the ways the TVET system can support an improvement of the current condition. Data sources were comprised mostly of governmental data and statistics: the Ministry of Finance (including budget data), the Ministry of Economy, the Ministry of Education and the Ministry of Aliyah and Immigrant Absorption. Moreover, information was collected from databases of the Central Bureau of Statistics (CBS), the National Insurance Institute of Israel, the Council for Higher Education, the three relevant municipalities (Ashdod, Be'er Sheva and Ashkelon) and several school networks (Ort, Amal, Branco Weiss).

The data used was the most recent available. In some sections, where there was no available official data on the chosen municipalities, the data is presented for the entire southern region as a whole, e.g., the poverty rate table which shows a comparison between the regions.

This report is structured as “a shift from the problem to the possible solutions". First, the present situation which is in the need for change and improvement ("The current socio-economic situation in the South of Israel" and the "Labour market review" sections) is revealed. Next, the structure of the education system and the existing TVET tracks ("Institutional framework" and "TVET institutions and government policy") were reviewed. The degree of success in meeting the existing needs in light of the socio-economic condition was examined according to the views of main actors that operate in the field or those familiar with the Israeli TVET system and its results (i.e. Members of the national committee and questionnaire respondents, both educational staff and employers). As a result, the views of the main actors operating in the TVET field were cross-referenced with the most severe challenges facing the labour market in the south of Israel, as indicated from the data. And finally, several recommendations for improving the TVET system and the skills matching of offer and demand in the south of Israel were formulated.

The characteristics analysed:

The current socio-economic situation in the South of Israel

The goal of this section is to accurately display the current socio-economic situation in the South of Israel. Thus far, a number of key indicators were introduced, sorted by district and / or the chosen pilot cities (Ashdod, Be'er Sheva and Ashkelon): characteristics of the population and migration rates, labour force participation and unemployment rates, average wages and income and poverty rates.

The data regarding these indicators was gathered from the CBS, the National Insurance Institute of Israel and the Ministry of Aliyah and Immigrant Absorption databases.

Labour market review

In this section, the labour market condition in southern Israel was reviewed. This complements the goal of the previous characteristic, and allows one to begin to understand the existing needs of the labour market, which the TVET systems fail to meet. In general, throughout the process, the data regarding the professions which are relevant for the TVET system was emphasized. Several fields were examined: Employment distribution by industry, district and the type of professional training the position requires; Business distribution and business birth rate by industry and district; and Job vacancies distribution by the professional training the position requires.

In order to form a proper picture of the supply and demand of labour in the pilot project area in the context of professional training, the employment and vacancies distribution by profession in the relevant region were examined, characterizing the different professions by training or education requirements and distinguishing them from those without any prior requirements, i.e. jobs that require academic education; jobs that require professional training other than academic education; jobs that do not require professional training nor academic education; and jobs that cannot be categorized. Then, the vacancies and the employment rate of the different professions were summed up according to their group.

The data for this section was retrieved from the CBS and the Ministry of Economy databases.

Institutional framework

The goal of this section is to understand the structure and the main components of the diverse Israeli education system, the scope of the TVET tracks within, and the on-going educational trends (in terms of the changes of the rate of pupils in the various educational tracks, the change in the matriculation entitlement rate, etc.).

Information and data about the Israeli education system and its structure, focusing on the TVET tracks, the different programs implemented by various institutions and operators, their scope in the national education scale and the range of professions offered, were found in the databases of the CBS, Ministry of Education, Ministry of Economy, Ministry of Finance, the Council for Higher Education and several school networks sources of information.

TVET institutions and government policy

In this section, the vocational schools in the Southern district of Israel were identified using information from the Ministry of Education and the Ministry of Economy and using the final report from the prior phase of the GEMM project “Mapping and Analysis of VET Governance in Israel”.

In the later steps of the project, more in-depth information which also concerns internal processes in TVET institutions and tracks and in businesses has been collected.

This was done by retrieving information which is unavailable to the public through the main stakeholders of the project – School principals and teachers and Managers from the industry, via questionnaires.

Questionnaires

In order to formulate an understanding of the essential needs and major problems of the TVET system in the South of Israel, as well as to identify the real potential of the TVET system in the different industries in order to help provide the skills required for the economy's necessities, two types of questionnaires were distributed (see enclosed annex). Both senior industrialists and heads of educational institutions, completed a comprehensive questionnaire, including questions regarding various issues of matching skills offer and demand (e.g. industry involvement in curriculum development, compatibility of programmes with labour market needs, available teacher training, gender gap, etc.). 40 educational staff members from schools in the Southern District and 12 business owners, managers and industrialists responded to the questionnaire. The purpose of the questionnaires was to get an indication of the different characteristics of the TVET system in the South of Israel and of the businesses and organizations which are supposed to take in its pupils and graduates. The educational staffs were approached through the network of members of the national committee and the employers were approached through the Manufacturers Association of Israel (some through a mailing list and some approached directly by Dr. Roby Nathanson in an organized event).

The results were analysed in a qualitative approach, due to lack of resources. The population was not a representative sample and was not approached in accordance with the standards of statistical surveys. However, in this document, the results are mainly presented in numerical terms and figures in order to convey the information clearly.

CAPACITY BUILDING AND DEVELOPMENT

Capacity Development Plan for the Pilot Schools

Following the completion of the analysis of the supply and demand in the labour market in the South of Israel, we will examine the suitability and recommend up to three institutions to carry out a pilot study based on the following terms:

1. The willingness of the school principals to commit to such a program.
2. Relying on the existing basis. Choosing Schools which already have courses of study in subjects of professions in which there is a shortage of workers.
3. The geographical proximity of the school to relevant industrial plants and businesses and the level of motivation among employers to participate in the pilot.

Capacity Building Plan for the Stakeholders of the Pilot Project

The focus areas planned to exist in the framework of the project were based on the interaction between relevant sectors of the business sector i.e. main employers, experienced workers, top industrialists, IDF representatives etc.; and VET related supervisors, teachers and managers. The main objective was to get a better picture of the supply and demand in the labour market in a way that the pilot project can be successfully implemented in the future.

In order to achieve that goal, we have conducted several meetings of the full panel of the national committee, as well as smaller panels and bilateral meetings, all of which were designed in order to better understand the situation on the ground, and for further consultation regarding the different phases of the project.

THE SOCIO-ECONOMIC SITUATION IN SOUTHERN ISRAEL

The Population in Israel

According to data from the Central Bureau of Statistics (CBS), in 2014 there were 1,180,400 residents in the Southern District of Israel in 307,912 households, consisting about 14.4% of the population in Israel. In the three major cities of the district – Ashdod, Be'er Sheva and Ashkelon, there were 542,500 residents.

Table 1 – The Israeli Population, by Age and District (thousands), 2014

	All ages	Ages 5-19	Ages 20-64
Northern District	1,350.0	378.5	731.7
Haifa District	959.3	219.6	529.5
Central District	2,000.4	491.7	1,089.6
Tel Aviv District	1,340.6	255.2	763.5
Jerusalem District	1,021.3	317.2	488.2
Judea and Samaria	363.6	124.7	163.7
Southern District	1,180.4	321.4	608.9
Ashdod	217.2	53.8	113.7
Be'er Sheva	200.2	41.3	113.7
Ashkelon	125.1	25.9	70.1
Israel – Total	**8,215.7**	**2,108.2**	**4,375.2**

Source: CBS

Migration

As of 2013, the rate of 1990+ immigrants was 69%-90% higher than in other cities. Regarding the migration balance, Ashkelon has a positive migration balance, while Ashdod and Be'er Sheva have a negative one.

Table 2 – Migration to the Three Major Cities of Southern Israel, by City and Country of Origin, 2013

		Ashdod	Ashkelon	Be'er Sheva	All Cities in Israel
	1990+ immigrants of total population	30.1%	29.7%	26.7%	**15.8%**
Origin*	Former USSR	80.5%	84.7%	86.0%	75.4%
	Ethiopia	4.7%	5.7%	4.7%	6.0%
	France	6.6%	2.4%	0.7%	3.6%
	USA	0.8%	0.5%	0.8%	4.6%
	Argentina	1.8%	1.8%	2.9%	1.9%
	Other	5.5%	4.8%	4.9%	8.5%
	Migration balance - Total	-1,730	2,120	-329	**5,240**

	Ashdod	Ashkelon	Be'er Sheva	All Cities in Israel
Migration balance - Total (%)	-0.80%	1.72%	-0.17%	**0.09%**
Transferring from other localities - Age 30-64	1,398	1,788	1,624	**73,991**
Transferring to other localities - Age 30-64	2,120	1,016	2,032	**80,052**
Internal migration balance - Age 30-64	-722	772	-408	**-6,061**
Internal migration balance - Age 30-64 (%)	-0.86%	1.51%	-0.49%	**-0.25%**

* Ruppin academic center, 2012 (from the Ministry of Aliyah and Immigrant Absorption database).
Source: CBS

Labour Force Participation and Unemployment

As of 2014, 61.6% of the population aged 15 and above living in the Southern District is part of the labour force, 2.6 percentage points lower than the national average. 6.9% of the labour force is unemployed, compared to 5.9% in Israel in total.

Table 3 – Labour Force Participation and Unemployment in the Southern District and its Three Major Cities, 2014

Labour force and unemployed	Labour force (% of population aged 15 and over)	Unemployed (% of labour force)
Total	64.2	5.9
Southern District	61.6	6.9
Ashdod*	64.5	6.5
Be'er Sheva*	65.6	7.1
Ashkelon*	66.5	6.7

* 2013 data.
Source: CBS

Average Wage and Income

As of 2013, Salaried Employees in Ashdod, Ashkelon and Be'er Sheva earned 9.4%, 15.1% and 7.6% **less** than the national average, respectively. In addition, the rate of employees who earn up to the minimum wage is 1.8-4.2 percentage points higher than the national average. The self-employed in Ashdod, Ashkelon and Be'er Sheva have an income lower by 4.5%-12.3% than the national average and between 1.6-4.7 percentage points more earn up to half the average wage.

Table 4 – Average Wage and Income (NIS), by Gender and City, 2013

	Salaried Employees				Self-employed	
	Average monthly salary			Percentage earning up to minimum wage	Average monthly income	Percentage earning up to half the average wage
	Men	Women	Total			
Ashdod	9,367	5,677	7,474	39.8	8,293	45.0
Ashkelon	8,734	5,350	6,998	42.2	8,638	43.7
Be'er Sheva	9,292	6,068	7,621	40.1	9,034	41.9
National Average	**9,651**	**6,349**	**8,018**	**38.0**	**9,458**	**40.3**

Source: National Insurance Institute

Incidence of Poverty

Among the OECD countries, Israel is second only to Mexico in poverty rates within the country. 7.1% of the members of families with two or more earners in Israel are below the poverty line.

Israel is ranked 4th from the bottom in the index of income inequality - the Gini index.

According to data from the National Insurance Institute of Israel (NIII), in 2014 the incidence of poverty (families, persons & children) in the Southern District was only slightly higher than the national average. However, due to practical reasons, the Bedouin population in the South, characterized by high rate of poverty, was not included in survey. The findings reflect a large divergence between Arabs and Haredi (ultra-Orthodox) Jews on one hand, and the rest of the population on the other. Among the Jewish population, the Southern District has the second highest poverty rate (second only to the Jerusalem District which has a high percentage of ultra-Orthodox population who are known for their high poverty rates). In spite of the considerable improvement in the situation of the Arabs, poverty among Arab families in the country as a whole remains at almost 3.5 times the rate among Jewish families and due to the fact that there are very few Arabs (non-Bedouin) who live in the Southern District, the poverty there is lower than the national average.

Table 5 – Poverty Rate, by District and Religion, 2013

				Jewish Population			Arab Population		
	Families	Persons	Children	Families	Persons	Children	Families	Persons	Children
Jerusalem District	35.1%	46.1%	57.0%	21.0%	28.5%	40.9%	76.1%	79.5%	84.0%
Northern District	30.2%	32.3%	41.6%	15.5%	13.7%	17.0%	46.5%	46.9%	56.8%
Haifa District	17.2%	18.4%	25.1%	11.8%	11.8%	15.6%	37.7%	34.4%	40.5%
Central District	11.6%	12.7%	17.8%	8.9%	9.2%	12.3%	43.4%	46.7%	61.7%
Tel Aviv District	10.1%	11.6%	18.3%	9.9%	11.4%	17.8%	15.7%	18.4%	38.9%
Southern District	19.5%	17.6%	23.3%	18.8%	17.2%	23.2%	-	-	-
Total	18.8%	22.0%	31.0%	13.4%	14.8%	21.7%	48.1%	50.6%	60.7%

Source: National Insurance Institute

LABOUR MARKET REVIEW

Employment Distribution by Industry and District

CBS data from 2014 show that the Southern District featured relatively high employment rates in technical and traditional industries, i.e. the rate of employment in the industries of: manufacturing, mining and quarrying; agriculture, forestry and fishing; and electricity supply are higher in the Southern District and its three major cities compared to the average national employment rate in these industries.

Table 6 – Employed Persons, by Industry and District, 2014

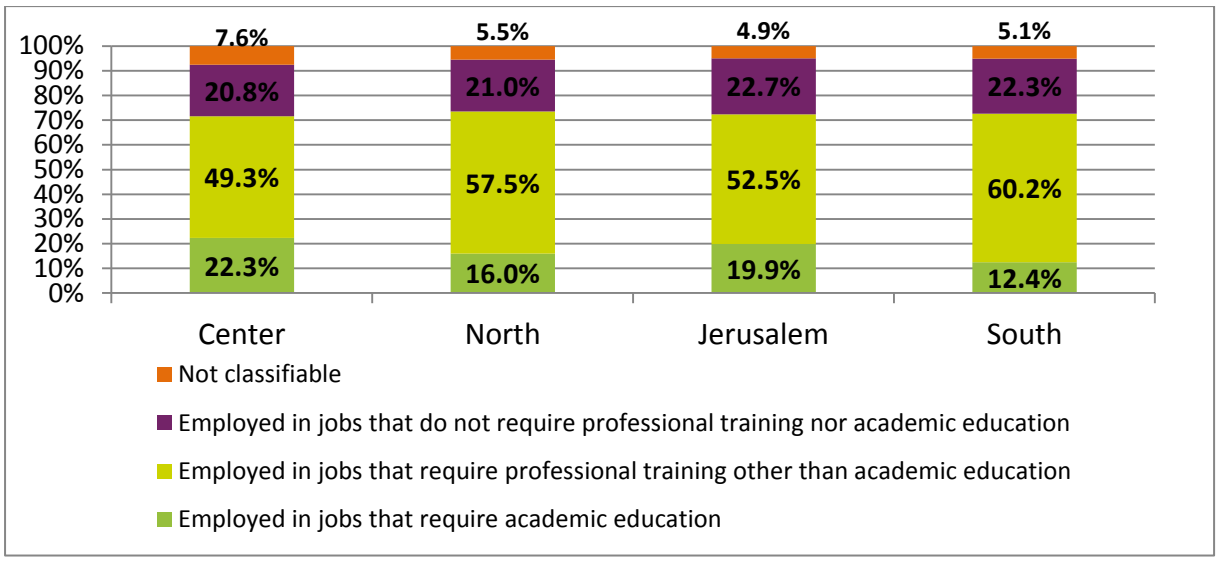
Industry	Total employment rate (%)	Employment rate by district (%)								
		South	Ashdod	Be'er Sheva	Ashkelon	Jerusalem	Center	Tel Aviv	Haifa	North
Agriculture, forestry and fishing	1.3	2.4	-	3.2	1.6	0.2	0.7	0.1	1.1	3.1
Manufacturing, mining and quarrying	12.1	15.2	17.6	12.6	18.1	6.4	11.2	7.6	15.8	18.0
Electricity supply	0.5	0.7	1.0	0.3	1.2	0.4	0.3	0.3	1.1	0.3
Water supply, sewerage and waste management	0.5	0.6	0.6	0.5	0.6	0.5	0.3	0.3	0.4	0.6
Construction	4.9	4.6	3.3	4.7	4.5	4.6	3.9	2.7	5.6	10.1
Wholesale and retail trade and repair of motor vehicles	11.9	11.1	13.2	10.2	12.0	11.3	12.9	11.8	11.2	10.8
Transportation, storage, postal and courier activities	4.3	5.0	6.6	4.3	5.7	4.9	4.6	3.7	4.2	3.5
Accommodation and food services activities	4.4	4.6	3.7	5.5	3.6	5.2	4.1	5.3	3.6	4.0
Information and communication	4.9	3.1	4.3	3.0	3.2	3.7	6.3	8.0	3.8	2.2
Financial and insurance activities	3.5	1.8	2.9	1.2	2.3	2.2	4.7	6.6	2.5	1.4
Real estate activities	0.8	0.5	0.5	0.5	0.5	0.6	1.0	1.4	0.7	0.4
Professional, scientific and technical activities	7.0	4.5	5.6	4.3	4.8	5.4	8.0	11.2	6.7	4.8
Administrative and support service activities	4.4	4.6	4.4	4.4	4.8	5.1	3.8	4.1	4.7	3.5

Industry	Total employment rate (%)	Employment rate by district (%)								
		South	Ashdod	Be'er Sheva	Ashkelon	Jerusalem	Center	Tel Aviv	Haifa	North
Local, public and defence administration and social security	10.7	11.8	8.0	13.5	10.0	11.1	11.1	8.5	9.1	10.7
Education	12.2	13.4	10.9	15.0	11.6	17.6	10.7	9.7	12.1	12.5
Human health and social work activities	10.4	11.2	9.4	11.4	10.9	12.4	10.3	10.1	12.4	9.8
Arts, entertainment and recreation	1.8	1.4	1.6	1.6	1.2	2.5	1.7	3.2	1.5	1.0
Other services activities	2.6	2.4	3.3	2.6	2.2	4.0	2.4	2.4	2.0	2.4
Households as employers	1.9	1.1	1.0	1.1	1.1	2.1	2.2	3.0	1.7	0.7
Total (thousands)	**3,555.8**	**470.0**	**95.6**	**243.7**	**226.3**	**326.5**	**976.0**	**686.1**	**432.13**	**527.0**

Source: CBS

The southern district has the highest rate of employment in jobs that require professional training other than higher education.

Figure 1 – Employed Persons, by Type of Professional Training their Job Requires, 2013



Source: Ministry of Economy

Business Distribution

The Southern District has the highest rate of businesses in the industries of Water supply, sewerage and waste management; and Transportation, storage, postal and courier activities. In the industries: Agriculture, forestry and fishing; Manufacturing, mining and quarrying; Construction; Accommodation and food services activities; and other services activities, the Southern District has the second highest rate.

Table 7 – Businesses, by Industry and District, 2014

Industry	District											
	South		North		Haifa		Center		Tel Aviv		Jerusalem	
	Total active business	% of total businesses	Total active business	% of total businesses	Total active business	% of total businesses	Total active business	% of total businesses	Total active business	% of total businesses	Total active business	% of total businesses
Total	**51,192**	**100%**	**75,052**	**100.0%**	**59,179**	**100.0%**	**144,036**	**100.0%**	**142,780**	**100.0%**	**45,787**	**100.0%**
Agriculture, forestry and fishing	3,384	6.6%	6,008	8.0%	1,068	1.8%	2,935	2.0%	266	0.2%	394	0.9%
Manufacturing, mining and quarrying	2,396	4.7%	4,260	5.7%	2,985	5.0%	6,064	4.2%	6,098	4.3%	1,647	3.6%
Water supply, sewerage and waste management	190	0.4%	337	0.4%	153	0.3%	325	0.2%	186	0.1%	50	0.1%
Construction	6,640	13.0%	11,985	16.0%	6,928	11.7%	14,921	10.4%	8,689	6.1%	4,172	9.1%
Wholesale and retail trade and repair of motor vehicles	9,219	18.0%	15,366	20.5%	11,267	19.0%	23,857	16.6%	22,988	16.1%	8,083	17.7%
Transportation, storage, postal and courier activities	5,268	10.3%	5,058	6.7%	3,326	5.6%	9,608	6.7%	7,429	5.2%	4,310	9.4%
Accommodation and food services activities	2,840	5.5%	4,697	6.3%	2,710	4.6%	5,257	3.6%	5,743	4.0%	2,189	4.8%
Information and communication	802	1.6%	1,110	1.5%	1,659	2.8%	6,612	4.6%	8,439	5.9%	1,459	3.2%
Professional, scientific and technical activities	770	1.5%	1,183	1.6%	1,490	2.5%	3,780	2.6%	5,068	3.5%	951	2.1%
Other services activities	2,813	5.5%	2,484	3.3%	3,134	5.3%	8,495	5.9%	11,963	8.4%	2,620	5.7%
Total	6,133	12.0%	9,323	12.4%	11,087	18.7%	28,882	20.1%	34,178	23.9%	7,710	16.8%

Source: CBS

Business Births Rate

The Southern District has the highest percentage of business births[1] out of all active businesses (10.3%), compared to other districts. In the industries: Water supply, sewerage and waste management; Accommodation and food services activities; Information and communication; Professional, scientific and technical activities; other services activities, the Southern District has the highest business birth rate. In the industries: Agriculture, forestry and fishing; Manufacturing, mining and quarrying; and Construction, the Southern District has the second highest business birth rate. This data emphasizes the growth potential in this region, mainly in the technological and traditional industries.

[1] The "birth" of a business is defined as occurring in businesses that were among the population of active businesses (i.e., businesses that had VAT reports or employee reports) in the year "t" (e.g., 2014 = t), but were not among this population in the year "t-1" (e.g., 2013) and in "t-2" (e.g., 2012).

Table 8 – Business Birth Rate of all Active Businesses (%), by Industry, 2014

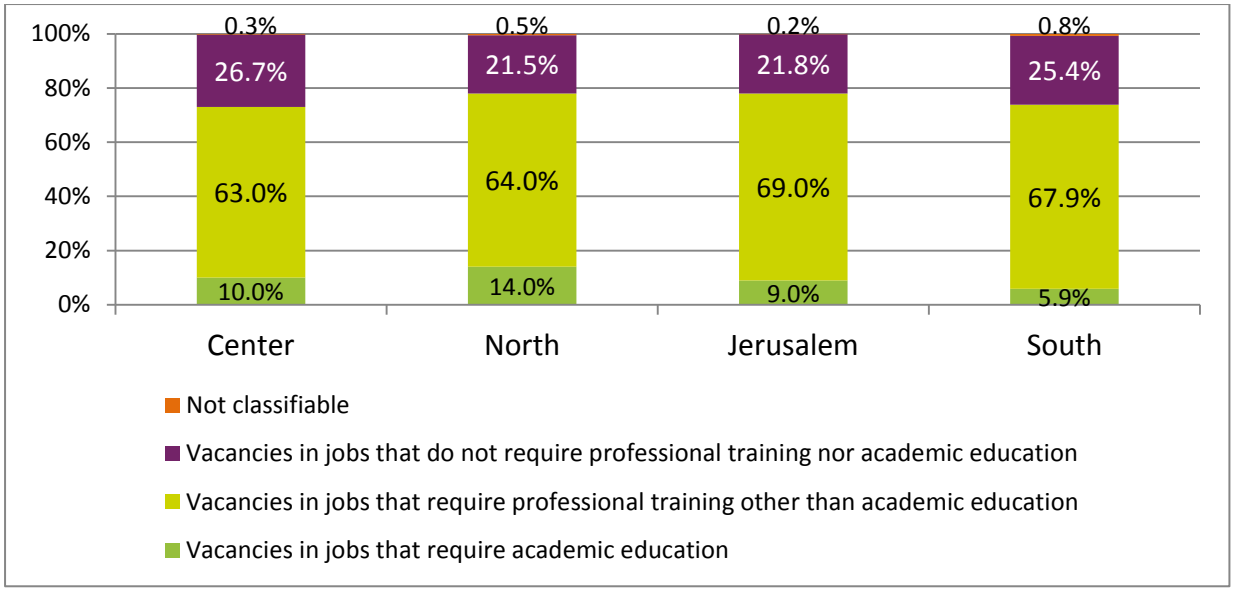
Industry	District					
	South	North	Haifa	Center	Tel Aviv	Jerusalem
Total	**10.3**	**10.1**	**9.1**	**8.9**	**8.1**	**9.4**
Agriculture, forestry and fishing	4.9	4.2	5.7	4.5	4.1	4.1
Manufacturing, mining and quarrying	6.9	7.4	5.6	5.6	4.3	6.3
Water supply, sewerage and waste management	14.2	10.4	9.2	12.0	10.2	10.0
Construction	12.5	12.7	10.1	9.5	8.2	11.8
Wholesale and retail trade and repair of motor vehicles	10.1	11.0	10.5	9.1	7.9	9.8
Transportation, storage, postal and courier activities	9.0	8.8	7.7	7.5	5.7	8.9
Accommodation and food services activities	16.8	15.9	16.6	15.3	15.1	14.6
Information and communication	14.1	13.9	12.1	11.1	12.2	11.7
Professional, scientific and technical activities	9.7	6.7	7.9	9.1	7.3	6.7
Other services activities	10.5	9.7	9.8	9.3	7.5	8.7

Source: CBS

Job Vacancies

The southern district has the highest rate of job vacancies that do not require professional training or higher education, and the second highest rate of vacancies that require professional training other than higher education.

Figure 2 – Job Vacancies, by Type of Training the Job Requires, 2013



Source: Ministry of Economy

Labour Productivity

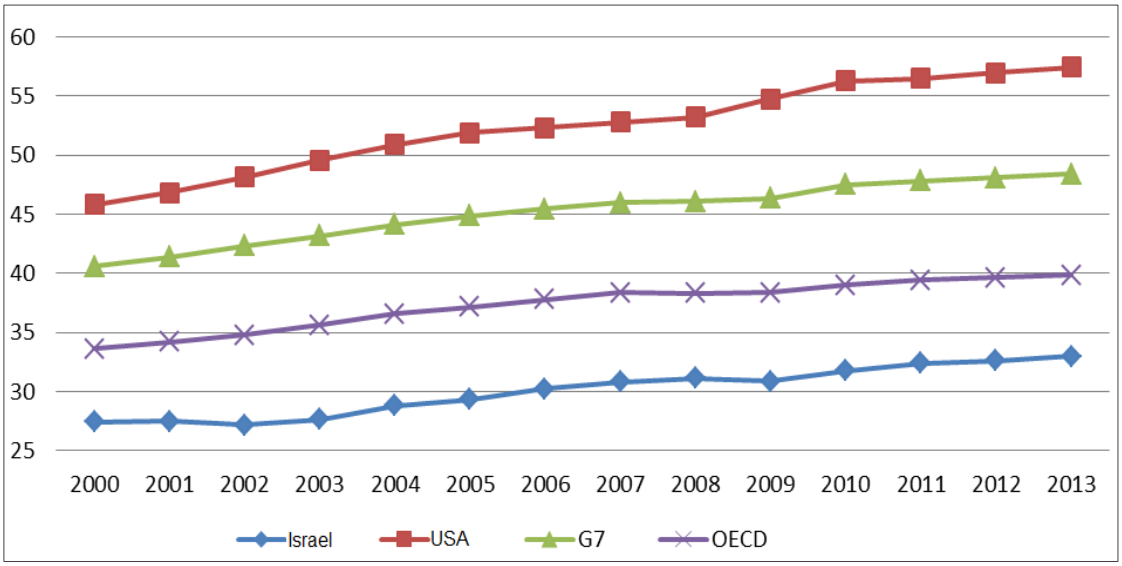
As is well known, one of the main factors affecting labour productivity is the lack of proper vocational training. The labour productivity in Israel is below the OECD average by approximately 18% (2013).

The gaps in labour productivity in Israel are particularly striking when we distinguish between hi-tech and traditional (low-tech) industries. The hi-tech industries are characterized by high productivity, high average wages and high investment rates, which also increase productivity over time. Workers are more likely to have college degrees or hold extensive professional knowledge. The traditional industries are

characterized by low productivity, low average wages (often one that places its employees below the poverty line), particularly low investment rate and a majority of workers without a college education and unique professional capabilities.

Israel stands out in investment in R&D, but nearly all investments are directed to Hi-Tech industries. For comparison, in 2012 the investment rate in traditional industries in the OECD was more than 150% higher than in Israel (0.76% of GDP compared to 0.3%).

Figure 3 – GDP per Hour Worked, PPP, 2005 Prices, 2000-2013



Source: OECD

INSTITUTIONAL FRAMEWORK

The Structure of the Israeli Education System

The education system consists of 5 main levels, which the first 4 are prescribed as compulsory:

1. Pre-Primary education – from 3 years old through kindergarten.
2. Primary School – 1st-6th grade, ages 6-12 (in some schools this stage includes 8 years of schooling, up to 8th grade).
3. Middle School – 7th-9th grade, ages 13-15.
4. High School – 10th-12th grade, ages 16-18 (in some schools this stage includes 4 years of schooling, beginning at 9th grade).
5. Post-Secondary and Tertiary education, including:
    - Post-Secondary studies (non-academic diploma. Focus on practical, technological or vocational skills, intended to assist integration in the labour market. Typically 1-2 years).
    - Practical engineer \ technician diploma (typically two years).
    - Higher education (universities, colleges).

The compulsory education in Israel (levels 1-4) contains several official supervision educational tracks, according to characteristics of the different population groups of the Israeli society: State ("Mamlachti"), State-Religious, Arab and Independent (including the "Haredi" – ultra-orthodox religious schools). Each track has a different supervising office subject to the Ministry of Education. Several schools and professional training tracks are subject to the supervision of the Ministry of Economy (further details in the TVET section later in this paper).

The different Post-Secondary and Tertiary education tracks are supervised by the Ministry of Education (mostly through the Council for Higher Education and the Science and Technology Administration) and by the Ministry of Economy (through the Division of Manpower Training and Development).

TVET structure in Israel

Two operated paths:

- Technological-scientific education. Ministry of Education supervision and responsibility.
- Other vocational education. Ministry of Economy supervision and responsibility.

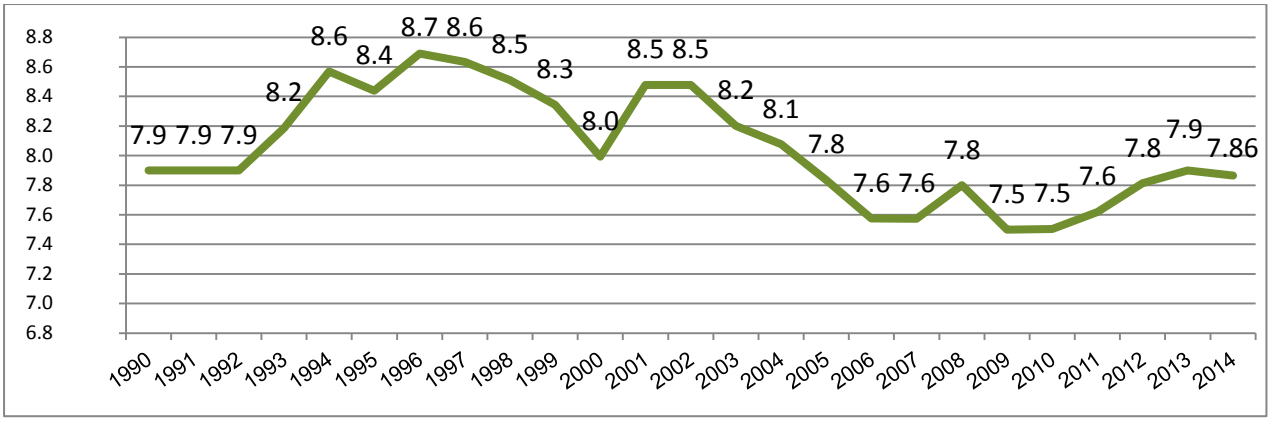
TVET institutions:

- High schools (both tracks).
- Adults training state programs (vocational educations).
- Army (through “Atuda” and professional courses, mainly vocational training).

General data – The Israeli Education System

The national expenditure on education as a percentage of GDP peaked in 1996, and starting in 2003 was on a downward trend until 2010. In the past four years there has been a very slight increase but still far from its peak. The expenditure rate today is similar to 2004 and 2008 as well as at the level where it was 25 years ago.

Figure 4 – National Expenditure on Education, as a Percentage of GDP, 1990-2014



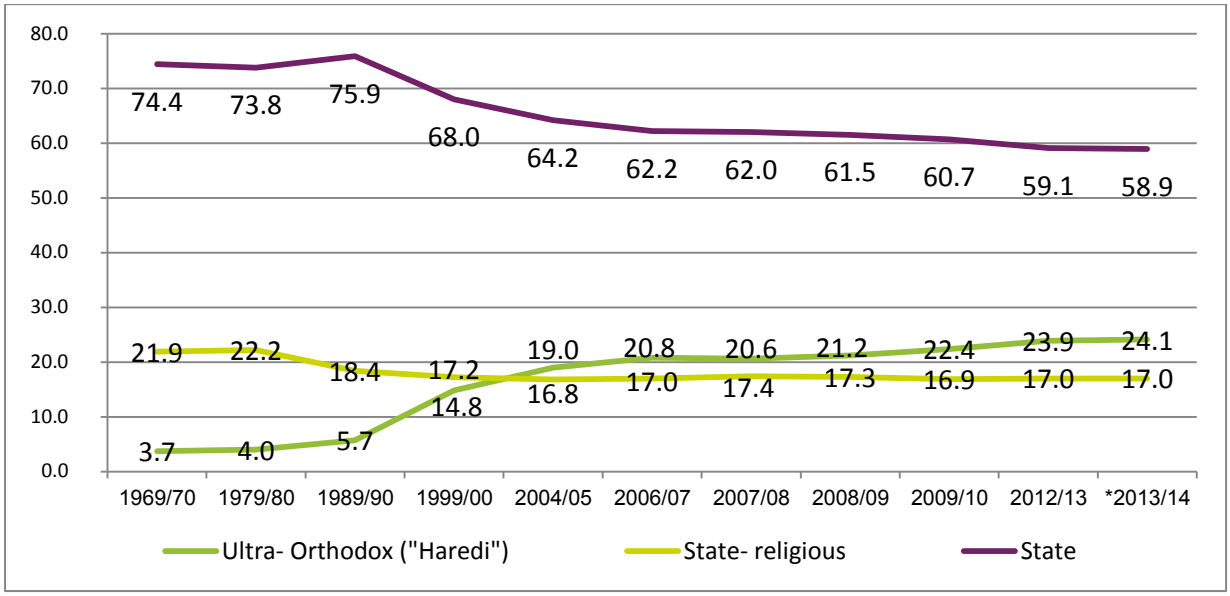
Source: CBS

According to OECD data, between the years 1995-2011, while the level of the national expenditure on education as a percentage of GDP increased in countries such as the USA (15.5%) and the UK (25.8%), as well as the OECD average (14.9%), a decrease of 7.1% occurred in Israel. As of 2011, the share of government expenditure on education in Israel is approximately 9% lower than the OECD average. In addition, the expenditure per pupil relative to GDP per capita in Israel is lower than the OECD average by 7-8 percentages points in the kindergarten and post-primary education stages.

In respect to the budget of the TVET system, an extensive research carried out by the Research and Information Center of the Knesset in 2008, states that the budget had been cut in recent years, but due to an unclear segregation of the budgets allocated to the TVET system, it is very difficult to track the exact scope of the cuts. However, according to data of Dr. Tal Lotan, director of the Department of Technological Education and Vocational Training in the Manufacturers Association, from 2003 to 2007 there was a 35% decrease in funding of the TVET system in Israel and most of the actors involved in the field believe the situation is not much better today. However, it should be noted that since 2010 there has been a steady and consistent rise in the rate of pupils studying in TVET tracks under the Ministry of Education - to reach 38% of all pupils studying in TVET tracks in 2015. Furthermore, there is a steady rise in the number of institutions that offer TVET tracks, from 671 institutions in 2010 to 858 institutions in 2015.

From 1970 to 2014, there was a significant increase in the rate of pupils in Ultra-Orthodox high-schools (654.4%). Accordingly, a decrease of the rate of pupils attending State and State-Religious high-schools have occurred (-20.8% and -22.4% respectively).

Figure 5 – High-School Pupils, by Supervision (%), 1970-2014

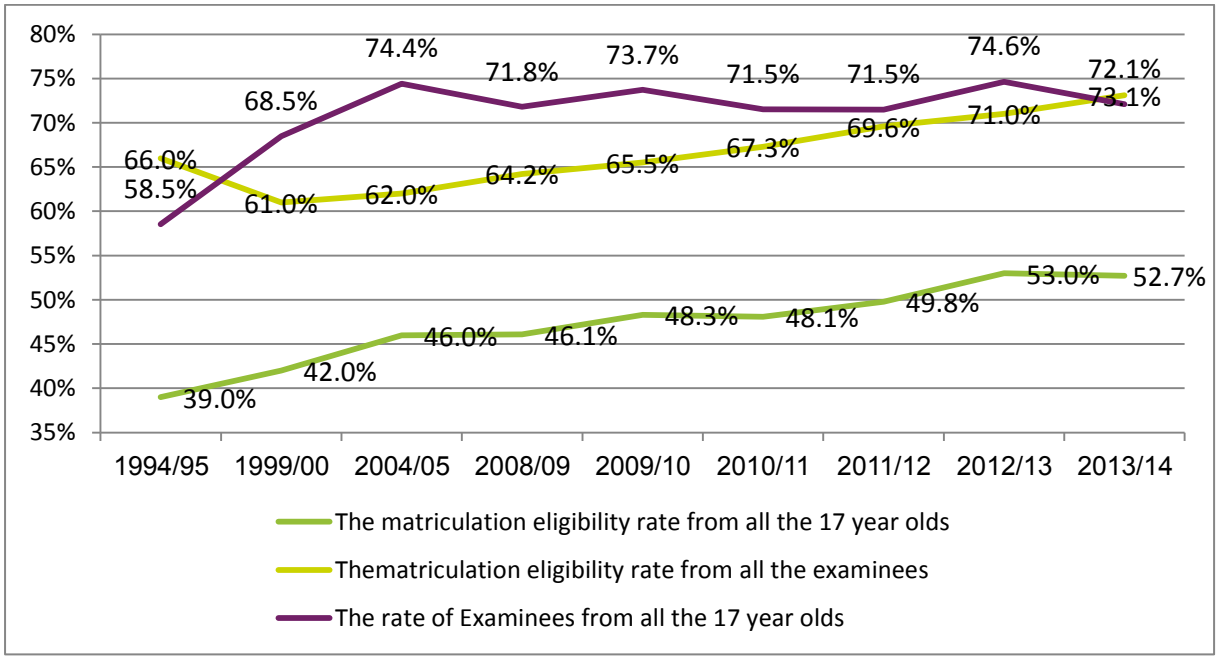


Source: Ministry of Finance, the Education Ministry budget proposal

From 1995 to 2013, an increase marked both in the rate of pupils who take the matriculations exams (rise of 16.1 percentage points) and in the eligibility rate (rise of 14 percentage points in relation to all 17 year olds and of 5 percentage points in relation to all examinees).

Only 52.7% of Israeli youth in the age of high school graduation have passed their matriculation exams, approximately 15% receive some sort of professional training and more than 30% of Israeli youth have an inadequate education that does not enable them to acquire a profession in the future.

Figure 6 – Matriculation Eligibility Rate, 1995-2014



Source: Ministry of Finance, the Education Ministry budget proposal

TVET INSTITUTIONS AND GOVERNMENT POLICY

Vocational Schools in the Southern District of Israel

There are two tracks which operate Technological and Vocational Education and Training (TVET) in Israel:

1) Technological-scientific education, operated by the Ministry of Education through the Science and Technology Administration.

2) Vocational education, operated by the Ministry of Economy in cooperation with several administrations.

There are several institutions which offer TVET: high schools (both tracks), adult training state programs (vocational education), Colleges and universities (both tracks), Army (through special academic programs and professional courses, mainly vocational training).

There is a wide variety of TVET courses in the different education institutions, formed and supervised by the Ministry of education or the Ministry of Economy:

- Ministry of Education supervision: biotechnology, engineering (electronics and computer; software; mechanical; construction; industrial engineering and management), architecture, technology and communication, scientific technology, energy and control systems, health systems, occupation science and technology, water systems, business management, art and design, travel and leisure, media and advertising, ICT.

- Ministry of Economy supervision: construction, printing, photography and production, hotel keeping, electricity and electronics, paramedical occupations, computers, computer integrated manufacturing, nursemaid's, administration, metal workers, hairdressing and beauty care, woodwork and furniture, automotive and auto-electronics, fashion and textile, miscellaneous (many specific profession-focused courses).

In a national scale, in the 2014/2015 school-year, 39.3% of all the pupils in grades 10-12 studied in technological/vocational tracks, 166,910 pupils. The great majority of them, 152,575 pupils, studied under the supervision of the Ministry of Education and 14,335 pupils studied in programs under the supervision of the Ministry of Economy.

In the institutions under the supervision of the Ministry of Economy there is more available data regarding the gender distribution and the fields of study. 80.4% of the pupils in these institutions are males and 19.6% are females. The most popular fields of training are Automotive (26.6% of the pupils), Electricity and electronics (21.7%) and Metal working (12.6%). Among the female pupils, the most popular fields of training are Hairdressing and beauty care (29.9% of female pupils), Administration (28.4%) and Printing, photography and production (10.5%)

Most of the state supervised middle schools or high schools (non-religious, 7^{th}-12^{th} grades) in the pilot cities Ashdod, Be'er Sheva and Ashkelon offer their pupils Technological-scientific or vocational tracks:

- More than 75% of the state (non-religious) supervised schools in those cities offer TVET tracks.

- Out of the schools which offer TVET tracks, about 62% offer only technological-scientific programs. About 21% of the schools offer only vocational tracks, and only 17% offer both tracks.

There are 13 high schools in the Southern District which are operated and supervised by the Ministry of Economy, which provide vocational training for pupils in various fields such as electronics, auto mechanics, welding, accounting, hair design and many others. Those schools are perceived by many as schools for pupils who dropout from the regular education system. All of the pupils in the Ministry of Economy schools do not achieve a Matriculation certificate (they do have an opportunity to gain some Matriculation units which they can use to complete the Matriculation exams later in their lives). About 10% of the graduates continue for two years of Post-Secondary Education as Practical Engineers or Technicians, but the others do not master in the topics they have studied and trained for in high school at Post-Secondary or academic institutions.

Table 9 – Vocational Schools Supervised by the Ministry of Economy in the Southern District

Name	Location	Topics
Tzur Barak	near Negba junction (near Ashkelon)	Auto-tech, electrical systems and vehicle electronics
Amal Ashdod	Ashdod	Auto-tech, a qualified electrician, a qualified machine technician, accounting, maintenance of personal computers and communication networks, auto mechanics, women's hair styling
Ort Kiryat Gat	Kiryat Gat	Auto-tech, qualified electrician, building maintenance and practical electrician, office systems management, computer graphics, Hair Design
Amal Mahane Natan	Be'er Sheva	Auto-tech, auto mechanics
Atid Hovav	Be'er Sheva	Computerized warehouse management, industrial automation systems, graphic design, hair design
Atid Dimona	Dimona	Auto-tech, machining, welding
Ort Adibi Ashkelon	Ashkelon	Auto-tech, qualified electrician, building maintenance and practical electrician, industrial automation systems, accounting, Advanced vehicle systems, Hair Design
The Technology college for youth in Be'er Sheva	Be'er Sheva	computer programing, maintenance of personal computers and communication networks, computer graphics, cooking
Branco Weiss Telem Be'er Sheva	Be'er Sheva	office systems management
Amal Be'er Sheva	Be'er Sheva	Auto-tech, qualified electrician, maintenance of personal computers and communication networks, auto mechanics, office systems management, hair design
Amal Dimona	Dimona	qualified electrician, maintenance of personal computers and communication networks, metal ware, hair design
Amal Rahat	Rahat	Auto-tech, qualified electrician, metal ware, auto mechanics, Wood and Furniture Technology, Welding
Atid Ofakim	Ofakim	electronics, accounting

Source: Ministry of Economy

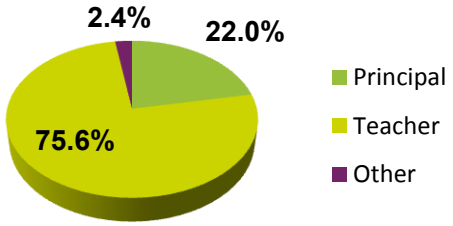
THE PERSPECTIVES OF THE CORE STAKEHOLDERS REGARDING THE ISRAELI TVET SYSTEM

As mentioned above, in order to formulate a better understanding of the essential needs and major problems in the Israeli TVET system, as well as to identify the real potential of the TVET system in the different industries to help provide the skills required for the economy's necessities, two types of questionnaires were distributed. 40 principals and teachers from the educational institutions and 12 senior industrialists filled a comprehensive questionnaire, including questions from different aspects regarding the labour market. Due to lack of resources, the population was not a representative sample and was not approached in accordance with the statistical standards. However, in this document, the results are mainly presented in numerical terms and figures in order to convey the information clearly. More about the analysis method can be read in the methodology section, on page 12.

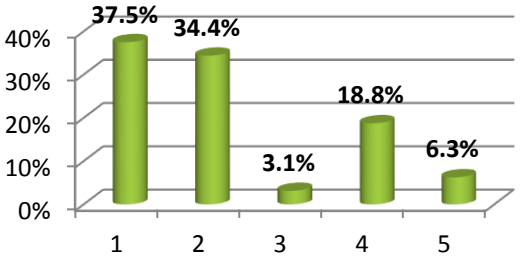
In the majority of questions the respondents were asked to rate on a scale of 1 to 5, where 1 is the lowest rating ("not at all") and 5 indicates the highest rating (“very greatly”).

Views of Educational Staff

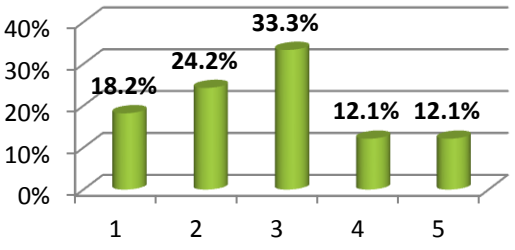
Primary Occupation – Approximately 76% of the respondents noted their primary occupation is teaching, while about 22% are school principals.



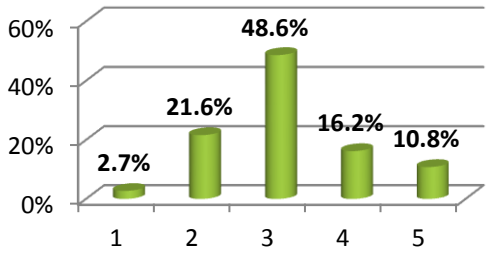
Businesses Taking Part in Designing Curricula –
The average rating is 2.22.
Approximately 38% indicate businesses do not take part at all in designing curricula of the scientific-technological and professional courses
About 34% indicate a very low participation of businesses in designing curricula.



Teachers and Principals Receive Relevant Training –
The average rating is 2.76.
About 18% indicate they do not receive any relevant training.
Approximately 58% indicate low to moderate receiving of relevant training.



Level of Courses Enough for Integration into the labour Market –
The average rating is 3.11.
Approximately 24% indicate the level of courses is not sufficient enough to integrate into the labour market.
Approximately 49% indicate the level of courses is moderately sufficient to integrate the labour market.

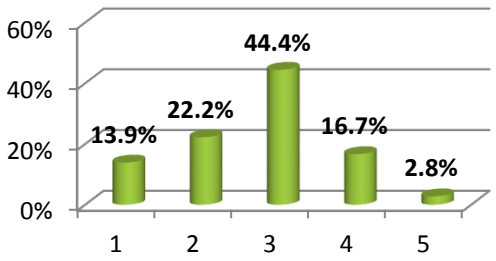


Pupils Gain Enough Practical Experience for the Labour Market –

The average rating is 2.72.

Approximately 44% indicate the pupils get moderate practical experience for the labour market.

36% of the respondents think the level of practical experience the pupils gain is very low.

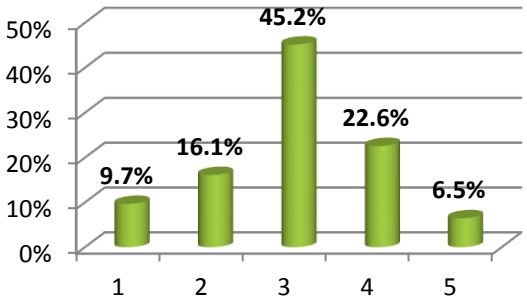


Pupils and Graduates are Employed in the Same Professions they were Trained for–

The average rating is 3.

About 45% indicate the pupils and graduates are not always employed according to their professions.

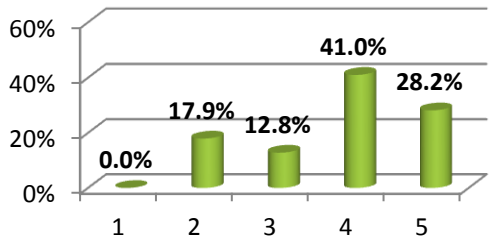
About 10% indicate they are not employed at all according to their professions.



Factories or Businesses Should Combine Training Activity and Employment of Pupils during their Studies –

The average rating is 3.79.

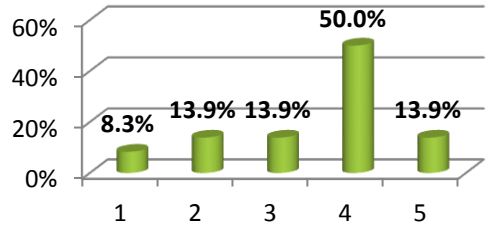
About 69% indicate factories or businesses should combine training activity and employment of pupils during their studies.



Existence of a Gender Gap in Professional and Technological Courses –

The average rating is 3.47.

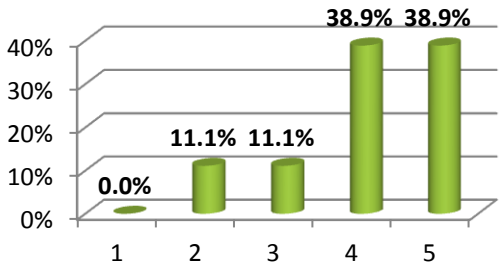
About 64% of the respondents indicate the existence of a gender gap in professional and technological courses.



Resources should be Invested in Closing the Gender Gap –

The average rating is 4.06.

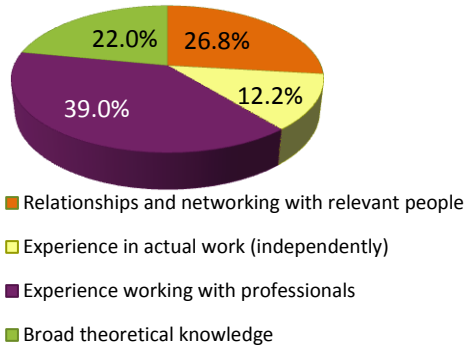
Among those who indicated the existence of a gender gap, about 78% of the respondents believe there should be investment of resources in order to reduce the gap.



The Best Way for a Pupil Eventually Integrating into the Labour Market –

The majority of the respondents (39%) think experience in working with professionals and experts in the field is the best way to integrate into the labour market.

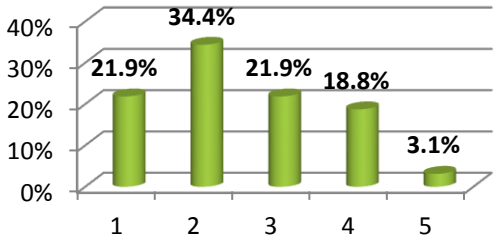
Followed by relationships and networking with relevant people (27%), broad theoretical knowledge (22%) and independent experience in actual work (12%)



Financing Enough to Receive Proper Training –

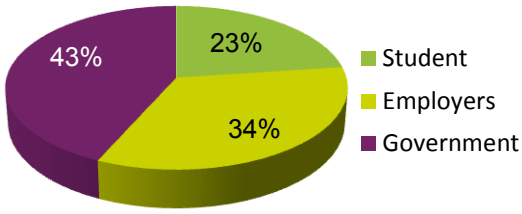
The average rating is 2.47.

Over 56% of the respondents indicate the financing of professional and technological courses is not high enough in order to receive proper training.



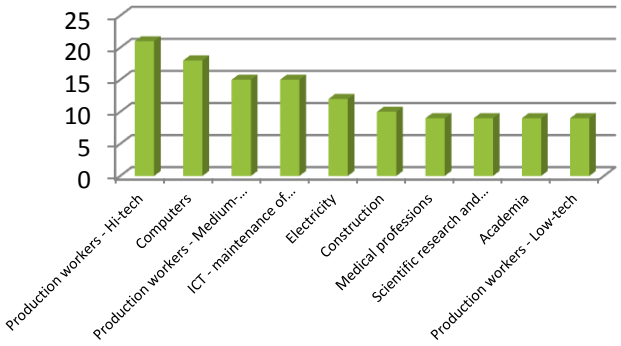
Desired Distribution of Funding for Vocational Training –

The average answer to the way the funding should be distributed is that 43% of the funding should come from the government, 34% from the employers and 23% from the pupils (in the form of unpaid internship outside of school hours).



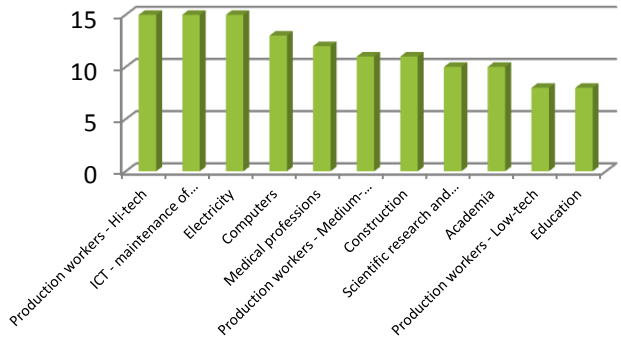
Professions with the Greatest Demand for Workers –

According to the views of the educational staff, Hi-tech production professions have the highest demand, followed by computer professions and Medium-Hi-tech production professions.



Professions which Demand will Increase in the Near Future –

According to the views of the educational staff, Hi-tech production professions will continue to have the highest level of demand, followed by ICT and electricity professions. They expect an increase in demand of education, as well.



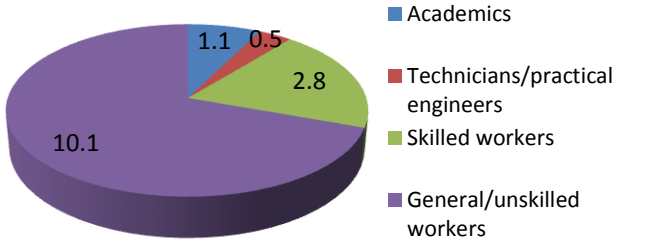
Views of Industrialists, Business Owners and Managers

- **Primary Occupation**

  12 people responded to the questionnaire. Of them, eight come from the industrial sector and 4 from other businesses (commerce, tourism, service providers, etc.). Half of them are Human Resources (HR) Managers and the rest are either owners, CEO's or accountants.

- **Number of employees hired during the past year**

  The respondents reported of hiring an average of 14.5 employees last year, most of them unskilled.



- **The Hired Employees receiving a Prior Relevant Training**

  70% of the respondents indicated that none of the hired employees received any prior relevant training. The rest indicated that some received a relevant training (average rating of 1.6). In addition, those who did receive training, its suitability to the work was inadequate (average rating of 2.33).

- **The Investment of the Business in the Training of Hired Employees**

  Almost 60% of the respondents indicated that the business invested very greatly in training of hired employees (average rating of 4.33).

- **Employment of Pupils / Graduates of Technical-Professional Education**

  All but one indicated that they do not employ any or very few pupils or graduates of technical-professional education (average rating of 1.42).

- **Business Takes Part in Designing Curricula**

  All of the respondents indicated that their business does not take part at all in designing curricula in the various institutions of professional training. However, all of them think they should take part, some moderately and some very greatly (average rating of 3.75).

- **Willingness to Combine Training Activity and Employment of Pupils**

  40% of the respondents are not willing to combine training of pupils in their businesses, 40% are moderately willing and 20% greatly or very greatly willing (average rating of 2.5).

- **Existence of a Gender Gap in Employment in the Business**

  Only 37.5% indicate there is a gender gap in their business (average rating of 2.5). However, they do not believe that resources should be invested in closing the gap (average rating of 2).

CREATING CONDITIONS FOR A SUITABLE AND EFFICIENT TVET SYSTEM

In order to create conditions for a suitable and efficient TVET system, the main objective is to produce graduates in the TVET system that can integrate optimally in the labour market. To formulate recommendations that will bring to this end, the analysis was carried out at several levels:

- **Data from official sources:** the collection of data regarding the labour market in the South, data processing so that one can distinguish between the different training levels required for the open positions, and identifying needs in the labour market related to the TVET system.
- **Questionnaires:** Although the questionnaire respondents from TVET institutions in the South of Israel were not sampled statistically, they helped with indications regarding the state of the current TVET system in the South of Israel and the needs required in the future. Furthermore, business owners and industrialists gave their input on how they perceive the TVET system, its challenges and its points for improvement. They have also helped refine the areas where they feel shortage of skilled workers or not suitable enough training.
- **The national committee:** The national committee, which was established for the purpose of this project and includes representatives of all types of stakeholders, commented where they saw fit and helped to formulate recommendations based on their expertise and accumulated experience.

Based on the above and based on the expertise and experience of the Local Facilitator – Dr. Roby Nathanson, a number of policy recommendations were formulated aimed at improving the TVET system and better matching skills offer and demand in the South of Israel.

Investment in Soft Skills Acquisition

Since the labour market is very dynamic and trends that exist today would not necessarily exist in the near future, the pupils should be provided with skills that will let them continue their “Long Life Learning”.

These skills can be divided into two major categories: practical soft skills and emotional / social soft skills. The most prominent among the practical soft skills are:

- Acquisition of other languages, particularly English
- Computer skills
- Professional use of social networks
- Mathematical abilities
- Basic financial skills

The most prominent among the emotional / social soft skills are:

- Resume writing and preparation for job interviews
- Team work skills development with an emphasis on the relevant workplaces
- Interpersonal skills, such as: persuasion, assertiveness, effective communication, active listening and leadership
- Life skills, such as: decision making, problem solving, creative thinking and critical thinking.

These skills acquisitions can reduce the need for constant adjustment of study programs to the requirements of the labour market.

Investment in R&D in Traditional Industries

Israel stands out positively in investments in R&D, compared to other developed countries, but most of the investments are routed to the high-tech industries. Of course there is logic behind this policy, because Israel has a relative advantage in these industries. Israel is a small country and its impact on world trade is minimal. The relative advantage is reflected in high-tech industries that are knowledge-intensive industries.

However, high-tech industries probably came close to their growth potential. The highest potential for growth lies in traditional industries and therefore it is necessary to increase the proportion of investments in these industries.

The governmental expenditure on civilian R&D amounted to approximately 6.9 billion NIS, of which 56% was allocated to universities in Israel and 30% to promotion of industrial technology (mostly to high-tech industries). If the government will divert half of that amount, about 3 billion NIS, to traditional industries, who have higher growth potential it could have a major impact on economic growth and reducing social disparities. In addition, it is recommended to establish regional R&D centres, in order to provide more support to small businesses and self-employed who employ about 60% of the workforce.

Strategies for Reducing Gaps by Increasing Productivity

There is a widening gap in productivity in Israel between high-tech industries (electronics, aircraft, telecommunications, pharmaceuticals, etc.) to traditional industries (textile, leather, paper, wood, printing, etc.).

The traditional industry in Israel is characterized by very low productivity, low average wages (often so placing its employees under the poverty line), very low investment rate, and a majority of workers with no academic education or unique professional skills. Further, the majority of industrial workers in Israel are employed in traditional industries. Thus, this topic is so essential when we examine the income inequality in the Israeli society.

Increasing the share of investment in human capital in traditional industries using vocational training

↓

Increasing productivity in traditional industries

↓

Improving wages in traditional industries, which employ most of the industrial workers in Israel

↓

Improving the efficiency of social security benefits

↓

Reducing income disparities and social inequality

↓

Strengthening competitiveness of traditional industries and increasing demand for labour

Labour productivity in a perfect competition labour market is equal to the marginal productivity of labour. The more advanced the production methods will be and the more there is investment in capital per worker (physical and human), the marginal productivity of employees will be higher, the average salaries and respectively, the quality of living will increase.

Supply and Demand Mismatch

As it can be seen from the results of the questionnaires, the educational staffs does not have enough awareness about trends in the labour market and the employers are virtually not involved in designing the curricula or are active in the training of pupils.

This should be repaired by creating a feedback mechanism which should consist of three key components:

- Regularly updating of new information and data regarding the labour market
- Sharing representatives of the business sector and the industrialists in decisions about opening and closing courses of study and designing of curricula of existing courses.
- Strengthening the partnership with the business sector. This can be achieved, among others by the creation of a sophisticated model that will facilitate the allocation of workers to open positions and by creating a framework in which business representatives take an active part in training both in the schools and in the workplaces.

Further Recommendations

- Strengthening the partnership between the private sector and trade unions in order to increase the integration of graduates in the industry, while ensuring the professional training of the employees during their on-going work as determined in the collective agreements of various unions (for example, the union of Construction and Wood Workers, the Engineers Union and the Technicians and Practical Engineers Union).
- Establishment of a fund, together with employer associations, trade unions and the government, to promote TVET in accordance with the trends in the labour market.
- Building a model for career development for a TVET pupil, starting from high school to the military service and up to working in the industry and the economy.
- Creating continuous information – to contact the Israeli Central Bureau of Statistics to carry out a periodical survey among graduates of the TVET system detailing what was their main specialty in school and where they are currently working. The IDF should also be included in such a survey because an organization of this size can be used as a lever for the industry.

Resources

In order to establish and operate and efficient TVET system which will have a significant positive effect on the complex modern labour market, many resources, both financial and human, are required in order to address some of the challenges. Therefore, it is recommended to fund a national government program to promote vocational training in cooperation with the business sector which should deal, among others, with the following issues:

Insufficient Professional Level

As it can be learned from the questionnaires the professional level of the TVET is inadequate to fit the needs of the labour market. This can be repaired by allocating resources in several different paths:

- Increasing training courses and seminars for the educational staff
- Recruiting additional high quality personnel to the TVET system.

- Investing in more modern equipment in the classrooms witch is suitable to the existing technologies.
- Providing financial incentives for businesses and factories which participate in the process of vocational training of pupils.

Poor Image

It is no secret that the TVET system suffers from a poor image in the public eyes. One of the main reasons for the poor image is the fact that the conventional way to examine pupil achievements is by the matriculation results and there is no proper way to assess pupils who graduate from TVET systems. Creating a system of high quality certificates with international recognition in the TVET system can somewhat help improve the image. Other measures that can be used to increase the attractiveness is investing in the visibility of the schools, i.e. making them more modern, both in the designing as well as in more up-to-date training aids.

Another reason for the poor image is the glamorous image that accompanies the academic education, which is considered a “work promising title” which will lead to higher wages in the future. In order to address this challenge, there is a need to invest in marketing and branding, among others, by highlighting the high level of earning potential of professions in the traditional industries and to consider an annual compensation of government employees in traditional industries (remuneration similar to the "preferred work" remuneration that exists among discharged soldiers).

Future Prospects

With the intention of having the best impact possible from this project, some future measures are needed that will increase the effectiveness of the process that started here.

- **Expansion of project to other regions:** There other regions in Israel which are lagging behind when it comes to the TVET system and matching supply and demand in the labour market (e.g. the Northern periphery of Israel)
- **Promotion and dissemination of the project at a national level.**
- **Strengthening the partnership with the business sector** and the creation of a sophisticated model that will facilitate the allocation of workers to open positions.

ANNEX 1: EDUCATIONAL INSTITUTIONS' QUESTIONNAIRE

A Questionnaire on Vocational Training – The Present Situation and Expectations

The purpose of this questionnaire is to learn about the trends in technological education and vocational training, and their suitability to the needs of the labour market and the industry, in the present and the future. This does not mean this questionnaire will be used for the purposes of a representative statistical survey, but to better understand the current situation and future needs.

This questionnaire is the same for all professionals in the relevant fields. There may be questions that not everyone will have all the tools to answer. If you encounter such a question, you can answer based on estimates or general knowledge or answer you do not know and specify the reason in the comments.

1. What is your primary occupation?
   - Education
     - School Principal
     - Teacher
     - Employment Coordinator
     - Other, specify:_____
   - Government Offices
     - Ministry of Education, specify:_____
     - Ministry of Economy, specify:_____
   - Municipality, specify which municipality and what is your role:_____
   - IDF, specify:_____
2. As far as you know, to what extent do the contents of the scientific-technological and professional courses in vocational education in Israel are compatible with the requirements of the labour market?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

   Comments:

   _____

   _____

3. To what extent do professionals / businesses take part in designing curricula of the scientific-technological and professional courses?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

If so, in what fields?

_____

_____

Comments:

_____

_____

4. To what extent teachers and principals of vocational education receive relevant training and are up to date regarding trends in the labour market?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

For teachers or principals, specify the training programs you have gone through in the last five years: _____

_____

Comments:

_____

_____

5. To what extent is the technological and professional level of professional and technological courses enough for integration into the labour market?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

6. To what extent do pupils in professional and technological courses gain enough practical experience for integration into the labour market?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

7. To what extent pupils and graduates of professional and technological courses are employed in the same professions they were trained for?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

8. To what extent is it worth for factories or businesses to combine training activity and employment of technical-professional high school pupils during their studies?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

9. To what extent does a gender gap exist in professional and technological courses?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

If so (number 3 or higher) - to what extent resources should be invested in closing the gap?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

10. What do you think will help in the best way for a young person undergoing vocational training eventually integrate into the workplace in the same field? (Rate from 1 to 4, with 1 being the best way and 4 the least)

__ Relationships and networking with relevant people

__ Experience in actual work (independently without guidance)

__ Experience working with professionals and experts in the field

__ Broad theoretical knowledge in the relevant field

11. To what extent is the financing of professional and technological courses enough to receive proper training?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

12. How do you think should the funding for vocational training be distributed?

(Specify a number between 0 and 100 per option, so they will sum up to 100)

___ Pupil (in the form of unpaid internship outside of school hours)

___ Employers

___ Government

13. In which professions is there the greatest demand for workers? (Please indicate up to 5 professions)

a. Profession:_____
b. Profession:_____
c. Profession:_____
d. Profession:_____
e. Profession:_____

14. In which professions do you think demand will increase in the near future (the next ten years)? (Please indicate up to 5 professions)

a. Profession:_____
b. Profession:_____
c. Profession:_____
d. Profession:_____
e. Profession:_____

15. In your experience, what policy measures do you think can help to promote vocational training and education in Israel and to meet the needs of the labour market? (Please specify as much as possible)

_____

_____

_____

_____

_____

ANNEX 2: EMPLOYERS' QUESTIONNAIRE

A Questionnaire on Vocational Training for Employers
The Present Situation and Expectations

The purpose of this questionnaire is to learn about the trends in technological education and vocational training, and their suitability to the needs of the labour market and the industry, in the present and the future. This does not mean this questionnaire will be used for the purposes of a representative statistical survey, but to better understand the current situation and future needs.

This questionnaire is the same for all the employers in the relevant fields. There may be questions that not everyone will have all the tools to answer. If you encounter such a question, you can answer based on estimates or general knowledge or answer you do not know and specify the reason in the comments.

1. What is your primary occupation?

   - Manufacturing / Other Professional field

     - Owner
     - CEO
     - Other managerial position, specify:_____
     - Other, specify:_____

   - Business (Commerce, tourism, service providers, etc.)

     - Owner
     - CEO
     - Other managerial position, specify:_____
     - Other, specify:_____

   Please describe about the factory / business

   _____

   _____

2. How many employees were hired at the factory / business the past year?_____

   Please specify How Many workers and in What Professions:

- An academic education – amount:_____ description:_____
- Technicians / practical engineers – amount:_____ description:_____
- Skilled workers (production floor / business) – amount:_____ description:_____
- General / unskilled workers – amount:_____ description:_____
- Other – amount:_____ description:_____

3. As far as you know, to what extent did the hired employees pass a relevant training

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Specify (including place of training)

_____

_____

If so (number 2 or higher) - to what extent did the training fit the job?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

What do you think can improve the matching of training to the job?

_____

_____

4. To what extent did the business invest in training of hired employees?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

What is the average duration of the training, what is the process of the training and how is it financed financing (self-financed / external)?

_____

_____

5. To what extent does the factory / business employ pupils / graduates of technical-professional education?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

If so (number 2 or higher) - to what extent did the training fit the job?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

6. To what extent does the factory / business take part in designing curricula in the various institutions of professional training?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

If so, in what manner?

_____

_____

Comments:

_____

_____

7. To what extent is it proper for factories / businesses to take part in designing curricula?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

8. To what extent are you willing to combine training activity and employment of technical-professional high school pupils during their studies in your factory / business?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

9. To what extent does a gender gap exist regarding employment in your factory / business?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

If so (number 3 or higher) - to what extent resources should be invested in closing the gap?

0 Don't know / Not interested	1 Not at all	2 Slightly	3 Moderately	4 Greatly	5 Very greatly

Comments:

_____

_____

10. In which professions is there the greatest demand for workers at the factory / business? (Please indicate up to 5 professions), and how many employees are need?

f. Profession:_____ No. of workers:_____
g. Profession:_____ No. of workers:_____
h. Profession:_____ No. of workers:_____
i. Profession:_____ No. of workers:_____
j. Profession:_____ No. of workers:_____

11. In which professions do you think demand will increase in the near future (the next ten years)? (Please indicate up to 5 professions) and how many employees will be needed ?

    a. Profession:_____ No. of workers:_____
    b. Profession:_____ No. of workers:_____
    c. Profession:_____ No. of workers:_____
    d. Profession:_____ No. of workers:_____
    e. Profession:_____ No. of workers:_____

12. In your experience, what policy measures do you think can help to promote vocational training and education in Israel and to meet the needs of the labour market? (Please specify as much as possible)

_____

_____

_____

_____