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ISRAEL

EDUCATION, TRAINING AND EMPLOYMENT DEVELOPMENTS 2016

KEY EDUCATION, TRAINING AND EMPLOYMENT DEVELOPMENTS IN ISRAEL

Laws adopted

- The Israeli government has started preparatory work for the establishment of the Israeli National Qualifications Framework (NQF) by means of Resolution No 147 of 28 June 2015. In July 2016 the Prime Minister's office launched the resolution on its website for consultation with the wider public prior to being forwarded to the government for its approval. The report of the public consultation, published in August 2016 on the same site, envisages a legal framework for the establishment of the NQF administration.
- In August 2016, the Knesset approved the passing of a law by the Ministry of Education (MoE) on learning Arabic (grades 1–12). Arabic language classes are now compulsory in Israel's schools, starting from the fifth grade.

New institutions created

- On 17 May 2016, the government adopted a five-year development plan costing ILS 900 million ($240 million[1]) for Arabs and Bedouin people. An Employment Centre programme operates with an expanded network of Employment Orientation Centres in areas where the concentration of the Arab and Bedouin populations is high. This programme has established a new organisation called Al-Fanar ('The Lighthouse' in Arabic) to act as an implementing subcontractor and ensure community leadership and participation.

Policies adopted

- On 30 August 2015, the MoE, with the support of the Israeli forum of high-tech companies, launched a national plan called the 'Give Five' National Programme to strengthen the study of mathematics. The programme will allow the MoE to teach five-units of mathematics (the highest level) at all levels of education for the first time including technological and vocational education and training (TVET). A big budget is allocated for the programme, including the hiring of mathematics teachers.
- In February 2016 the government approved and launched the largest ever government plan to advance economic development in the Arab sector, allocating approximately ILS 15 billion for the development of Arab society and the closing of socio-economic gaps between Jews and Arabs in Israel. This is an unprecedented investment to enhance economic development for the Arab and Bedouin minority (20.6% of Israel's citizens).
- In July 2016, the government approved the decision to relax its visa regime in a bid to attract thousands of foreign high-tech workers and address a severe skills shortage in the high-tech sector.
- In August 2016, the government decided to issue a resolution for the transfer of all the vocational education and training (VET) schools managed by the Ministry of Economy, Trade and Industry (MoETI) to the management of the Ministry of Labour, Welfare and Social Services.

1. Key demographic and economic characteristics

The basic demographic and economic characteristics of Israel are given in the statistical annex at the end of this paper. The OECD ranks Israel as a high-income country, with a population of more than 8 million. There has been a significant increase in the population, according to UN data and the Israel

[1] The symbol $ refers to current international dollars throughout this document.

Central Bureau of Statistics (ICBS), from 7.8 million in 2011 to 8.5 million in 2015 (year-end figures; see CBS online database). Over 90% of the population lives in urban areas. Some 74.8% of the population are Jewish and most of the remaining 25% are Arabs (about 20.6% of the total population). The non-Arab population includes the Druze, non-Arab Christians, those unclassified by religion and large numbers of migrant workers. The past decade has seen a slight decline in the fertility rate among the Arab population, and a slight increase in that of the Jewish population, which may partially explain the rising educational attainments of these groups, especially women.

After years of annual growth rates above 5%, economic expansion has been slowing down. According to the OECD's economic forecast summary for Israel (OECD, 2016a), growth is projected to remain at 2.5% in 2016 before rising to 3% in 2017. Growth has exceeded most other OECD countries' rates for more than a decade. According to the analysis of the ICBS (August 2016), in order to maintain the current pace of growth, Israel needs to address rising government spending and budget deficits, the increasing cost of living, the concentration of 'too big to fail' banks, corporations and insurance companies in the economy, rising income inequality, and geopolitical risks.

'The [Israeli] market is dynamic, shaped by an array of influences such as technological developments, globalization, and capricious consumer preferences. While such rapid technological advances are generally a blessing, they come at a cost in the guise of a loss of existing jobs.'[2] Employment is rising, inflation is low, the external surplus is comfortable, and the public finances are in relatively good shape. However, although income per capita has gradually been catching up with that in the most advanced countries, this has not been matched by a similar convergence in productivity. Highly dynamic tradable goods industries coexist with an unusually inefficient sheltered sector which drags overall economic performance down. Substantial deficiencies in product market regulation and competition, especially in the entire food chain, banking and electricity, are weakening productivity and reducing incomes (OECD, 2016b).

Manufacturing and agriculture, despite limited natural resources, are highly developed and sophisticated. The country is also a major tourist destination. However, the main driver of the economy is the science and technology sector. Israel is home to one of the world's most vibrant high-tech clusters outside Silicon Valley, earning it the sobriquet of 'start-up nation', with technology accounting for about 12% of employment in a nation of over 8 million. The high-tech industry's share of employment, however, has been stagnating because of the skills shortage. Furthermore, companies complain of being unable to expand because of the limited local talent pool and stiff competition for skilled workers from deep-pocketed foreign groups such as Google, Apple and Facebook, which have large Israeli research and development operations. The government has been trying, through training schemes, to attract more members of the ultra-Orthodox Jewish community, as well as its Arab minority, who are underrepresented in high-tech companies, to work in the sector. It is also decentralising the high-tech sector, mainly to the sparsely inhabited Negev desert and the north (Galilee). As an additional measure, in July 2016, the government approved the decision to relax its visa regime in a bid to attract thousands of foreign high-tech workers and thus address the severe skills shortage.

[2] Taub Center, 'The digital world: Computerization trends in Israel's labor market', [online], 28 January 2016. Last accessed 13 February 2017 at: http://taubcenter.org.il/the-digital-world-computerization-trends-in-israels-labor-market/

2. Education and training

2.1 Trends and challenges

The gross enrolment rate in secondary education is 101.9 (2014)[3]. The majority of students who complete secondary education (60%) enrol in general academic upper secondary education, one third opt for technological programmes and 3% choose industrial schools or apprenticeship pathways[4].

Several different groups in Israel have seen a substantial increase in educational levels. A high level of educational attainment is common in Israel, with 72.19% of the adult population (25–64 years old) having a tertiary degree in 2015. According to OECD Employment Outlook in 2016, this high level of skills also translates into positive labour market outcomes, with an employment rate of 85% among adults with tertiary third- level qualifications of 85% compared to 47% among those without an upper secondary education[5].

There have been interesting demographic changes in the sectoral makeup of the student population, and shifts in educational tracks: colleges are becoming stronger, partially at the expense of the universities; women continue to pursue higher education at a higher rate than men in all sectors including the so-called underperforming population groups of the country.

In Israel, young people enter compulsory military national service lasting three years for young men and two years for young women. Those who do not enter compulsory military service attend one-year national service instead. In 2014, the system of labour force statistics changed from considering only the civilian population to including young persons on military service in the NEET figures. The proportion of Israeli youth (aged 15–29) not in employment, education or training (NEET) was approximately 15.6% in 2015 (ICBS), very close to the OECD average. Israeli NEETs are more likely than their counterparts in other OECD countries to be economically inactive rather than actively searching for a job[6].

Overall, Israel is in line with OECD educational levels, but the country does not fare well in international surveys that test secondary school students' knowledge. A comprehensive, multi-variable comparison between Israel and the OECD countries published by the Taub Center in August 2016 indicates that, given Israel's relatively low level of investment in education (public expenditure on education was 6.3% of GDP in 2014), there is no reason to expect higher achievements in the international exams (Taub Center, 2016). Indeed, even after accounting for specific problems with the Arab and ultra-Orthodox Jewish communities, Israeli students' marks today represent a decline over those of previous generations.

The 2016 World Economic Report looks into the Israeli government's explicit goal of positioning Israel at the core of the knowledge economy by investing in education and training. This case study[7] of Israel's information and communications technology (ICT) sector highlights the important role of the government in the emergence of Israel as a powerhouse of high technology in ICT, by laying the

[3] See the statistical annex at the end of this document.

[4] Nathanson, R. Dr (ETF), *GEMM pilot project: Working in partnership to better match skills offer and demand in the South of Israel*, 2016.

[5] OECD, *OECD Employment Outlook 2016*, OECD Publishing, Paris, 2016. doi:http://dx.doi.org/10.1787/empl_outlook-2016-en

[6] OECD Family Database, 'Young people not in education or employment', last updated 21 March 2016. Last accessed 13 February 2017 at: www.oecd.org/els/CO_3_5_Young_people_not_in_education_or_employment.pdf

[7] Getz, D. and Goldberg, I., 'Best Practices and Lessons Learned in ICT Sector Innovation: A Case Study of Israel', Background paper for the *World Development Report 2016*, World Bank, Washington, DC, 2015.

foundations for private industry to support innovation, and by making substantial investment in building the necessary human resources.

The Israeli government has launched various reform programmes starting from 2016 with a focus on increasing the teaching hours of mathematics to all levels of schooling. In 2015, the Ministry of Education (MoE), with the support of the Israeli Forum of high-tech companies, launched a national plan, the 'Give five' national programme[8], to strengthen the study of mathematics. According to the OECD's 2016 report 'Equations and inequalities: Making mathematics accessible to all'[9], the Israeli government is implementing the policy strategy to give all students similar opportunities to learn mathematics. The programme allows the MoE to teach five-unit mathematics for the first time (the highest level) to all higher schools and TVET institutions. This recent development is based on the conviction that mathematical knowledge is very important for acquiring advanced numeracy skills and developing problem-solving abilities.

The ultra-Orthodox 'Haredi' sector in Israel – roughly, 10% of the population – is growing rapidly. In tandem, its influence on the Israeli economy is growing as well. A majority of the members of this community (56%) live below the poverty line, and half of the members of this community are younger than 14. This means that the productive participation of this community in the Israeli economy is an existential imperative. If its members remain outside the circle of employment, they will be a heavy burden on the economy; however, if they join the workforce, they will become an invaluable engine of growth. It is also essential, of course, to take lateral steps that can extricate the Haredi community from poverty and reduce the socio-economic disparities in Israeli society. In recent years, however there has been a slow but significant change in the ultra-Orthodox community. In the last decade, for instance, the number of Haredim pursuing an academic degree has increased by hundreds of percent; some 8,000 ultra-Orthodox men and women are enrolled in colleges and universities in Israel today. There has also been a marked increase in Haredi participation in the workforce. Between 2008 and 2013, the percentage of ultra-Orthodox men holding jobs rose from 33.5% to 44.5% and the percentage of employed ultra-Orthodox women rose from 55% to 70%. In 2010, the Government of Israel set an employment objective of 63% for the ultra-Orthodox sector by 2020[10]. Furthermore, since 2000, Haredi women's participation in the labour market has climbed by 30%. Some 75% of them now have jobs, in line with the country's overall female population. According to the 2015 survey by the Israel Democracy Institute think-tank[11], Haredi women are becoming increasingly qualified and their role inside their communities is evolving. A significant number of high tech companies have chosen to hire Haredi men and women encouraged by generous state subsidies as an incentive for the ultra-Orthodox to join the labour force and not rely on welfare. In addition, Haredi workers are prepared to accept lower-than-average wages as a trade-off for being given working conditions suited to their lifestyle.

Another marginalised group is the Ethiopian Jewish population. Even if they have been in Israel for more than three decades, the vast majority continues to live in Israel's social periphery. Ethiopian Israelis are perceived as a 'unique' group and are often treated as such by the government and NGOs. Even with the special treatment, their social standing has changed little over the years.

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[8] http://en.israel-today.ru/in-the-framework-of-the-program-give-five-will-increase-the-number-of-teachers-of-mathematics-5-units-of-complexity.html

[9] OECD, *Equations and Inequalities: Making Mathematics Accessible to All*, OECD Publishing, Paris, 2016. doi:http://dx.doi.org/10.1787/9789264258495-en

[10] Friedman, S. Malach, G., Sheleg, Y. and Stern, Y.Z., *A Plan to Reduce Tension between Religion and State in Israel*, Israel Democracy Institute, 2015. Last accessed 13 February 2017 at: https://en.idi.org.il/publications/5267

[11] 'Israel ultra-Orthodox women go hi-tech', [online], *Al-Monitor*, 11 July 2016. Last accessed 13 February 2017 at: www.al-monitor.com/pulse/afp/2016/07/israel-judaism-technology-women.html

Moreover, socio-economic gaps between Ethiopian Israelis and the general population persist, despite the major resources invested[12].

2.2 Education and training policy and institutional setting

Vocational education and training (VET) is mainly state-provided and state-regulated by the MoE and the Ministry of Economy, Trade and Industry (MoETI). Initial VET is provided in state-run public schools and colleges and privately owned and managed schools run by technological education networks and supervised by key ministries. There is some continuing vocational education and training (CVET) and some continuing vocational training (CVT) for adults after joining the labour force, state-funded by the MoETI and covering training for jobseekers and employer-led training for adults whom the employers wish to integrate into their workforce. The MoE supervises some CVET offers for adults at their own expense.

The government, local authorities and the education networks provide the main sources of funding for MoE-governed VET provision. While no training taxes are levied on employers, the Manufacturers' Association of Israel (MAI) and its members contribute directly to particular initiatives and through the provision of facilities, while the MoETI apprenticeship scheme is heavily subsidised in kind by the private sector. The Israeli Defence Forces (IDF) contribute to funding where schools operate on their premises.

Under the MoE, VET covers two separate paths: (1) technological-scientific education; and (2) vocational (occupational) education. Study tracks in the technological-scientific path are (a) engineering studies for learners who will continue to university; (b) technology studies for learners who will continue on to technician and/or practical engineer programmes in school or technical college; and (c) occupational studies for learners who will enter the job market directly. Under the MoETI the VET tracks are (a) apprenticeships; (b) pre-VET and IVET provision for specific youth populations in education network schools; and (c) frameworks for certified technicians and practical engineers through the National Institute for Training in Technology and Science (NITTS).

TVET under the MoE takes place in (a) high schools (grades 10–12 for ages 16–18 at ISCED 3); (b) post-secondary studies (ISCED 4 for ages 18 and above); and (c) technological colleges. TVET courses administered and/or supervised by the MoETI are delivered in (a) vocational schools for youth that provide a wide range of courses including apprenticeships and a range of courses of one to two years combining study and practical experience; (b) academic colleges (for NITTS-certified courses); and (c) adult training centres and on the job.

CVET administered and funded by the MoETI covers only a small proportion of the target population: those on long-term benefits, Arabs, ultra-Orthodox individuals (especially women) and people with disabilities. The ministry has also begun to invest in a number of innovative education programmes aimed at increasing opportunities for special-needs students and promoting a greater focus on mathematics at secondary level, for example for girls, youth with learning disabilities and youth at risk. The MoETI has opened four schools for ultra-Orthodox youth and nine guidance centres to serve the Ethiopian Jewish population. It also provides programmes for people with disabilities and youth with learning disabilities or mental health issues. The educational networks ORT Israel and AMAL manage schools and provide programmes for the Arab, ultra-Orthodox and Bedouin communities, and run education and training courses for the integration of immigrants.

The MoE and MoETI have overall responsibility for the VET system with two parallel subsystems of VET. The TVET Committee, established in 2014, includes the two key ministries and all the related

[12] *Ethiopian Jewry: The Situation of Ethiopian Jews in Israel*, Jewish Virtual Library, November 2016. Last accessed 13 February 2017 at: www.jewishvirtuallibrary.org/jsource/Judaism/ejdesc.html

skills-oriented institutions in Israel. However, it has no clear hierarchy and no overall strategy or requirement for coordination. VET objectives are formulated after consultation with professional committees, economic entities and the IDF. Governance is centralised, management of the activities of both ministries is divided according to districts, and the national office of each ministry oversees all district activities. Working independently but in parallel, the MoE and MoETI set the regulatory frameworks for VET.

In the context of the ongoing reform, the government is trying to provide a statutory basis and legal framework for TVET. This initiative has the support of the employers and the unions, and these social partners are both well organised and keen to engage more fully in the TVET system.

The National Commission on Education Technology and Professional Development, founded in 2010, brings together representatives from the MoE, the MoETI, the ORT and AMAL educational networks, the MAI and Histadrut, the national labour federation. Professional/subject committees are the main coordination mechanisms between TVET stakeholders. Membership of each committee includes an academic from the field, the MoE subject inspector, representatives of the IDF, the MAI and the relevant industry profession, as well as a school principal and two teachers. Parents are not involved in these committees. There are approximately 19 such committees.

Local authorities, the education networks, the training providers, the MAI and its affiliates have significant decentralised authority and all lead initiatives within regulatory frameworks. The MAI, representing large employers of all industrial sectors, is recognised by the government as the representative of employers and takes a leading role in a range of innovations, such as establishing new training centres for apprentices, programmes to promote vocational and technological education, professional training and ongoing development for workers. However, the insufficient extent of employers' involvement in VET at all levels is identified as a weakness in the Israel Torino Process 2014 report[13]. Histadrut (the Trade Union Federation) is more marginal in TVET although the Torino Process 2016–17 report[14] notes a more active involvement of the latter in TVET policy platforms. TVET providers have considerable local autonomy in interpreting curriculum requirements and setting up partnerships and initiatives.

The Equal Opportunity Programme for children with special needs (launched in February 2016) will see ILS 945 million invested in providing greater accessibility in schools and classrooms to accommodate diverse special needs. Particular emphasis will be placed on mathematics and science. Other objectives of the initiative include boosting written Hebrew skills and introducing Arabic as a required subject from preschool through Grade 12. A marked increase in the demand from students for matriculation (Bagrut) studies in Arabic has led the MoE (with Knesset approval in August 2016) to pass a law on learning Arabic from grade 1 to 12. This new government programme will see Arabic language classes made compulsory in Israel's schools, starting from the fifth grade. The new law also requests the revision of curricula. The change is expected to draw dozens of Arabic teachers into the school system. Other key reforms launched this year include an extension to preschool education and getting more high school students to take the five-point mathematics matriculation exam.

To sum up, despite the ambitious government and employers' programmes and initiatives, and recent achievements and developments, the Israeli government is aware that TVET is still an area where more investment is needed to meet the current needs of the labour market by means of skills development. TVET could play a big role in combating unemployment, especially among certain minority groups such as the Haredi and Arab communities.

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[13] *Torino Process 2014: Israel*, ETF, 2015. Last accessed 13 February 2017 at: www.etf.europa.eu/web.nsf/pages/TRP_2014_Israel

[14] Forthcoming.

3. Labour market and employment

3.1 Trends and challenges

In recent years, the labour market has experienced positive developments, such as reduced unemployment and rising labour force participation rates. According to the ICBS, the labour force participation rate for the working-age population (15+) was 72.2% in 2015; the unemployment rate was relatively low (5.3%), and the youth (15–24) unemployment rate (9.3%). The employment rates of the youngest age group have declined, although there has been a sharp increase in the rate of those employed in part-time jobs among individuals of this age group. In contrast, the rate of Jewish student employment has risen, with students mainly employed in clerical, sales and service jobs. There has been an increase in relatively low-paid service jobs among individuals in the 31–34 age group who do not have an academic education. Among those with an academic education in the same age group, there has been a decline in wages relative to older graduates, even though younger graduates are employed in the same professions and in similar jobs.

Although Israel has enjoyed strong economic growth for most of the past two decades, the benefits of that growth have been unevenly distributed. A number of disadvantaged groups including Arab-Israelis and the ultra-Orthodox Haredim face significant labour market challenges. Employment among ultra-Orthodox men is, however, on the rise. In 2015, 50% of Haredi men were employed, compared with 87% of non-Haredi men, while 73% of Haredi women were employed, compared with 81% of non-Haredi women. However, much higher rates of Haredi men and women work part-time jobs than the rest of the population. In 2013 and 2014, 38% of Haredi employees, as opposed to 19% of non-Haredi Jewish workers, worked fewer than 35 hours a week.

Even if the Arab population comprises a little over 20% of Israel's citizenry, Arab economic output amounts to only 8% of the country's GDP, reflecting substantial socio-economic gaps and considerable unrealised potential (Weiss, 2016). While the Arab economy is ostensibly integrated into the national economy of Israel, in practical terms it is largely segregated. There are considerable differences in the level of economic development between the Jewish and Arab communities, which are reflected in statistics on income, employment, industrialisation and socio-economic status. While economic gaps between Arab and Jewish citizens result from various historical processes, persistent barriers to development are a result of the following:

1. unequal government appropriation of economic resources such as land, industrial zoning, location of major anchor institutions (e.g. hospitals, universities and government offices) and public transportation;
2. underdeveloped professional capacities, exposure and qualifications within the population;
3. cultural barriers, including those within Arab society and between Arab and Jewish citizens.

Regarding access to education and training, more needs to be done, as the rate of high school graduates who qualify to study at academic institutions is 46.6% in the Jewish population compared to only 35% in the Arab population (OECD, 2015).

'The [Israeli] market is dynamic, shaped by an array of influences such as technological developments, globalization, and capricious consumer preferences. While such rapid technological advances are generally a blessing, they come at a cost in the guise of a loss of existing jobs.'[15]

[15] 'Using a method developed by American researchers that rates occupations, on a scale from 0 to 1, by the risk that employees will be replaced by computers, Taub Center researcher Shavit Madhala-Brik mapped Israel's labour market into low, medium and high risk occupations in a new study published in the *State of the Nation Report 2015*.' Taub Center, op. cit.

'Computerization is expected to particularly affect jobs held by some of Israel's more vulnerable populations groups – specifically non-Jewish men, teens and young adults, and low-income workers. In general, a negative correlation was found [in the analysis of the Taub Center report] between an occupation's average wage and its likelihood of being computerized – that is, those who earn low wages tend to be at higher risk. As a result, non-Jewish men stand out as a high-risk group – 57% of Muslim, Christian and Druze men are in professions at high risk of computerization. Over half of the hours worked by non-Jewish men are in manufacturing, construction, and skilled work of a similar nature. In contrast, only 35% of Jewish men work in high risk professions, while 39% of both Jewish and non-Jewish women in Israel are in such professions. Israel's youth and the unemployed may also face challenges in this regard; a total of 60% of work hours among those aged 15–24 are in high-risk occupations. Similarly, the percent of unemployed individuals is relatively high in professions with a high likelihood of computerization, especially among unskilled workers and those in industrial and construction work, meaning that these individuals will have a difficult time finding their way back into the workforce.' The Taub Center researcher has analysed the correlation between education level and employment. 'In general, the education level within a profession is negatively correlated with the level of computerization risk of that occupation. Occupations that have a lower share of academic degree holders among those employed in them are more likely to be automated.'[16]

Despite its increasingly technology-driven economy, in the near future Israel will face the challenge of supporting a growing ageing and non-working population. 'While such rapid technological advances are generally a blessing, they come at a cost in the guise of a loss of existing jobs. […] Taub Center […] mapped Israel's labour market into low, medium and high-risk occupations.' It found out 'that among workers between ages 25 and 64, 39% of work hours are considered at high risk, 20% at medium risk, and 41% at low risk […]. This translates into roughly one million Israeli workers in this age group who are at high risk of being replaced by computers or machines. Occupations such as tailors, construction workers, bookkeepers, and clerks fall into the high-risk category, as well as a number of other occupations that are characterized as repetitive or technical. Professions requiring creativity, social intelligence, and proficiency in negotiation are characteristic of low-risk occupations. […] These trends are not unique to Israel.'[17]

Hadas Fuchs[18] attributes the phenomenon to a range of underlying factors. He highlights that besides the changes in social norms, some external factors may now make life more difficult for young adults than in the past. These include the decline in wages for specific occupational profiles and the rise in employment in occupations at relatively low wage levels. Another factor is an overall delay in the start of independent adult life, which is reflected in the later ages at which young adults start academic studies and enter the labour market, in later marriage and childbearing ages, and in delays in moving out of parental houses and purchasing their own homes, due to the sharp rise in housing prices.

'The replacement of people through computerization comes with an occupational upside – new opportunities in the market. Vocational training is a policy tool that can be used to address the anticipated changes in the labour market and prepare the population for new and low risk opportunities. Such programmes already exist, both in the form of courses offered by the Ministry of the Economy's Manpower Training and Development Bureau and in the form of a voucher system to subsidize participation in vocational programmes. However, there is a great need to expand these services; of the half-million jobless Israelis who visit employment bureaus each year, only about 1% are referred to vocational training frameworks. There is also a need to adjust the jobs for which these

[16] Taub Center, op. cit.

[17] Ibid.

[18] Fuchs, H., 'The socioeconomic situation of young adults in Israel', in Chernichovsky, D. and Weiss, A. (Eds), *State of the Nation Report: Society, Economy and Policy in Israel*, Taub Center for Social Policy Studies in Israel, Jerusalem, 2015, pp. 139–182. Last accessed 13 February 2017 at: http://taubcenter.org.il/wp-content/files_mf/snr2015fullreport.pdf

programmes provide training. Employment Service survey data indicate that the most common jobs the voucher programmes prepare individuals for are those at high risk of computerization, such as bookkeeping and payroll controlling. Expanding vocational training programmes, and adjusting them to the reality of Israel's future labour market needs, will ensure that the population, particularly the vulnerable citizens, will have employment prospects that are secure for the long-term.'[19]

The key finding of the final report on Israel within the regional EU-funded GEMM project[20] is that there is a mismatch between supply and demand in Israel and no national/regional skills foresight and forecasting mechanism. There are only ad-hoc feedback mechanisms. In 2016, efforts have been launched to establish a sophisticated model that will facilitate the allocation of workers to open positions and will create a framework in which business representatives take an active part in training in both schools and workplaces. This mechanism will consist of three key components:

- regular updating of new information and data regarding the labour market;
- regular involvement of representatives of the business sector and industrialists in decisions about opening and closing courses of study and designing of curricula of existing courses;
- strengthening the partnership with the business sector.

A notable shortcoming in the efforts to make effective quality assurance provision for TVET is the lack of a system capable of making useful labour market information available to education and training planners. Israel collects data on the labour market, including data on job vacancies, and participates in the international labour market survey. At present, even if some of the data available are used for local or sectoral purposes, there is no formal national mechanism for processing such labour market data to make it accessible to education and training policy makers for the purposes of planning and supplying education and training[21].

3.2 Employment policy and institutional setting

The country is divided into six administrative regions (districts). Local authorities are sovereign representatives of local interests. However, in terms of local employment and economic development activities, their perspective is limited and non-strategic. Their approach to economic activity arises from their interest in short-term property tax income as a key to fiscal autonomy. Issues relating to welfare, employment mobility, and the distribution, quality and nature of jobs are not on their agenda. Consequently, most strategic activities aimed at improving employment and economic development are carried out by national agencies.

The most important government players in the field of labour market and social security matters include a few sub departments in the MoETI, Israel's social partners Histadrut[22], the National Insurance Institute of Israel (responsible for providing unemployment benefits and income support benefits), and the Ministry of Finance (which runs, for instance, a negative income tax programme). Other stakeholders involved in labour market policy include the Prime Minister's Office through the Authority for the Economic Development of the Arab Sector (AEDA), the Ministry of Welfare, the Ministry of Immigrant Absorption, local authorities, several non-governmental organisations (NGOs) and the private sector in its role as an employer. In recent years, a new employees' union has emerged, called Koach La Ovdim (Democratic Workers' Organisation).

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[19] Taub Center, op. cit.

[20] Nathanson, R. Dr (ETF), *GEMM pilot project: Working in partnership to better match skills offer and demand in the South of Israel*, 2016. Last accessed 13 February 2017 at: www.etf.europa.eu/web.nsf/pages/Israel_pilot_skills_matching

[21] Ibid.

[22] The Israeli Trade Union Federation and the Employers' Federation – Histadrut Hatasianim.

The Israeli Public Employment Service (PES) is a statutory body mandated under the National Employment Service law of 1959 and operates under the authority of the MoETI. In addition to administrating unemployment benefits, the PES provides placement and matching services and offers vocational assessment, guidance and placement for the unemployed and other jobseekers who legally qualify for its services.

The Employment Orientation Centres are a new development. These centres, introduced in May 2016 by the government, have been designed as one-stop shops to provide culturally sensitive services to the Arab population. While the OECD (2015) report highlights that these centres are a welcome development targeting the Arab population, it also stresses the importance of ensuring that their work is well integrated with existing training and economic development activities at the local level.

TVET is managed primarily by the Manpower Training and Development Bureau (MTDB) at the MoETI, which runs some 500 vocational courses annually, catering for 7 500 people. Discussions are still going on as to whether all these schools and students should be transferred and placed under the management of the Ministry of Social Welfare. The MTDB offers vouchers to cover the cost of training offered by recognised public and private institutions, which are available to roughly 1 500 recipients annually. Both the PES and the Employment Orientation Centres refer people to the courses and services offered by the MTDB.

Israel is prioritising Active Labour Market Policies (ALMPs) including job placement services, benefit administration, and labour market programmes, such as training and job creation. The 2015 OECD review of Israel's employment and skills strategies confirmed the system's shortcomings (OECD, 2015). Israel spends between 0.2% and 0.3% of GDP on ALMPs, which is about half of the OECD average. The government's target is to create 700 000 new jobs by 2020. Of these, 300 000 are to be created in the Arab sector and a further 180 000 in the Jewish ultra-Orthodox sector. Meeting such a target would entail creating 175 000 additional jobs over and above the rate of natural increase. The ALMPs implemented have been aimed at increasing labour force participation. They include the Welfare to Work programme, a reduction in allowances paid to people of working age, introducing an earned income tax credit for employees and creating a network of Employment Orientation Centres in Arab communities.

The Israeli government has set ambitious goals for 2020, aiming to increase Arab employment rates significantly. The focus is on quality and type of employment. Arab citizens are overrepresented in low-skilled, physical, part-time and low-waged labour and largely underrepresented in most advanced industries and professions, in academia, in the media and in the public sector. Thus, there are a number of initiatives aiming to enhance Arab employment to increase the supply of an Arab workforce qualified for Israel's advanced economy, and to make advanced employment more accessible to Arab citizens. Employment training and preparation for Arab citizens, diversity awareness among employers, improvements in infrastructure in the periphery, and promoting job creation for Arab professionals throughout the country are some of the major programme areas being implemented.

The MoETI has dedicated a budget of ILS 10 million ($2.55 million) over the next three years to integrating 10 000 male and female Arab high-tech workers into the workforce, though that will still be a long way from achieving proportional Arab representation. A new project aimed at enhancing the integration of Arab citizens into Israel's high-tech sector was launched in early 2016 in the Arab city of Kafr Qasim, located in the Southern Triangle area. It is a joint initiative of the city's municipality, the Massachusetts Institute of Technology (MIT) Enterprise Forum, and Tsofen, a Jewish-Arab NGO promoting the integration of Israel's Arab citizens into its high-tech industry through employment and the creation of high-tech centres in Arab towns. This ILS 4.5 million Tech Centre, which was funded by the US government's Middle East Partnership Initiative (MEPI), is part of a wider project, estimated at a total cost of around ILS 6 million.

A particular challenge in high-tech as in other labour markets is to create opportunities for women to advance to managerial positions, rather than being stuck on the bottom rung of high-tech companies. In Arab high schools, 55% of those who are studying technology fields are women, and their grades are significantly better than those of Jewish male students. However, in universities, only 10% of students in exact sciences and high technology are Arab women. The government and employers believe that if high-tech industry is brought into Arab cities it will reverse this trend.

ANNEXES

Statistical annex

This annex reports annual data from 2011 and 2015 or the last available year.

	Indicator		2011	2015
1	Total population (000)		7 563.3[e]	8 064.0[e]
2	Relative size of youth population (age group 15–24) (%)		24.1[e]	24.3[e]
3	Youth dependency ratio (%)		44.1	45.7
4	Old-age dependency ratio (%)		17.0	18.4
5	Global Competitiveness Index	Rank	22	27
		Score	5.1	4.9
6	GDP growth rate (%)		5.0	2.5
7	GDP per capita (PPP) (current international $)		30 574.3	35 431.6
8	GDP by sector (%)	Agriculture added value	M.D.	M.D.
		Industry added value	M.D.	M.D.
		Services added value	M.D.	M.D.
9	Poverty headcount ratio at $2 a day (PPP) (%)		M.D.	M.D.
10	Gini index (%)		37.8	37.7 (2012)
11	Educational attainment of adult population (aged 25+) (%)	Low*	15.4 (2012)	14.0
		Medium	38.0 (2012)	36.3
		High	46.3 (2012)	49.1
12	Gross enrolment rates in secondary education (%)		101.7	101.9 (2014)
13	Share of VET students in secondary education (%)		18.9	19.8 (2014)
14	Gross enrolment rates in upper secondary education (%)		100.3	100.3 (2014)
15	Share of VET students in upper secondary education (%)		38.5	40.8 (2014)
16	Low achievement in reading, mathematics and science – PISA (%)	Reading	26.6 (2009)	23.6 (2012)
		Mathematics	39.5 (2009)	33.5 (2012)
		Science	33.1 (2009)	28.9 (2012)
17	Participation in training/lifelong learning (age group 25–64) by sex (%)	Total	9.7 (2012)	9.9
		Male	11.5 (2012)	11.6
		Female	8.0 (2012)	8.4
18	Early leavers from education and training (age group 18–24) by sex (%)[d]	Total	70.2 (2012)	70.0
		Male	73.6 (2012)	73.1
		Female	66.5 (2012)	66.4

	Indicator		2011	2015
19	Activity rates (aged 15+) by sex (%)[x]	Total	71.5 (2012)	72.2
		Male	75.9 (2012)	76.1
		Female	67.1 (2012)	68.3
20	Employment rates (aged 15+) by sex (%)[x]	Total	72.5 (2012)	74.7
		Male	77.7 (2012)	79.4
		Female	67.5 (2012)	70.0
21	Unemployment rates (aged 15+) by sex (%)[x]	Total	7.0 (2012)	5.3
		Male	6.9 (2012)	5.2
		Female	7.1 (2012)	5.5
22	Unemployment rates (aged 15+) by educational attainment (%)	Low**	13.1 (2012)	8.7 (2014)
		Medium	7.9 (2012)	6.9 (2014)
		High	4.4 (2012)	4.1 (2014)
23	Youth unemployment rates (aged 15–24) by sex (%)	Total	12.1 (2012)	9.3
		Male	11.6 (2012)	8.9
		Female	12.7 (2012)	9.7
24	Proportion of long-term unemployed out of the total unemployed (aged 15+) (%)		20.23	10.64 (2014)
25	Long-term unemployment rate (aged 15+) (%)		1.2	0.8 (2013)
26	Incidence of self-employment (%)		12.7 (2012)	12.6
27	Share of the employed in the public sector (%)		18.2	18.5 (2014)
28	Employment by sector (%)	Agriculture	1.2 (2012)	1.0
		Industry	17.5 (2012)	17.4
		Services	81.3 (2012)	81.3
29	Employment in the informal sector (%)		M.D.	M.D.
30	Proportion of people aged 15–24 not in employment, education or training (NEETs) by sex (%)	Total	17.2 (2012)	15.6
		Male	14.6 (2012)	13.2
		Female	19.9 (2012)	18.2
31	Public expenditure on education (as % of GDP)***		5.9	6.3 (2014)
32	Public expenditure on education (as % of total public expenditure)		12.9 (2009)	M.D.
33	Skill gaps (%)		M.D.	12.3 (2013)
34	Contribution of SMEs to GDP (%)		M.D.	M.D.

	Indicator	2011	2015
35	Share of SMEs in employment (%)	57.8 (2008)	M.D.

Sources:* Indicators 1, 2** – *UNDP_WPP15;* ***3, 4, 6, 7 – *World Bank, World Development Indicators database;* ***5*** – *World Economic Forum;* ***10, 11, 17, 18, 19, 20, 21, 23, 26, 27, 28, 30*** – *Israel Central Bureau of Statistics;* ***12, 13, 14, 15*** – *UNESCO Institute for Statistics;* ***16, 24*** – *OECD statistical database;* ***22, 25, 31, 32*** – *Eurostat;* ***35*** – *International Financial Corporation*

Legend: *M.D. = missing data*

Notes: *(e) Estimate. (*) Includes illiterate people. (**) ISCED 0-1. (***) Total annual public expenditure in regular education (current and capital) as a percentage of GDP. (d) Definition of indicator different from the EU: the labour force includes compulsory and permanent military service. (x) Age range 15–64 (20–64 for indicator 20). For indicators from the labour force survey, 2012 is break in series; for comparability reasons this year was chosen as reference.*

Definition of indicators

	Description	Definition
1	Total population (000)	The total population is estimated as the number of persons having their usual residence in a country on 1 January of the respective year. When information on the usually resident population is not available, legal or registered residents can be considered.
2	Relative size of youth population (age group 15–24) (%)	The ratio of the youth population (aged 15–24) to the working-age population (usually aged 15–64 or 15–74).
3	Youth dependency ratio (%)	The ratio of younger dependents (people younger than 15) to the working-age population (those in the 15–64 age group).
4	Old-age dependency ratio (%)	The ratio of older dependents (people older than 64) to the working-age population (those in the 15–64 age group).
5	Global Competitiveness Index	The Global Competitiveness Index assesses the competitiveness landscape, providing insight into the drivers of countries' productivity and prosperity. It is expressed as a score on a 1 to 7 scale, with 7 being the most desirable outcome.
6	GDP growth rate (%)	The annual percentage growth rate of GDP at market prices based on constant local currency.
7	GDP per capita (PPP) (current international $)	The market value of all final goods and services produced within a country in a given period of time (GDP), divided by the total population and converted into international dollars using purchasing power parity (PPP) rates.
8	GDP by sector (%)	The share of value added from agriculture, industry and services.
9	Poverty headcount ratio at $2 a day (PPP) (%)	The percentage of the population living on less than $2.00 a day at 2005 international prices.
10	Gini index (%)	A Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.
11	Educational attainment of adult population (aged 25–64 or 15+) (%)	Educational attainment refers to the highest educational level achieved by individuals expressed as a percentage of all persons in that age group.
12	Gross enrolment rates in secondary education (%)	The number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education.
13	Share of VET students in secondary education (%)	The proportion of VET students in secondary education out of the total number of pupils and students in secondary education (general + VET).
14	Gross enrolment rates in upper secondary education (%)	The number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education.
15	Share of VET students in upper secondary education (%)	The proportion of VET students in upper secondary education out of the total number of pupils and students in upper secondary education (general education + VET).
16	Low achievement in reading, mathematics and science – PISA (%)	The share of 15-year-olds failing to reach level 2 in reading, mathematics and science.
17	Participation in training/lifelong learning (age group 25–64) by sex (%)	The share of persons aged 25–64 who stated that they had received education or training in the four weeks preceding the (LFS) survey.

	Description	Definition
18	Early leavers from education and training (age group 18–24) by sex (%)	The percentage of the population aged 18–24 with at most lower secondary education who were not in further education or training during the four weeks preceding the (LFS) survey. Lower secondary education refers to ISCED 1997 levels 0–3C short for data up to 2013 and to ISCED 2011 levels 0–2 for data from 2014 onwards.
19	Activity rates (aged 15+) by sex (%)	Activity rates represent the labour force as a percentage of the working-age population.
20	Employment rates (aged 15+) by sex (%)	Employment rates represent persons in employment as a percentage of the working-age population.
21	Unemployment rates (aged 15+) by sex (%)	Unemployment rates represent unemployed persons as a percentage of the labour force.
22	Unemployment rates (aged 15+) by educational attainment (%)	Educational levels refer to the highest educational level successfully completed. Three levels are considered: low (ISCED levels 0–2); medium (ISCED levels 3–4); and high (ISCED 1997 levels 5–6 and ISCED 2011 levels 5–8).
23	Youth unemployment rates (aged 15–24) by sex (%)	Youth unemployment rates represent young unemployed persons (aged 15–24) as a percentage of the labour force (15–24).
24	Proportion of long-term unemployed out of the total unemployed (aged 15+) (%)	The number of unemployed persons aged 15+ who are long-term unemployed (12 months or more) as a percentage of unemployed persons aged 15+.
25	Long-term unemployment rate (aged 15+) (%)	The number of unemployed persons aged 15+ who are long-term unemployed (12 months or more) as a percentage of the labour force aged 15+.
26	Incidence of self-employment (%)	The share of self-employed as a proportion of the total employed. Self-employment includes employers, own-account workers, members of producers' cooperatives and contributing family workers.
27	Share of the employed in the public sector (%)	The share of those employed in the public sector as a proportion of the total employed.
28	Employment by sector (%)	The share of those employed in agriculture, industry and services.
29	Employment in the informal sector	The share of persons employed in the informal sector in total non-agricultural employment.
30	Proportion of people aged 15–24 not in employment, education or training (NEETs) (%)	The percentage of the population of a given age group who are not employed and not involved in further education or training.
31	Public expenditure on education (as % of GDP)	Public expenditure on education expressed as a percentage of GDP. Generally, the public sector funds education either by directly bearing the current and capital expenses of educational institutions, or by supporting students and their families with scholarships and public loans, as well as by transferring public subsidies for educational activities to private firms or non-profit organisations. Both types of transactions together are reported as total public expenditure on education.
32	Public expenditure on education (as % of total public expenditure)	Public expenditure on education expressed as a percentage of total public expenditure. Generally, the public sector funds education either by directly bearing the current and capital expenses of educational institutions, or by supporting students and their families with scholarships and public loans as well as by transferring public subsidies for educational activities to private firms or non-profit organisations. Both types of transactions together are reported as total public expenditure on education.
33	Skill gaps (%)	The percentage of firms identifying an inadequately educated workforce as a major constraint.
34	Contribution of SMEs to GDP (%)	The share of value added from small and medium-sized businesses.
35	Share of SMEs in employment (%)	The share of persons employed in small and medium-sized businesses.

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