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THE ISRAELI BRAIN DRAIN

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Abstract

This study assesses the emigration rates from Israel between 1995 and 2002 according to education, employment, income, family status, and number of years in the country. The research is based on the 1995 census, including an indication of the status of emigration in 2002. According to the data, among the population with a higher education – defined as holding a B.A. degree and higher – the tendency to emigrate is greater than among those with a lesser education. More than 2.6% of all married, college-educated Jews in the 25-40 age group in 1995 are defined by the Central Bureau of Statistics in 2002 as emigrants, in comparison with only 1.1% among those with a lower education. The phenomenon is most noticeable among new immigrants. Among immigrants in the 25-40 age group, approximately 4.65% of those with a higher education left the country during that period, compared to about 2% of those with a lower education. The findings are consistent with the claim that Israel's socio-economic policies exact a heavy price in terms of encouraging many of its best and brightest citizens to leave the country.

Introduction

This study examines patterns of emigration from Israel. In particular, it classifies emigrants in the years 1995-2002 according to education, employment, income, family status, and number of years in the country. It is based on the 1995 census, including an indicator of each person's emigration status in 2002. According to the data, among the population with a higher education – defined as holding a

B.A. degree or higher – the tendency to emigrate is considerably higher than among those who do not have a higher education.¹

In November 2003, the Ministry of Absorption estimated that 750,000 Israelis live abroad, predominantly in the United States and Canada – constituting approximately 12.5% of the entire Jewish population of Israel. This study shows that the problem of emigration is far more serious than suggested by previously published data, which concentrated on the extent of emigration, the countries chosen, and the motivation for leaving. The findings reported in this article show that emigrants are not a representative sample of the population. The proportion of well-educated individuals among emigrants is significantly greater than the proportion in the overall population.

Moreover, according to the report by the Central Bureau of Statistics for September 2005, there was a considerable increase in the number of emigrants relative to the previous three years. According to updated estimates, the number of people who left the country in 2005 exceeded 25,000. In comparison, in each of the three previous years, 2002-2004, approximately 19,000 Israelis left the country.

The findings are particularly worrisome with respect to immigrants from the former Soviet Union. Many educated young people from this group have emigrated to the West and, surprisingly, emigration back to Russia is now fairly widespread. Russia, an extremely poor country relative to Israel, nonetheless enables its educated citizens to enjoy a higher standard of living in comparison to Israel. The employment market in Russia is flexible, the public sector is small, and free-market policies lead to competition for talented young graduates who enjoy high salaries and pay income tax at an extremely low rate of around 13%.

In the last few years, the international migration of educated workers – the brain drain – has aroused great interest in the academic economic literature and in the press. The growing demand for skilled workers has led to greater openness in the immigration policies of many developed countries, especially with respect to highly educated workers. Many studies noted a marked increase in the extent of

¹ Consistent with the findings of this study, the Manufacturers' Association finds that approximately a third of young executives in the Association will transfer part of their production activities abroad. In addition to the need to be close to the target markets, executives cite the cost of manpower in the country, the political situation, excessive regulation, and strikes at the ports as the main reasons why they intend to transfer some of their business activities out of the country. (The survey was conducted by the Midgam Research Institute.)

emigration among educated people throughout the 1990's. Developments in the field of technology, combined with decreasing birthrates, caused alarm in countries like Canada, Britain and Germany, each of which adjusted immigration policies to attract educated workers.² Germany, for example, traditionally offered few opportunities for permanent immigration, but has now opened up considerably to well-educated immigrants in high-demand professions like computer programming.

The exodus of college graduates from Israel is part of an international phenomenon that appears to be on the increase. The information revolution makes finding work and lodgings abroad much easier, and even reduces the cost of remaining in constant touch with relatives and friends back home through new, inexpensive communications technology. As a result, the emigration of college graduates in Europe has risen significantly in the last 15 years.³ The total number of immigrants to the OECD countries – the overwhelming majority of which are developed – grew by 64% in the decade from 1990 to 2000. The increase was greater for immigrants from less developed countries – most notably from Latin American and Caribbean countries (93%), and from Africa (113%).⁴

Although richer than Israel, Italy is an exception among the developed countries in that it displays similar patterns of emigration to those of Israel and suffers from a severe brain drain. At the end of the 1990's, Italy was losing more than 3% of all its university graduates each year. In contrast to Italy and Israel, the other developed countries enjoy a positive balance in the absorption of educated immigrants, with the number of immigrants greater than, or at least no less than, the number who are leaving.⁵

As in Israel, the Italian labor market is shaped by institutions that protect employed workers to the detriment of those looking for work. This is also true of the sectors that employ educated workers, affecting mainly young university graduates by making it difficult for them to find work at a salary that is competitive with alternatives outside the local market. Educated young people

² Docquier, Lohest and Marfouk (2005)

³ Becker et al. (2003)

⁴ Docquier, Lohest and Marfouk (2005)

⁵ *Ibid.*

in Italy suffer from a lack of competition in the labor market, where recruitment is often based on personal and family contacts rather than ability.⁶ Despite their affiliation with developed countries, Israel and Italy display patterns of emigration much like those of poor countries.

It should be noted that the economic literature has pointed out that a brain drain could have a positive effect on the economy by stimulating investments in education. Obtaining an education in developing countries can be regarded as purchasing a lottery ticket for emigration. In other words, when there is a brain drain, a young person has a greater incentive to acquire an education. Consequently, there could be a situation in which a brain drain eventually has a positive effect on the total number of graduates in the economy.⁷

However, Schiff (2005) shows that the probability that the positive, indirect effect of the brain drain is greater than the negative, direct effect is extremely low. It is hard to imagine that in the context of the Israeli economy, which is characterized by a great admiration for education and highly accessible subsidized education, the chances of emigrating have any significant influence on the decision to acquire an education.

Israel's tax burden on the top quintile of income distribution is among the highest in the world.⁸ At the same time, politicians often compete with one another to give larger tax breaks and benefits to the lesser productive sectors of the economy. These factors, along with higher wages, serve to encourage young college graduates to pursue their careers in other countries.

The university system in Israel provides an instructive example of how high taxation, labor market inflexibility, and a generally socialist approach to economic policy encourage the brightest stars in academia to leave the country by giving inordinate power to unions, which fight to equalize wages among workers rather than letting salaries reflect achievement and alternatives in the global labor market. Because of the great differences in salaries, gifted young people who leave for Europe and the U.S. to pursue doctorates often turn down

⁶ Soro-Bonmati (2001) and Checchi *et al.* (1999)

⁷ See: Beine, Docquier and Rapoport (2001), Mountford (1997), and Vidal (1998).

⁸ Moav and Yifrah (2006) show that the burden of taxation in Israel (after deduction of transfer payments) on the quintile of income distribution among the working-age population is considerably greater than the average in OECD countries.

offers to return to Israeli universities once they have completed their studies, despite their preference for living in Israel. In the U.S., market forces and the competition for outstanding lecturers/researchers dictate salaries. University salaries are based on personal contracts, so that wage differentials among professors reflect differences in their achievements and differences in the demand for their field of study. For example, a "star" professor in a highly demanded field (such as economics, business, law, and medicine) can often command a salary that is four or five times greater than a mediocre researcher in a low-demand field like English literature. In contrast, salaries in Israel are equalized across all fields of study and are determined only by rank and tenure. This policy creates almost no correspondence between achievement and salary in Israel. Consequently, although some may argue that the low level of inequality in the Israeli system versus the American system is a virtue, the result of such a policy leaves Israel out of the running in certain fields in terms of being able to recruit and retain the most productive researchers in Israel.

For example, the combination of low salaries and a heavy tax burden results in a starting net income of \$2,000 a month at an Israeli university. The same young lecturer can opt for a net salary in excess of \$5,000 in the American market if he is an economist, or in excess of \$8,000 if he is a researcher in finance in a business administration school. In addition, this wage gap becomes dramatically wider over time for successful academics, creating a temptation that is difficult to resist even for those who prefer to live in Israel for personal reasons. By making wages competitive in order to reflect productivity, the American system is able to achieve far more than its Israeli counterpart.

Historically, salary policies in Israel were similar to those in European countries, which also lost many of their best researchers to the United States. In contrast to Israel, however, most of these countries found ways of enticing their best researchers back home. Simply put, they began paying salaries that were competitive with the international market. Britain has been the most successful in this process, but the economies of mainland Europe, like Germany, France, and others, also found ways of compensating their best researchers and staving off emigration to the U.S. If university leaders and the government of Israel do not act resolutely to discard the current socialist model in the higher education system, the best scientists will continue to leave the country and many areas of research will continue to deteriorate.

Even in the competitive market of the private sector, in which salaries are determined by the competitive forces of supply and demand, high taxation in

comparison with the U.S. – the main destination for emigrating Israelis – pushes educated and talented Israelis to leave their homeland. A high-tech employee with a salary of NIS 20,000 a month is barely able to provide for his family. Half of his salary, and about two-thirds of every supplement, goes to the various tax authorities: income tax, national insurance, health tax, VAT, purchase tax, municipal rates, licensing fees, television license, and so on. His situation is far better than that of an unemployed person or someone earning the minimum wage, but in many cases, he will take advantage of the option to emigrate and materially improve his standard of living (and even get the added bonus of an exemption from reserve military service as part of the deal.)

Findings

In this section, we will present the main findings derived from the database provided by the 1995 Israeli Census and the Central Bureau of Statistics (CBS) definition of an emigrant in 2002. However, we will first briefly present findings from the U.S. Census of 2000, which relates to 5% of the population in the U.S. Each respondent in the Census was asked, among other questions, about his country of birth and his education. In order to obtain an estimate of the extent of emigration from Israel to the U.S., and mainly the extent of the brain drain in comparison with other countries, we focused on the 30-50 year-old age group. For many reasons, the total number of immigrants (“no. of immigrants aged 30-50” in the table) is extremely low in comparison with different estimates regarding the number of emigrants to the U.S. As we have said, our sample includes only those in the 30-50 age group. Moreover, a considerable proportion of immigrants is illegal and therefore avoids being part of a sample or is disinclined to report truthfully (despite guarantees by the census takers that information would not be passed on to the immigration authorities.) Moreover, various estimates of emigration to the U.S. include Israelis who have died. Most importantly, a considerable proportion of emigrants from Israel were not born in Israel and therefore will not list Israel as their country of birth, which forms the basis for the comparison. However, the purpose of using data from the U.S. census is to provide a comparison with other countries and not to assess the overall extent of emigration. In other words, the figures in the columns “immigrants for every 10,000 residents” and “college graduate immigrants for every 10,000 residents” should be regarded as no more than indices for comparison between countries.

Due to the fact that a substantial proportion of emigrants from Israel were not born in the country, in contrast with the situation in other countries, the

comparative indices create a significant bias, and the extent of emigration from Israel is in fact greater. Another bias in the data in the opposite direction arises from the fact that the reporting in the U.S. census does not distinguish between Israelis and Palestinians, whereas we included in the denominator only Israeli residents, because the extent of emigration of Palestinians to the U.S. is considerably smaller, according to various assessments, than that of Israelis. Therefore, the inclusion of the Palestinian population in the denominator should not lead to any significant change in the findings.

We concentrated on 28 countries from which there is a high rate of emigration to the U.S., and we included mainly western economies that form a better basis for comparison with Israel than poorer countries.⁹ From this sample, the average index for the extent of emigration is 33.36, whereas the index for Israel is almost three times as great: 95.51. Only two countries have a higher index: Ireland (143.9) and Portugal (99.21). When we examine the index for emigration of college graduates – college graduates when they emigrated or those who acquired their education in the U.S. – the average index is 12.41 in the column “college graduate immigrants for every 10,000 residents” and the index for Israel is more than three times greater at 41.45. This places Israel higher than Portugal and considerably reduces the gap with Ireland (49.09.) If we take into account the bias that stems from the fact that many Israeli emigrants were not born in Israel, it is a fair assumption that Israel is number one in terms of losing her educated citizens to the benefit of the U.S.

Table 1. U.S. Immigration Indices

Country Of Origin	No. of immigrants aged 30-50	Percentage college graduates	No. of college graduates	Population of country of origin	Immigrants for every 10,000 residents	College graduate immigrants for every 10,000 residents
Denmark	10,275	52%	5,329	5,368,854	19.14	9.93
Finland	8,170	55%	4,487	5,172,033	15.80	8.68
Norway	9,030	55%	4,943	5,183,545	17.42	9.54
Sweden	17,174	56%	9,584	8,876,744	19.35	10.80

⁹ According to the study by Carrington and Detragiache (1999), emigrants from developing countries are actually characterized by high levels of education (apparently a reflection of American immigration policy with respect to these countries.)

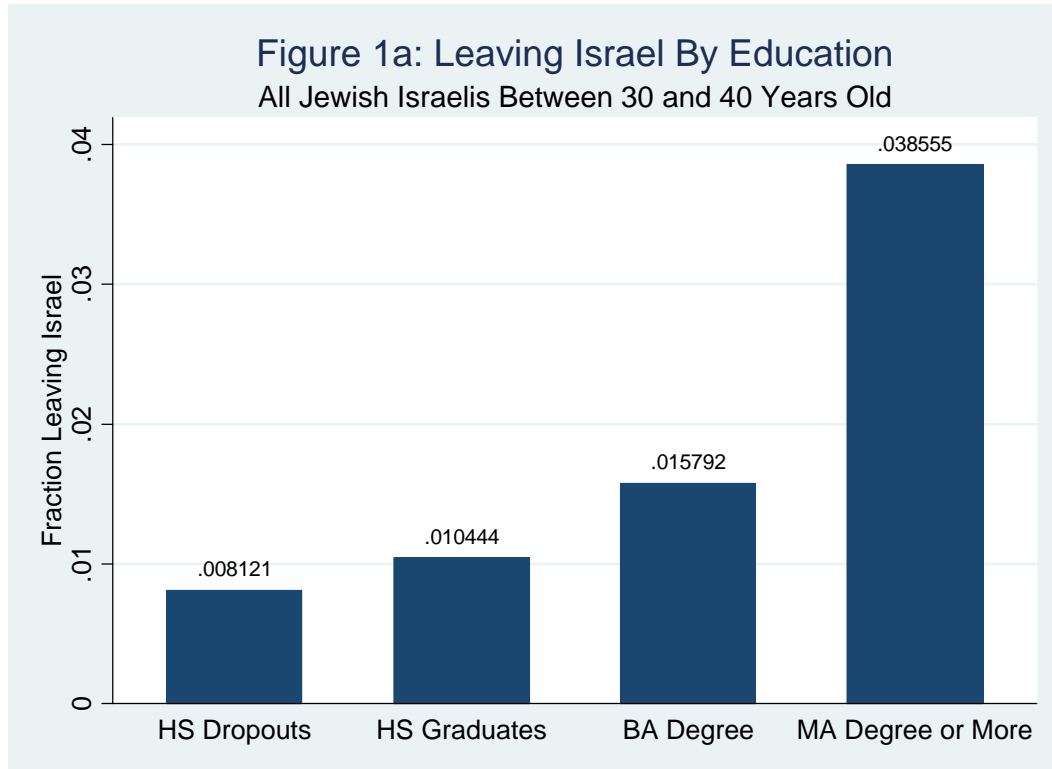
United Kingdom*	307,694	42%	128,600	59,778,002	51.47	21.51
Ireland	55,877	34%	19,061	3,883,159	143.90	49.09
Belgium	12,034	53%	6,397	10,274,595	11.71	6.23
France	89,213	47%	42,323	59,765,983	14.93	7.08
Netherlands	34,318	49%	16,691	16,067,754	21.36	10.39
Switzerland	17,295	60%	10,300	7,301,994	23.69	14.11
Greece	70,825	27%	19,366	10,645,343	66.53	18.19
Italy	147,789	27%	39,532	57,715,625	25.61	6.85
Portugal	100,044	10%	9,700	10,084,245	99.21	9.62
Spain	46,546	39%	18,020	40,077,100	11.61	4.50
Austria	15,936	43%	6,877	8,169,929	19.51	8.42
Czechoslovakia	19,990	41%	8,230	10,256,760	19.49	8.02
Germany	429,158	34%	145,130	83,251,851	51.55	17.43
Hungary	20,498	39%	7,969	10,075,034	20.35	7.91
Poland	176,737	27%	47,587	38,625,478	45.76	12.32
Romania	48,294	43%	20,877	22,317,730	21.64	9.35
USSR/Russia	271,364	53%	143,202	144,978,573	18.72	9.88
China	709,415	55%	387,300	1,284,303,705	5.52	3.02
Japan	225,484	48%	108,981	126,974,628	17.76	8.58
Korea	388,783	45%	173,128	70,548,195	55.11	24.54
Thailand	57,773	35%	19,987	62,354,402	9.27	3.21
India	667,434	65%	432,037	1,045,845,226	6.38	4.13
Israel/Palestine	57,589	43%	24,994	6,029,529	95.51	41.45
Turkey	39,649	45%	17,974	67,308,928	5.89	2.67

* Including England, Scotland and Wales

In order to understand the factors influencing emigration from Israel, specifically in line with the aim of our research – to assess the Israeli brain drain – we focused on data regarding income, education, and employment, and distinguished between new immigrants, established immigrants, and native-born Israelis. The objective throughout was purely comparative: the examination of different emigration rates in comparison with different population groups, mainly by level of education. There was no attempt to improve on the estimates of the Central Bureau of Statistics concerning the extent of annual emigration of around 19,000 a year for the last few years and around 25,000 for 2005. The contribution of this study is to provide a more comprehensive understanding of the composition of those that choose to emigrate.

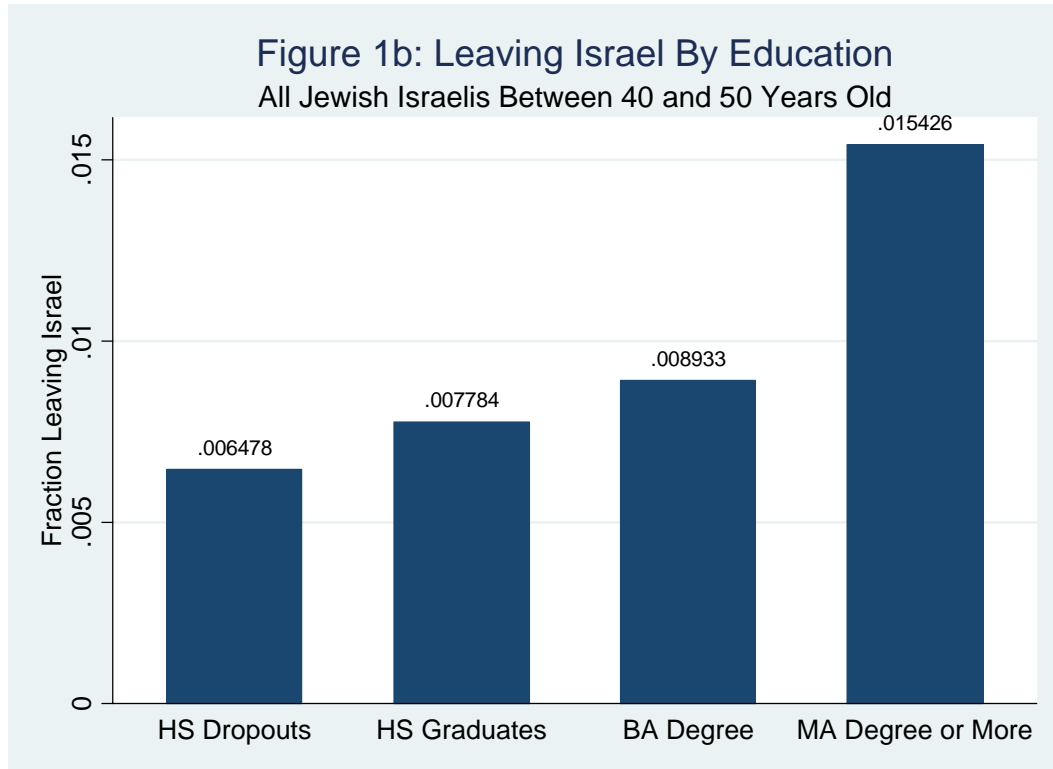
As we have said, the basis for the data is the 1995 Israeli Census, which has been merged with an additional variable that indicates each respondent's emigration status, as defined by the CBS for 2002. An emigrant is defined as an Israeli citizen who stayed abroad for at least 365 consecutive days and, if he did return to Israel, remained in the country for no more than 90 days (i.e., he did not move back to Israel to live, but was only visiting.) Figure 1a shows the rate of emigration from Israel in the 30-40 age group according to level of education. We concentrated on the over-30 age group so as to eliminate from the sample most of the population that is still at the stage of acquiring education, and also to avoid including young people who, after completing compulsory military service, often travel abroad for periods beyond one year and who are therefore defined as emigrants. Also, we will later see that most people make their decision to emigrate before the age of 40. In addition, it is important to note that the 30-40 age group is critical to Israeli society in terms of being the group that has benefited from large tax-payer subsidies to education, but may deprive Israeli society of the benefits of these subsidies by pursuing careers abroad and paying taxes exclusively to another country.

Figure 1a clearly shows that education has a significant influence on the extent of emigration. During the period 1995 to 2002, the rate of emigration among high school graduates (without a graduate degree) was slightly greater than 1 percent, whereas for the group that did not complete high school it was approximately 8%. In other words, the rate of emigration of high school graduates was 28.6% higher than the rate for non-graduates. The differences are proportionately greater between those with a graduate degree and those who completed high school. Around 1.58% of this group emigrated – 51% more than the rate among those who only completed high school. The rate rises significantly among those with an M.A. degree or higher. More than 3.8% of this group emigrated during the relevant time period – almost 2.5 times those with a graduate degree, more than 3 times those who completed high school, and more than 4.5 times those who dropped out of high school.



One might naturally be concerned that the criterion selected for emigration creates a bias that artificially increases the rate of educated emigrants. In the educated group, traveling abroad for a year or two occurs for such reasons as an academic sabbatical, temporary assignments abroad by private companies or government agencies, etc. These extended trips will be defined by the CBS as emigration in many of these cases, even though there is no intention to emigrate. It is, therefore, possible that the differences between the education groups are misleading. However, we obtain very similar patterns in data if we narrow the definition of an emigrant to include Israeli citizens who have left the country for two years instead of one year, although the overall levels of emigration are lower for all education levels with this alternative definition. This pattern is persistent with an even tighter definition of three years outside the country.

Figure 1b illustrates the emigration rates for the 40-50 age group according to education level. As expected, the numbers are lower, and there is even a certain leveling out of the relative differences between the groups. Nonetheless, the basic pattern – the strong influence of education on emigration – remains unchanged.



Figures 1c and 1d divide the 30-40 age group by gender. The patterns of emigration are not significantly different between men and women, despite the fact that, apart from those with a B.A. degree, the numbers are lower for women.

Figure 1c: Males Leaving Israel By Education

All Jewish Israeli Men Between 30 and 40 Years Old

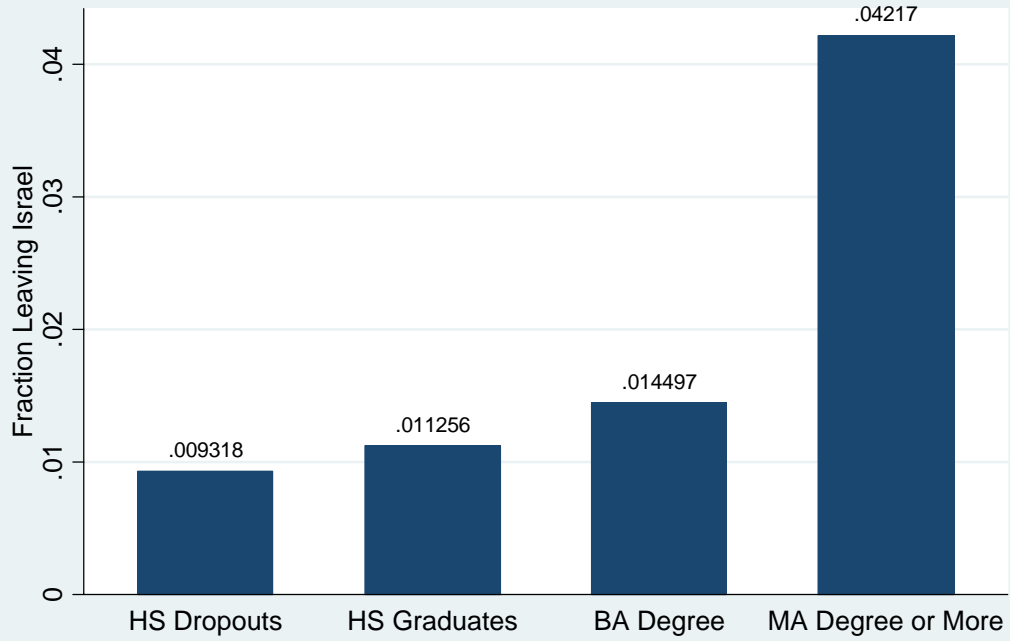
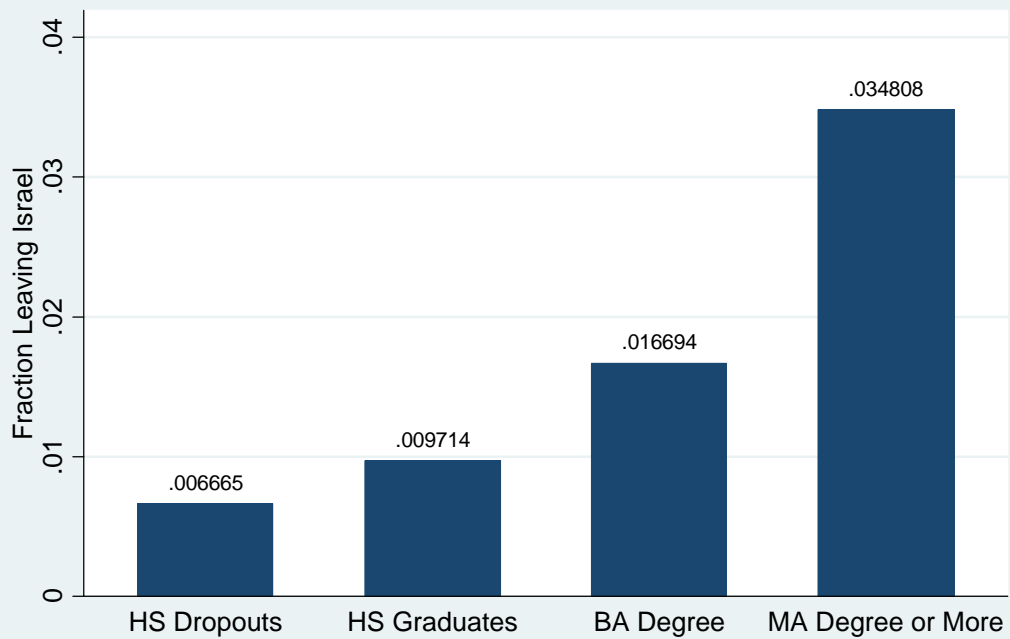


Figure 1d: Women Leaving Israel By Education

All Jewish Israeli Women Between 30 and 40 Years Old



If the sample is restricted to those born in Israel (Figure 1e,) the rate of emigration in this group is lower in comparison with the group containing new and established immigrants. As is to be expected, emigration is greater among those who immigrated to Israel than among native-born Israelis. Among those born in Israel, approximately 0.6% of the high school dropouts left the country during the period under examination, in comparison with around 0.69% of high school graduates, or 14.5% more than the dropouts. The rate increases to around 1% with regard to native-born Israelis with college degrees. In other words, the difference between those with a college degree and those who completed high school but did not have a college degree is approximately 44%. Emigration rates are slightly more than 2% for those with an M.A. degree, which is more than twice as high as those with only a college degree, and three times as many as the group containing high school graduates and dropouts. That is, the pattern of emigration for native-born Israelis in relation to their education level is very similar to the sample as a whole, but the magnitudes are significantly lower, and even the differences between the groups are slightly smaller.

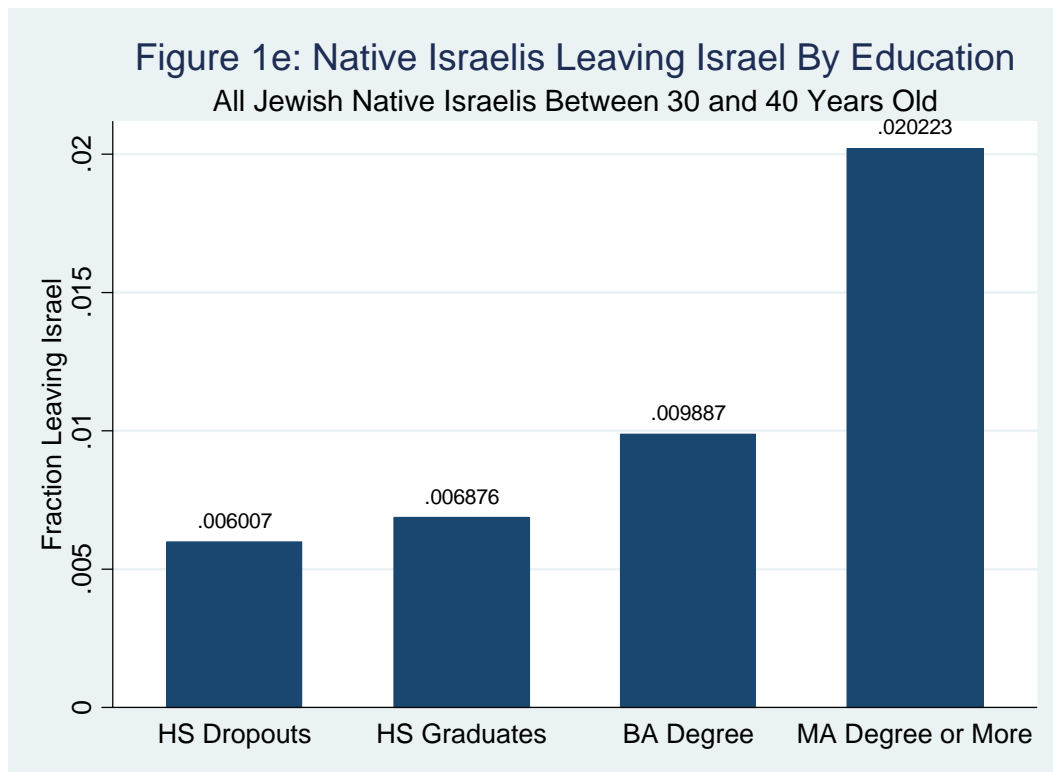


Figure 1f examines the patterns of emigration according to education level among established immigrants (those who immigrated up until 1989), or those who had been in the country for at least 5 years at the time of the 1995 census.

Again, the relationship between the propensity to emigrate and the level of education is similar to the pattern observed within the group of native-born Israelis. The magnitudes, however, are higher in comparison with those of native-born Israelis – between 38% to 85% greater. (The exception is high school dropouts; there is no significant difference in the rate of emigration between natives and pre-1989 immigrants for high school dropouts.)

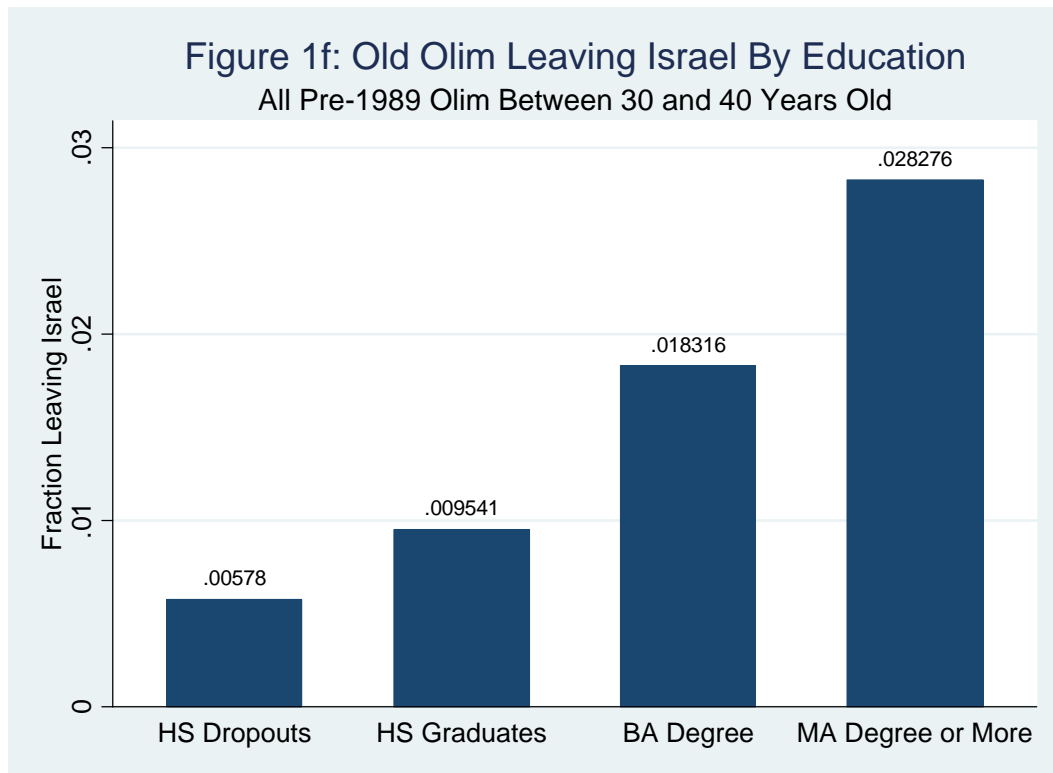
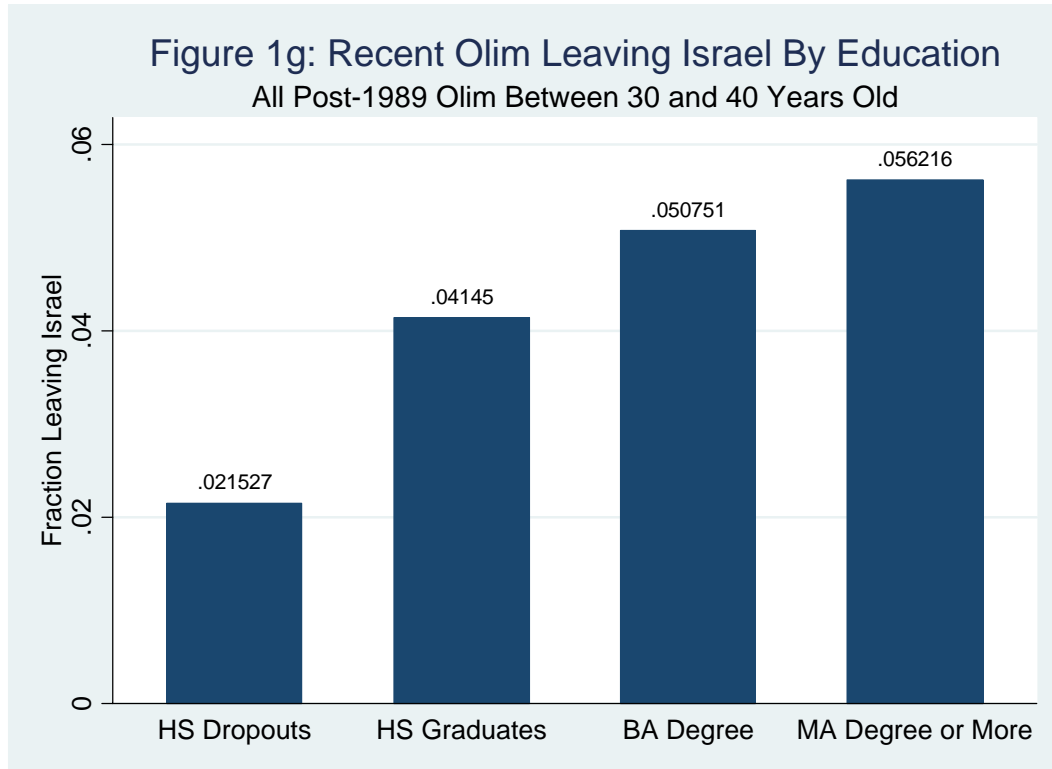


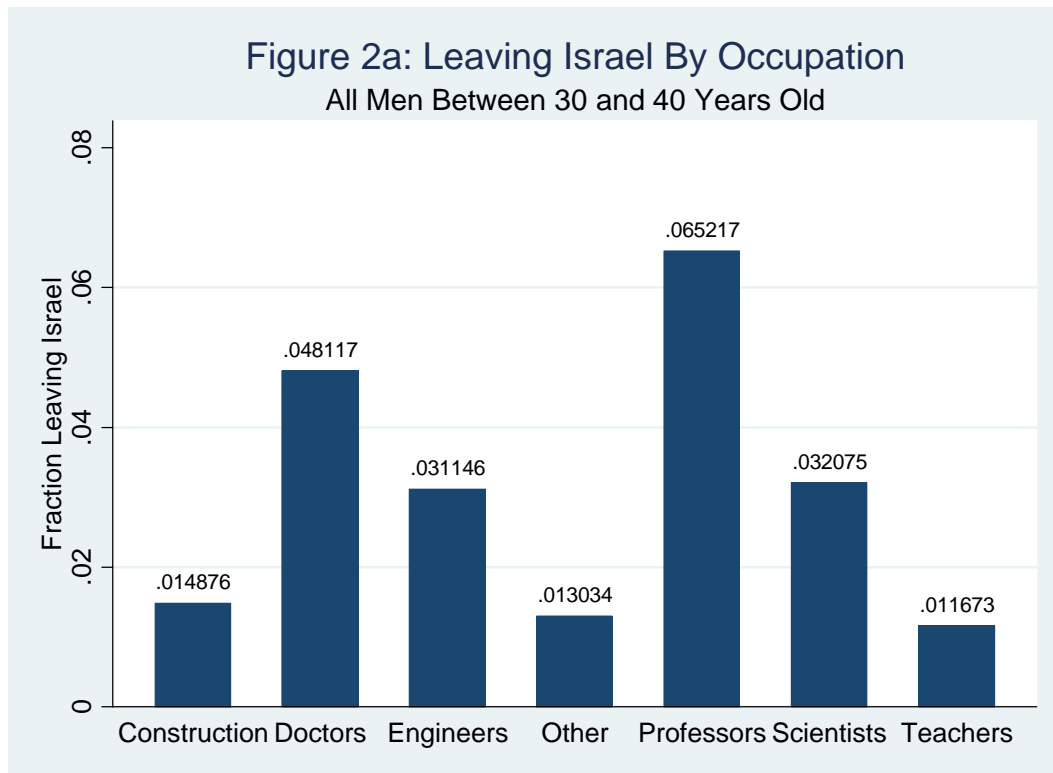
Figure 1g presents the patterns of emigration by education level for more recent immigrants to Israel: those that moved to Israel after 1989. The pattern across education levels displays the familiar increasing rate of emigration for the more educated groups, but the striking result in Figure 1g is that the magnitude of the phenomenon is at least twice as high as each respective group in the native population (Figure 1e). As a result, this figure suggests a troubling pattern whereby the more productive immigrants to Israel stay for only a short time, leaving behind the lower ability immigrants, who are more of a burden on the social welfare system.



We will now turn to an examination of the link between certain professions and emigration. According to economic theory, there should be higher rates of emigration in fields where large investments are not required to match the human capital of the profession to the language, culture, and regulations of the target country. Also, there should be larger rates of emigration from sectors which are controlled by workers' unions that serve to reduce wage differentials between members, so that the more talented and diligent workers struggle to advance professionally and financially. For example, high-ranking academics and doctors are expected to emigrate to a greater extent than private sector scientists or engineers whose wages are fixed competitively, or teachers who would find it difficult to be hired due to licensing requirements in the United States.

Figure 2a shows the patterns of emigration for different professions. Consistent with the projection, professors (i.e., senior university teaching staff) have the highest emigration rate, with 6.5% leaving the country. Doctors are close behind, with a high emigration rate of 4.8%. Engineers and scientists (who are not university workers) are a considerably behind, with a rate of just more than 3%. Finally, emigration rates during the period covered for the remainder of the population, including teachers and construction workers, were at far lower levels

of between 1.17% and 1.49%. It should be noted, however, that it is reasonable to suppose that there is a slight upward bias of emigration rates among doctors and professors due to the frequency of going abroad on sabbatical, which, if the timing is correct, can lead to them being considered as emigrants. However, as pointed out above, stricter definitions of an emigrant – at least two years abroad – do not change the relative patterns.



In Figure 2b, we made a comparison between native-born Israelis, established immigrants, and new immigrants according to profession. For the sake of clarity, no distinction was made in this figure between teachers and construction workers and the rest of the population. The figure reveals interesting and surprising findings for which we will not be able to supply a complete explanation in the context of this study. Almost 7% of doctors born in Israel are defined as emigrants in the period covered by the study, compared with only 3% and 3.6% among established immigrants and new immigrants respectively. This may be a function of the difference in the way a medical degree acquired in Israel is recognized in the United States as opposed to one acquired in the Soviet Union. As part of its efforts to absorb immigrants from the CIS, Israel created criteria and a system of professional compatibility that allowed doctors who had been trained in the Soviet Union to obtain a medical license in Israel, but this

license is of little value in the U.S. Another interesting finding with respect to Israeli-born doctors that can be seen in Figure 3 is the positive correlation between age-adjusted income and emigration rates.¹⁰ One possible interpretation of this positive correlation is consistent with economic theory. Within the Israeli system, which is characterized by wage regulation that reduces the income differentials between doctors, the more qualified earn more, but less than they would have earned if there had been no wage regulation. Thus, emigration is particularly attractive for them. At the same time, there is another factor working in the opposite direction. Workers who manage to “land a good job” in a market that is not especially competitive and are, therefore, in the top income quintile for doctors, will often choose to hold on to these senior posts by not emigrating. At the other end of the distribution, doctors in the lowest quintile are probably those with lesser ability or with the lowest investments in their career and skills, and their emigration rates are therefore lower, since emigration is not such a tempting way for them to capitalize on their lower level of productivity.

¹⁰ Age-adjusted income: emigration rates were examined according to income groups for each of five age groups separately. The figure displays the findings according to age groups. That is to say, the age distribution is identical for each income group and the highest rate of emigration in the fourth income group (from the bottom) does not encompass older doctors.

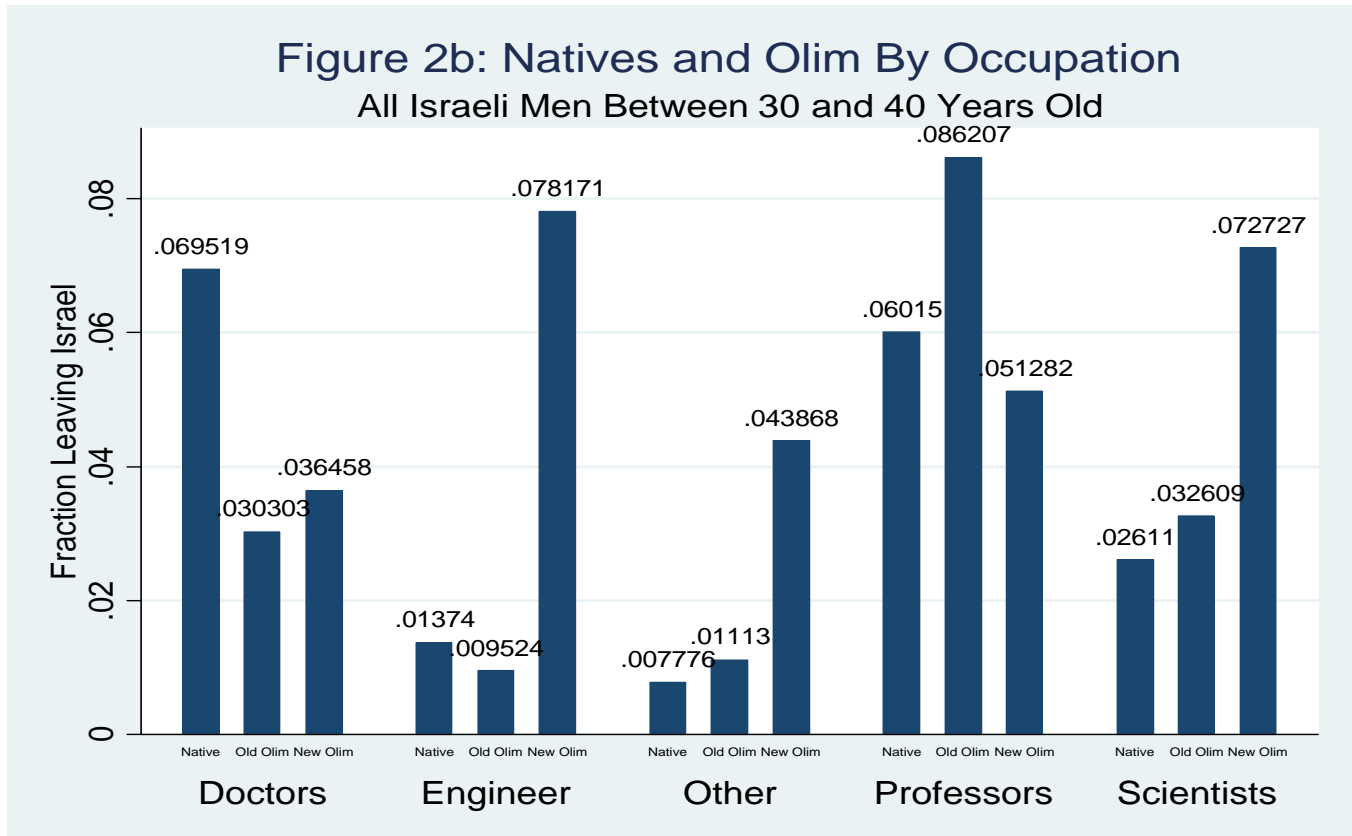
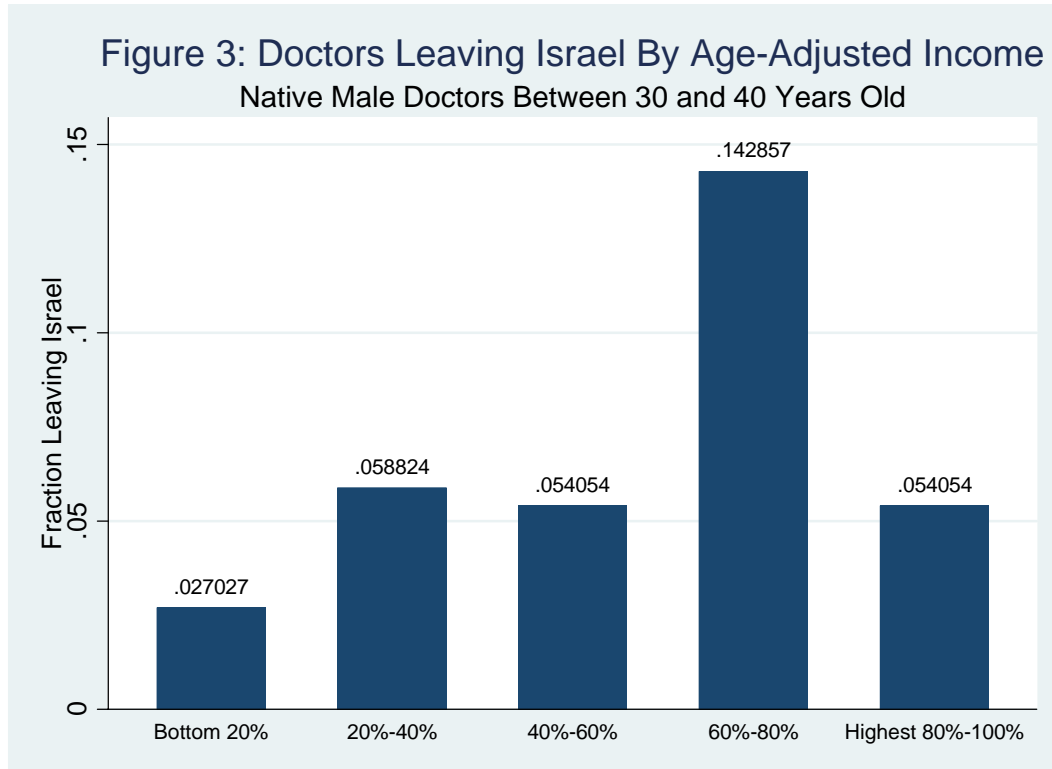


Figure 2b also shows that the pattern of emigration among engineers is significantly different from that of doctors. For engineers, the emigration rate is an extremely high rate of 7.8% for new immigrants, but only 1.37% and 0.95% respectively for natives and older immigrants. Again, we can only conjecture about the causes for these differences. One important factor could be that many engineering jobs are found in government-created monopolies (electricity, water, etc.) High wages in these monopolies provide incentives for workers to stay in the country, but there are also very high entry barriers to find a job. For example, it is well-known that personal connections are often the key to obtaining a job as an engineer in the Electric Company, Mekorot, the Ports Authority, etc. Native Israelis and older immigrants are more likely to have the necessary connections to find a high paying job in these sectors, but recent immigrants are more likely to be frustrated by these barriers to entry, and are therefore more likely to leave for another country. It may also be the case that new immigrants received training that is no more suited to Israel than any other target country, while native Israelis and older immigrants received training in Israel that was more tailor-made to the Israeli market.



The pattern for scientists (excluding university teaching staff) in Figure 2b is similar to that of engineers, but the differences between native-born/established immigrants and new immigrants are smaller. This can perhaps be explained by the higher rate of scientists in the competitive private market in comparison with engineers. University professors have high emigration rates in all groups with no systematic difference between the three groups. Total emigration rates are predictably lower for the rest of the population, in particular for native-born Israelis and established immigrants who achieved seniority in their professional fields in Israel. Dividing up immigrants according to countries of origin (Figure 4) shows that those from countries that provide the bulk of immigration, excluding France, have similar emigration rates of between 3% and 4.8%. France is the exception with only 1.3%, which may be due to the lower level of English proficiency, which is useful if one wishes to emigrate to the United States or the UK.

We will now turn to an examination of the effect of income on emigration. As we remarked earlier for doctors, income has two opposing effects on the tendency to emigrate. On the one hand, a lower income should increase a person's inclination to seek his fortune overseas. On the other hand, it may be that in a country with a rigid labor market characterized by high levels of

regulation the high-wage earners are the ones that are most frustrated by the inability to translate their productivity, effort, and talents into higher wages. Therefore, the negative link between emigration and income could break down when the government stifles the talents and entrepreneurial spirit of the best and brightest people through heavy regulation, taxation, and unionized labor.

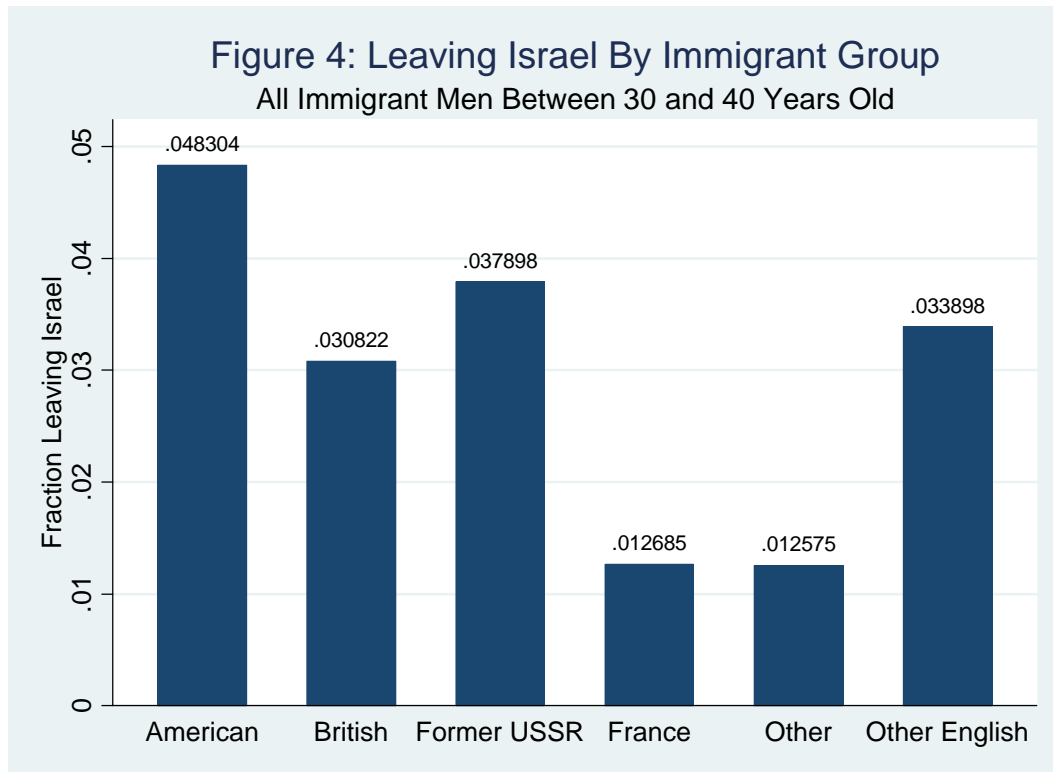


Figure 5a shows the link between income (age-adjusted) and emigration. The figure suggests a weak positive link, three-hundredths of a percent for each of the deciles,¹¹ despite the fact that two groups are well outside the range: the second decile (from the bottom) and the top decile. Concerning the top decile, the data may be reflecting the effect of landing a “cushy job,” as discussed previously in the context of doctors. Dividing the top decile into quintiles, as shown in Figure 5c, provides additional but weak support for the theory of “landing a cushy job.” There is a weak negative link in the top decile between income and emigration. One gets the impression that if there is a “landing a cushy job” effect, it affects the six highest income percentiles. A similar breakdown into quintiles for the lowest decile in Figure 5d shows a positive link between income and the tendency to emigrate. On average, an increase of one

¹¹ Linear regression coefficient

percentage point in income distribution increases the probability of emigration by 6.5 hundredths of a percent, or 0.65% per decile. This means that with respect to the lowest decile, the influence of income is far more positive than for the overall income distribution: 0.65% for that decile, as opposed to 0.03%. Therefore, the results are consistent with the idea that high wage earners are more likely to leave the country than low wage workers, due to the higher returns for their talents abroad. In other words, although talented workers in Israel receive higher wages on the average, these are the people who feel the most frustrated by government policies that stifle competition and entrepreneurial activity.

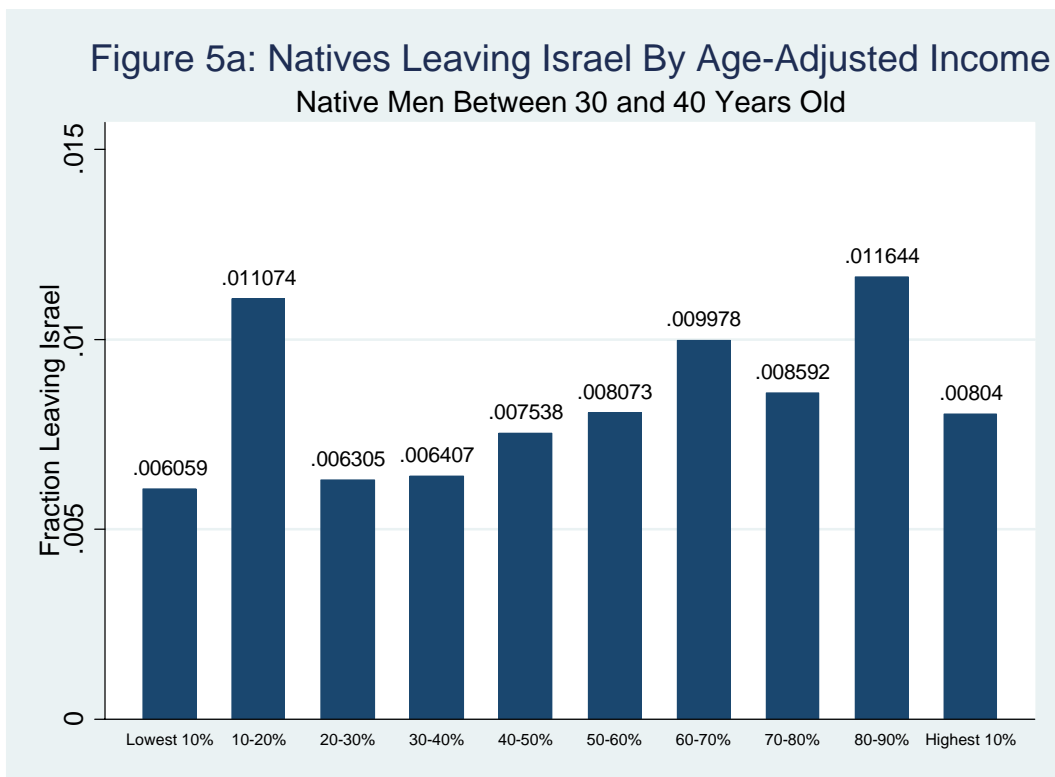


Figure 5c: Breakdown of Upper 10% of Income
Native Men Between 30 and 40 Years Old

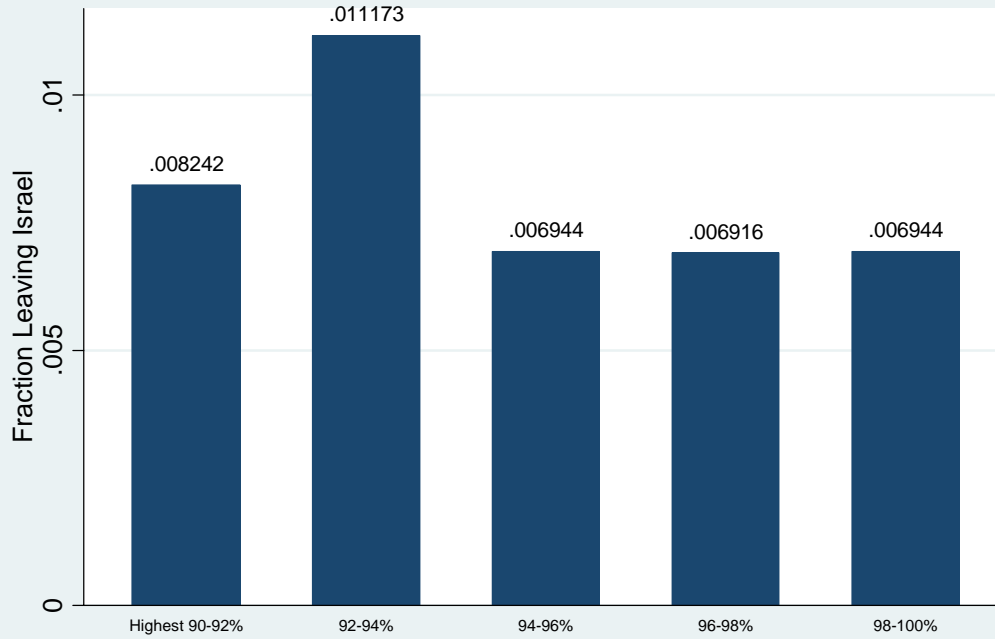
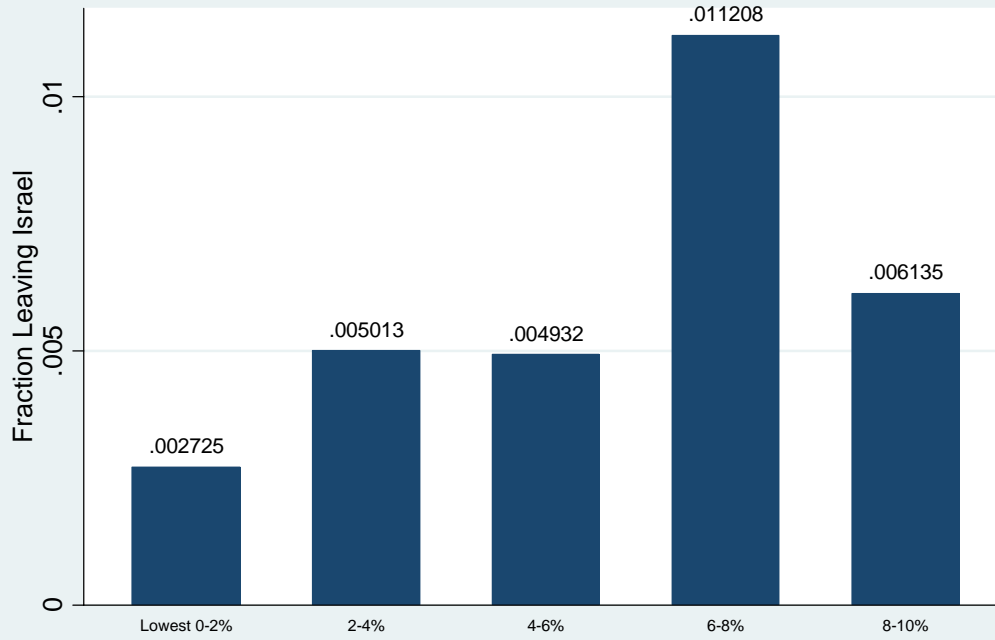


Figure 5d: Breakdown of Bottom 10% of Income
Native Men Between 30 and 40 Years Old



In Figure 6a, a somewhat different picture is obtained regarding new immigrants. If we ignore the lowest decile, we generally see a positive correlation between income and the tendency to emigrate, which is what we found for native Israelis. In other words, the positive link between income and emigration indicates that the higher ability people are frustrated by their prospects in the Israeli economy, and this dominates the tendency for low-wage people to leave the country out of frustration with their income.

However, as the figure shows at the low end of the wage distribution, the rate of immigration is higher for the lowest wage earners compared to those that are in the second and third deciles (from the bottom.) This pattern suggests that the new immigrants who really cannot find good jobs in Israel are more likely to leave. This result contrasts with what we found for native Israelis, and this may be because a very low salary for a native Israeli most likely reflects low earning ability (extremely low education, low intelligence, lack of motivation to break out of the welfare cycle, or physical or mental health problems.) However, for a new immigrant, a very low wage is likely more indicative of difficulties in adjusting to the Israeli system or bad luck in the labor market. It is therefore reasonable that a new immigrant with an extremely low salary is more likely to leave the country than a native Israeli with a similar wage.

At the upper end of the distribution in Figure 6b, there seems to be a negative relationship between income and emigration, which suggests that many of those at the very high end of the wage distribution may have found "cushy jobs" which they do not want to give up by moving abroad.

Table 2 shows summary data on emigration by dividing the sample into two main education groups: those without a college degree and those with a university degree or higher. It also distinguishes between married and unmarried individuals. As we saw previously, well-educated people generally have a higher tendency to emigrate than their less-educated counterparts. In general, it also appears that married people have higher tendencies to emigrate among the college-educated group, but the reverse is true for less-educated people. Among immigrants, there does not appear to be any systematic relationship between marital status and emigration.

Table 2: Percentage of Jewish Israelis aged 25-40 who left Israel since 1995

	Men		Women	
	College Graduates	Less than College	College Graduates	Less than College
<u>Overall</u>				
Married	2.65	1.17	2.76	0.95
Not Married	2.25	1.79	2.10	1.52
<u>Native Israelis</u>				
Married	1.29	0.81	1.42	0.61
Not Married	1.06	1.37	1.28	1.22
<u>All Immigrants</u>				
Married	4.62	2.13	4.70	1.79
Not Married	4.83	3.50	3.62	2.30
<u>Immigrants since 1990</u>				
Married	6.69	4.06	6.10	3.61
Not Married	6.60	5.43	4.28	3.13

The data presented so far clearly show the bias in emigration in relation to education. However, there is no way of knowing why people choose to leave the country. A questionnaire we distributed among 320 Israelis living in the United States¹² is of some help in understanding the reasons behind their decision to leave. Since the sample is rather small and not representative of the population

¹² In cooperation with Maayan Tzuk and with the assistance of the Sarid Institute.

of emigrants in the U.S., the questionnaire has only limited scientific validity. However, taken with the data we have already presented, it does offer a certain amount of support for the conjectures we have made so far.

Table 3 shows that employment considerations are highly relevant to the decision to emigrate. A clear majority of those questioned (71%) cited the work of their partner and 81% cited unemployment as highly relevant factors in their decision to emigrate. It is interesting that only 43% cited income as a highly relevant factor, but the purchasing power of the income, as expressed in the high burden of taxation and the cost of living (66% and 75% respectively) is described as an important factor. It is also interesting to note that the quality of schools is a factor cited as being highly relevant by 75% of those questioned, more than the security and political situation (65%).

Table 3. Relevancy of various factors in the decision to leave Israel

	Highly relevant	Relevant	Irrelevant
Partner's work	71%	6%	21%
Israeli unemployment	81%	12%	6%
Interest in work	34%	28%	37%
Income from work	43%	21%	34%
Israeli taxation	65.6%	15.6%	18.75%
Studies	43%	25%	31.25%
Quality of school	75%	6%	15.6%
Security and political situation	65.5%	21.8%	15.6%
Extent of regulation	81%	12.5%	6%
Israeli cost of living	75%	12.5%	12.5%

Tables 4 and 6 illustrate the relevancy of some of the main causes of emigration according to income groups in Israel prior to emigration. The relevancy of employment (partner's work and unemployment) naturally decreases with income, whereas the relevancy of taxation increases with income.

Table 4. The relevancy of partner's work according to income groups in Israel (prior to emigration)

Annual salary	Highly relevant	Relevant	Irrelevant
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(\$U.S.)	relevant	t	
Less than 24,000	68.4%		31.6%
24,000-36,000	80%	20%	
36,000-48,000	73%	28%	
48,000-72,000	40%	40%	20%
72,000-96,000			
More than 96,000			

Table 5. The relevancy of Israeli unemployment according to income groups in Israel (prior to emigration)

Annual salary (\$U.S.)	Highly relevant	Relevant	Irrelevant
Less than 24,000	73.6%	15.7%	10.5%
24,000-36,000	100%		
36,000-48,000	100%		
48,000-72,000	60%	20%	20%
72,000-96,000	51%	13%	36%
More than 96,000	17%	26%	57%

Table 6. The relevancy of Israeli taxation according to income groups in Israel (prior to emigration)

Annual salary (\$U.S.)	Highly relevant	Relevant	Irrelevant
Less than 24,000	15.7%	21%	63.1%
24,000-36,000	10%		90%
36,000-48,000	16%	2%	82%
48,000-72,000	40%		60%
72,000-96,000	38%	32%	30%
More than 96,000	68%	22%	10%

Conclusions

Upon the publication in September 2005 of the CBS data on the extent of emigration from Israel, many public figures expressed alarm at the data's grave implications and called for immediate action to deal with the troubling phenomenon. Many even spoke of a need for "soul searching." The drop in immigration juxtaposed with a rise in emigration generated serious concern. The

emigration of the most talented citizens and the slump in immigration is a problem in itself, but it must also be understood as a symptom of a general failure by the state of Israel to create a society capable of attracting and keeping the best and brightest of the Jewish people. This study, which shows emigrants to be a disproportionately well-educated group, can do more to help the Israeli government develop an effective plan of action than any amount of "soul searching."

Economic development in any developed country depends heavily on the quality of human capital in the economy. Many poor countries whose populations are characterized by low education levels suffer from a significant brain drain.¹³ The developed economies benefit by gaining the most talented workers from poor countries without investing in their education. Israel, instead of being a destination for the immigration of educated people, suffers from a brain drain typical of a poor economy.

In order to keep educated workers at home, a number of policy changes need to be made. Most important of these are a reduction in the burden of taxes on the middle classes, the creation of opportunities in the job market by breaking the hold of workers' unions on certain sectors, and vigorous action to increase competitiveness and economic growth. The findings presented in this research suggest that Israel's economic backwardness, as compared to developed countries, is taking a heavy toll. This backwardness manifests itself in an especially problematic way with regard to the tax burden that the state imposes on its medium-to-high income earners and the lack of flexibility and opportunity in the labor market.

However, although the conclusions outlined here seem straightforward, they are not acknowledged in Israeli society today. For example, many argue that if the government turns a deaf ear to its weaker population sectors, this will lead to a decline in social solidarity that could in turn encourage emigration and evading service in the army. This study shows that if welfare policy has an influence on emigration, it is in the opposite direction: the potential leaders of the country are more likely to leave than those from weaker sectors of the population. Israel's educated population is paying the price of the failure of its welfare policy. This policy has led many of its citizens to choose unemployment over employment and to raise numerous children without having the appropriate means of

¹³ Carrington and Detragiache (1999.)

providing for and educating them. The constant increase in the size of those groups who rely on support from the welfare state, combined with the simultaneous rise in emigration of well-educated Israelis, will create an ever-growing burden on working Israelis who choose to remain in the country.

Although we argue that the source of the problem is economic policy, some have argued that it is due to the encouragement of the Israeli media to pursue personal happiness abroad. For example, Amnon Rubinstein (*Ha'aretz*, December 31, 2001) writes: "You can read and hear Israelis – among them public figures – in the press and in the electronic media presenting emigration from Israel as a solution to the increasing hardships of life here, and occasionally they even call specifically for emigration." He continues, "The fact that, despite this, only a small proportion of young Israelis leaves the country attests to the strength of Israeli society." However, he is concerned by the call to emigrate: "What will happen if this call by those who are sometimes considered to be shapers of public opinion – 'to stay alive' there and not here – is answered by a large segment of the public? Those who call so enthusiastically for emigration should take into account the fact that not only is their call class-based, it also abandons the weak – those who cannot obtain a visa for America – to far greater dangers than the ones that face them today."

Rubinstein understands that it is the stronger elements of society that are more likely to emigrate and argues that social legitimization is the source of the problem. The conclusions of this study indicate that a call to show responsibility is only a partial solution to the problem. Practical steps must be taken to improve the quality of life in Israel.

One can see the consequences of Israeli policies through the microcosm of the kibbutz movement. The unwillingness of kibbutz members to adjust to the times and to confront the severe economic crisis that gripped the kibbutz movement in the 1980's has led to a mass desertion by the best of their young men and women. Adherence to a rigid system caused most of the kibbutzim, over a period of only two decades, to abandon completely the values of equality. On many kibbutzim, older members, who expected the new generation to provide for them, were left destitute. The kibbutz is a good example, albeit an extreme one, of Israeli policy. The threat of the brain drain must exert pressure on the government to adjust its policy for the benefit of its well-educated citizens by taking a variety of steps to encourage economic growth, foremost among them a reduction in tax rates. This is in light of the fact that international competition for educated workers has increased with globalization and the relaxation of immigration policies. This

process forces governments that want to retain and attract talented workers to be disciplined in terms of taxation and providing incentives to work and innovate.¹⁴

In Israel, a small population of workers provides for a large population of children and unemployed adults in numbers that are well above other developed countries. As a result, the tax burden on middle and upper income families is disproportionate in comparison to other countries, which stunts the incentives necessary to spur economic growth in Israel. The situation is unsustainable in the long-term, and could very well endanger the existence of the state. Israel's military superiority is a result of its qualitative and economic advantage in comparison with that of its neighbors, who have come to terms with its existence because of its military power. A lack of economic prosperity and heavy taxation on the working population will push those who currently bear the burden to emigrate and consequently weaken the Israeli economy.

Without its economic and qualitative advantage, Israel will not be able, to retain its creative citizens or attract well-educated new immigrants over the long-term. Moreover, if this situation is not addressed quickly and effectively, Israel will not succeed in maintaining its military advantage over its enemies, an advantage that stems from the quality of its people and is the basis of its technological and economic edge.

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