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# SIZE AND SELECTIVITY PATTERNS AMONG ISRAELI BORN IMMIGRANTS IN OECD COUNTRIES

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of immigrants, migration, and the movement  
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**Size and Selectivity Patterns among Israeli Born Immigrants in OECD Countries**

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**EURO-MEDITERRANEAN CONSORTIUM FOR APPLIED RESEARCH ON INTERNATIONAL  
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- Mediterranean migration database;
- Research and publications;
- Meetings of academics;
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- Early warning system.

The activities of CARIM cover three aspects of international migration in the Region: economic and demographic, legal, and socio-political.

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## Abstract

In recent years, there has been much concern about the size and selectivity of the Israeli emigrant population. This paper focuses on two issues regarding Israeli emigrants. First, it focuses on their number and distribution in various destination countries; while the second part of the paper deals with patterns of self-selection among emigrants, namely, the skill level of Israelis who select themselves to leave Israel for various destination countries. The paper addresses these issues using the DIOC (Database on Immigrants in OECD Countries) which includes information on the foreign born (including Israeli-born) from censuses and population registers in OECD countries.

The findings suggest that Israeli emigration has increased in the past two decades, but that most of the increase was in the 1990s, and was due to the emigration of foreign-born Israelis, rather than the emigration of native-born Israelis. Based on the DIOC, 164,000 Israeli-born emigrants, aged 15 years and over, resided in 25 OECD countries in 2000. Two thirds of the emigrants were in the US, and 85% in the Anglo-Saxon countries (the US, Canada, UK, Australia, New Zealand and Ireland). France is the only non Anglo-Saxon country where over 5,000 Israelis resided. Based on Israeli and American sources, this paper also presents estimates for the total size of the Israeli-born emigrant population (including children under 15 and including non-OECD countries), as well as estimates for the number of foreign-born Israeli emigrants from Israel.

The selectivity of Israeli emigrants, measured by education, occupation, employment status, and age is most positive in the Anglo-Saxon countries, especially the US, where the returns on skills are the highest. By contrast, the least skilled Israeli emigrants choose Scandinavian countries, where the labor markets are relatively rigid, and returns on skills tend to be the lowest. Selectivity for other European countries is somewhere in the middle, but the emerging, unregulated and unequal economies of Eastern Europe appear to attract very few, albeit highly-skilled, Israelis. These findings are consistent with migration selectivity theory which anticipates that high-skilled immigrants will choose destinations where their skills will be generously compensated.

Additional support for the hypothesis that the skilled choose destinations with higher returns on skills, is evident from an analysis of very high skilled Israeli-born emigrants, those holding a Ph.D. degree or its equivalent. There are at least 5,600 such emigrants in OECD countries, and about 75% of them reside in the US. In the Anglo-Saxon countries (but not in continental Europe) about 40% of them are employed in colleges and universities. While only 7% of those with a Ph.D. in the US and other Anglo-Saxon countries do not work, the respective proportion in Europe is much higher, implying that the unobserved skills of many Israeli Ph.D.s in Europe are not as high as their (observed) high educational degree. Put differently, the unobserved skills of highly-educated Israeli emigrants are more positive in the US and Anglo-Saxon countries than in Europe. Finally, the relationship between selectivity and returns to skills are also demonstrated in correlations between labor market characteristics and immigrant skills.

## Résumé

Le volume et la sélectivité de la population émigrante d'Israël ont connu un gain d'intérêt ces dernières années. Ce papier focalise sur deux problématiques concernant les émigrés israéliens. D'abord, il présente leurs effectifs et distribution dans divers pays de destination. Ensuite, il traite des modes d'auto sélection parmi les émigrants ; c'est-à-dire du niveau de qualification des israéliens qui se sélectionnent eux-mêmes pour quitter Israël et se diriger vers divers pays de destination. Le papier aborde la question en utilisant la base de données sur les immigrés dans les pays de l'OCDE (*Database on Immigrants in OECD countries*, DIOC) qui contient les informations sur les personnes nés à l'étranger (y compris les natifs d'Israël), extraites des recensements et des registres de population dans les pays OCDE.

Les données montrent que le volume de l'émigration israélienne a augmenté pendant les deux dernières décennies, surtout au cours des années 1990, et que cette émigration est plus le fait des israéliens nés en dehors d'Israël que des israéliens nés en Israël. Selon la base de données DIOC, 164.000 émigrés natifs d'Israël, âgés de 15 ans et plus, résident dans 25 pays OCDE en 2000. Deux tiers des émigrés étaient aux Etats Unis et 85% dans les pays anglo-saxons (Etats-Unis, Canada, Royaume-Uni, Nouvelle-Zélande et Irlande). La France est le seul pays non anglo-saxon où résident 5.000 israéliens. En se basant sur des sources israéliennes et américaines, ce papier présente aussi des estimations de l'effectif total de la population émigrée native d'Israël (y compris les moins de 15 ans et les non-résidents dans les pays OCDE) ainsi que des estimations de l'effectif des émigrés israéliens nés en dehors d'Israël.

La sélectivité des émigrés israéliens, mesurée par l'éducation, la profession, la situation dans la profession et l'âge, est la plus positive dans les pays anglo-saxons, notamment les Etats-Unis, où les récompenses des compétences sont élevées. A l'opposé, les moins qualifiés des émigrés israéliens optent pour les pays scandinaves, où les marchés du travail sont relativement rigides et les récompenses des qualifications comptent parmi les plus basses. La sélectivité pour les autres pays européens se situe quelque part entre les deux, mais l'émergence d'économies non régulés et inégalitaires en Europe de l'Est semble attirer très peu de migrants israéliens qui, toutefois, disposent de très hautes qualifications. Ce résultat est compatible avec la théorie de la sélectivité de la migration qui prévoit que les migrants hautement qualifiés choisissent les destinations où leurs qualifications seront généreusement récompensées.

Un autre appui pour l'hypothèse selon laquelle les qualifiés optent pour les destinations avec des récompenses élevées pour les compétences est mis en évidence à partir de l'analyse d'émigrants très hautement qualifiés natifs d'Israël, notamment ceux qui disposent d'un niveau Ph.D. ou équivalent. Il y a au moins 5.600 émigrants du genre dans les pays OCDE dont environ 75% aux Etats-Unis. Dans les pays anglo-saxons (mais pas l'Europe continentale), près de 40% d'entre eux sont employés dans des instituts supérieurs et universités. Au même temps, seulement 7% de ceux disposant d'un Ph.D. et résidant aux Etats-Unis et autres pays anglo-saxons ne travaillent pas. Cette proportion est beaucoup plus élevée en Europe impliquant que les qualifications non observées de la plupart des détenteurs d'un Ph.D. en Europe ne sont pas aussi élevées que leur haut niveau d'éducation (observé). Autrement dit, les qualifications non observées des émigrés israéliens disposant d'un haut niveau d'éducation sont plus positives aux Etats-Unis qu'en Europe. Finalement, la relation entre sélectivité et récompenses pour compétences a été aussi démontrée dans les corrélations entre les caractéristiques du marché du travail et les compétences des migrants.

## Introduction

In contrast to most countries, which have at some point restricted the inflow of new immigrants, Israel has continuously encouraged unlimited Jewish immigration since the days of its independence. In keeping with the goal of increasing the Jewish population, Israel has persistently discouraged the emigration (of Jews), primarily by exerting moral and ideological pressures. Even the demographically neutral terms – immigration and emigration – have been replaced with value laden ones which carry positive connotations for immigrants (*olim*, literally ascending) and negative ones for emigrants (*yordim*, literally descending). It is, therefore, not surprising that, in Israel, emigration has been viewed as a social problem, generating a vast research literature.

Until the 1980s, this body of literature focused on the “severity of the problem,” and on trying to understand why Israeli Jews, and especially the native born, left the country.<sup>1</sup> As the country matured and Israeli researchers increasingly applied scientific standards to the study of such demographic phenomena, a growing body of literature concluded that emigration rates and the stock of Israelis abroad was not unusually high given Israeli circumstances – high share of foreign-born residents, no option for short-term migration to adjacent countries, high rates of return migration, and a protracted conflict with the Arab world (e.g. Cohen 1988; Cohen and Haberfeld, 1997). Moreover, the influx of over one million immigrants since 1990 dwarfed emigration rates which were coming to be viewed as a normal phenomenon that no longer endangered Israel (Yaar, 1988. Cohen 2009). However, since the outbreak of the second Palestinian *intifada* in 2000, which was followed both by a sharp decline in Russian immigration, and by a steep rise in emigration, the “emigration problem” has surfaced once again.

Unlike the 1970s and 1980s, when the main concern regarding emigration was the loss of Jews – any Jews – to the Jewish state, currently the main concern is for both the number of emigrants as well as for their type. The worry is that recent emigrants were disproportionately drawn from the ranks of highly-educated and highly-skilled Israelis. The argument, voiced by scholars, popular writers, politicians and government officials, is that not only have highly-educated Israelis been emigrating in ever larger numbers, but that the share of the best and the brightest among them has been growing, thereby robbing Israel of its most precious resource, human capital (Ben David 2008, Forthcoming; Gould and Moav 2007, Yediot Aharonot 2003). A close examination of the research which supports this brain-drain argument suggests, however, that the research has neglected to address some crucial empirical issues, most notably the hypothesized intensification of the brain drain over time (both with respect to number of emigrants and their selectivity) and the differential emigrant selectivity to various destination countries. More research is needed to document and understand trends and patterns of emigration from Israel to various destinations. This paper attempts to fill this gap by analyzing selectivity patterns and the size of the stock of Israeli-born emigrants who emigrated and were residing in the 25 OECD countries in 2000.

The present paper has two parts. The first focuses on the number of Israeli emigrants residing abroad. I will, first, present estimates published by various sources including the Israeli Central Bureau of Statistics (CBS). Next, I will present estimates based on my analysis of the Data Base on Immigrants in OECD countries (DIOC) for 2000-2001, as well as on an analysis of the 1990 and 2000 5% Public Use Micro Data Samples (PUMS) of the US census. These analyses will enable me to arrive at accurate estimates for the number of Israeli-born emigrants by country of destination, and at reasonable estimates for the number of foreign-born Israelis emigrants.

The second part of the paper focuses on selectivity and includes four sections. The first section presents the theory guiding the analysis, which expects highly-skilled Israelis to emigrate and reside where the economic returns to skills are the highest. Based on this theory, I expect that the skill level of

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<sup>1</sup> See Sald [1989] for an annotated bibliography of over 100 such studies.

Israelis residing in Anglo-Saxon countries, where the returns to skills are the greatest, to be higher than the skill levels of Israeli emigrants in continental Europe – especially the Scandinavian countries – where the returns to skills are lower. Section two presents the data sets, variables, and the methodology to be used for detecting selectivity and changes in selectivity in emigrants' skills over time. Section three presents the results, and the final section discusses the results and their implications.

## 1. Emigration: Rates and Stocks

### 1.1. Estimates based on Israeli data.

The CBS defines emigrants as those leaving Israel for at least a year (not including visits for up to three months). The annual emigration of Israeli residents are calculated as the number of residents (including new immigrants but not labor migrants) who have left Israel for at least one year, minus the number of returning Israelis who spend over one year abroad. Annual figures suggest that the economic and security situation in Israel accounts for much of the variance in the emigration and return migration of Israelis. The highest emigration rates and the lowest return rates were in 2001-2002, the peak years of the second *intifada* when the number of terrorist attacks in Israel was highest and the Israeli economy showed signs of distress. In those years (2001-2002), the annual emigration balance of Israelis (emigrants minus returnees) was approximately 20,000 (up from the average of about 14,000 per year during 1990-2005). The latest figures available from the Israeli CBS suggest that with the relative decline in terrorist attacks inside Israel in 2003, as well as the improved Israeli economy, emigration rates have been declining, and, by 2005-2006, had returned to their pre-*intifada* levels (Israel 2007, 2008). In short, there is no evidence in CBS data for rising emigration rates in recent years. Notwithstanding the spike in annual emigration rates during 2001-2002, it appears that since 2000 rates have been relatively stable.

Estimates for the stock of Israeli emigrants are based on the number of Israeli residents who left Israel since 1948 and who have been residing abroad for over a year, excluding visits of less than 90 days in Israel and adjusting for mortality abroad. The CBS estimates for the number of Israelis residing abroad in 1989, 1999 and 2006 were 300,000 (Israel, 2007),<sup>2</sup> 480,000 (Hleihel and Ben Moshe, 2002), and 544,000 (Israel, 2008), respectively.<sup>3</sup> These estimates show a sharp increase in emigration stock relative to the population in the 1990s, but only a slight increase in the last decade. Between 1989 and 2006 the emigrant population grew by 81.3%, compared with an increase of only 56.1% in the Israeli population and a 53.4% rise in the Jewish population (Table 1). Much of this growth took place in the 1990s, rather than in the 2000s. In 1989, emigrants comprised only 6.58% of the Israeli population. Ten years later, in 1999, the respective figure increased to 7.49% and by 2006 it had reached 7.64%. Ironically, in the 1990s there was no discussion in Israel of emigration or the brain drain, while in the early part of the present century, when emigration hardly increased, there was an outcry about emigration. The most likely explanation for this is that when Israel receives many immigrants, as was the case in the 1990s, emigration is less of a concern. But when Jewish immigration rates are low, as has been the case since 2001, attention focuses on emigrants. Thus, the recent anxiety in Israel about emigration rates is most likely the product of a decline in immigration rather than the slight rise in emigration during the 2000s.

<sup>2</sup> This figure for 1989 is derived from CBS estimate (Israel, 2007) stating that during 1990-2005 the emigration balance was 230,000 (emigrants minus returnees) and that the total number of emigrants in 2005 was 530,000. This is a lower figure than 335,000 reported by Hleihel and Ben Moshe for 1989 (2002 Table 1). I rely on the lower figure because it is more recent and more consistent with Cohen and Haberfeld's (1997) estimate for the number of Israelis in the US in 1990.

<sup>3</sup> Hleihel and Ben Moshe (2002, Table 1) as well as other CBS publications (Israel, 2007 and 2008) provide relatively narrow ranges for stock estimates, based on the range of estimated mortality among emigrants. In the interest of brevity, I used the midpoints of their estimates.



**Table 1. Israeli population and emigrant stock by nationality (in thousands).**

End of Year	1989	1999	2006	% growth 1989-99	% growth 1999-06	% growth 1989-06
<u>Israeli population</u>						
Arabs	843	1,144	1,414	35.7	23.6	67.7
Jews*	3,717	5,065	5,703	36.0	12.6	53.4
Israeli population, total	4,560	6,209	7,117	36.2	14.6	56.1
Total emigrants abroad	300	465	544	55.0	17.0	81.3
Emigration Rate (% emigrants)	6.58	7.49	7.64			

\*in 1999 and 2006 including "others," who are non-Arab, non Jewish citizens.

Source for Israeli population: Israel 2008a.

Moreover, much of the surge in the emigrant population since 1990 is due to the emigration of post-1989 immigrants. During the 1990s about 1.2 million Jewish immigrants and their non-Jewish family members immigrated to Israel from the Former Soviet Union (FSU). Their emigration rate has been significantly higher than the rate among the native born. Between 1990 and 2005 nearly half (48%) of the 230,000 Israeli emigrants were post-1989 immigrants (Israel, 2007), while their share of the population was less than 20%. Emigration propensities of Jewish Israelis are higher than those of Arab-Israelis, but the precise rates for the respective groups are not known (Israel 2007, 2008).

In sum, CBS provides credible estimates for the total number of Israelis abroad, as well as for the emigration rates of post-1989 immigrants. These estimates indicate a surge in emigration in the 1990s, but not in the last decade, with the exception of 2001-2002. Less information is provided by the CBS regarding the stock of Israeli-born abroad, as well as regarding the emigration of foreign-born Israelis who immigrated to Israel before 1990. It is, therefore, necessary to turn to other sources in order to estimate recent emigration trends and the stocks of these groups.

## 1.2. Estimates based on data from main destination countries

Data from the main destination countries suggests a possible rise in emigration rates in the first years of the twenty first century. While estimates based on the 5% PUMS of the US censuses detected no substantial increase in the stock of the Israeli-born in the US between 1990 and 2000 (Cohen and Haberfeld 1997; Cohen 2007, 2009), there is evidence that in the past few years the rate of emigration has accelerated (Lustick, 2004). In the US, to take one example, the annual number of Israeli-born persons obtaining legal immigrant status (i.e., "green card") increased by 93% between 1997-2000 and 2001-2006 (US 2006). Furthermore, at the turn of this century, for the first time, many foreign-born Israelis and their Israeli-born offspring were applying for citizenship in European countries which are already part of, or soon to be part of, the European Union. Between 2000 and 2006 an estimated 53,000 new European passports were issued to Israeli Jews by Austria, Germany, Poland, Hungary, Romania, Greece and the Czech Republic (Harpaz 2009). The total number is most likely greater as some countries not listed above also issued new passports to Israeli nationals (Harpaz 2009). To be sure, many of these dual Israeli-European citizens have not emigrated nor do they voice any intention of emigrating to any of these countries. Rather, according to reports in the popular press they are seeking 'insurance' for themselves and for their children in case the political and economic situation in Israel deteriorates, as well as leaving the door open for their children to study and work in Europe. However, their intentions notwithstanding, it is possible that at least some of them have emigrated in recent years. Evidently, there is a need to supplement the estimates for the stock of Israeli-born emigrants with data from the main destination countries in Europe and America. Fortunately, new aggregate data for OECD countries, as well as micro census data for the US, are available to perform this task.

### 1.3. Estimates for the stock of Israeli-born emigrants, 15 years and over, based on DIOC

In early 2008 the OECD office in Paris released the Database on Immigrants in OECD Countries (DIOC). This aggregated data set includes information on the demographic and socio-economic characteristics of immigrants, 15 years and older, in 28 OECD countries (OECD 2008). Available information for each destination country includes country of birth, citizenship, age, gender, education, duration of stay, labor force status, occupation and sector of employment (all variables are grouped). For most variables, the data was taken from country censuses conducted in 1999-2001, or, in the case of the Scandinavian countries, from population registers. For some variables the information is based on labor force surveys; in Belgium, Germany and the Netherlands all information is based on labor force surveys. It is thus possible to use the DIOC to estimate the number and characteristics of Israeli-born immigrants in the 25 countries where they are identifiable.

The total number of Israeli-born emigrants, 15 years old and over, in all 25 countries is 164,140 (see Table 2).<sup>4</sup> Not surprisingly, two-third of all emigrants reside in the US, 75% in North America, and 84.4% are in the four major Anglo-Saxon countries (US, Canada, UK, and Australia). Only 14.6% (24,014) of Israeli-born emigrants reside in continental Europe. These figures exclude Germany, the Netherlands (where Israelis are not identifiable)<sup>5</sup> and the European Republics of the Former Soviet Union, as well as all countries in Asia, Africa, and Central and South America. Therefore, to reach an estimate of the total number of Israeli-born emigrants we need an estimate for their number in countries not listed in Table 2.

There is no readily available data for providing precise estimates for Israeli-born emigrants in these countries. The best that we can do is rely on the available data and knowledge of Israeli society and its migration patterns so as to speculate on the number of Israelis in countries not listed in Table 2. For example, assuming that the total number of Israeli-born in Germany and the Netherlands is approximately the same as their total number in France and Belgium, then there are about additional 9,000 Israeli emigrants in continental Europe.<sup>6</sup> The number of Israeli-born in the former Soviet Republics is probably smaller. Although close to 100,000 FSU-born Israelis have emigrated since 1990 (Israel 2008), and many of them returned to the FSU, very few Israeli-born emigrants did so. Assuming that native-born Israelis emigrated to the FSU at about the same rate that they emigrated to the four countries in Eastern Europe listed in Table 2, then there are, at most, 5,000 Israeli-born emigrants in all the republics of the FSU. As for Africa and Asia, very few Israelis reside there, with the possible exception of South Africa; and, in any case, since the abolishment of apartheid the country has experienced Jewish emigration and has therefore become less attractive to Israelis. Given that the total number of Israeli-born emigrants in Oceania is only about 6,000, it is reasonable to assume that the total number of Israelis in Asia and Africa is below that. Finally, if the number of Israeli-born in Mexico is any indication for the size of Israeli emigrants in a large Spanish-speaking country in the Americas, then the total of Israeli-born emigrants residing in South and Central America is no more than 5,000. Taken together, the number of Israeli-born emigrants in all countries not listed in Table 2 is around 25,000.<sup>7</sup> Of course, the above estimate is neither accurate nor precise, but given all available information, it is an upper limit for the number of Israelis in those destinations not listed

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<sup>4</sup> For most countries the information on duration of stay is unfortunately either entirely missing, or based on only a fraction of the non-missing cases. Hence this data set is better for estimating the stock of Israeli emigrants in OECD countries than recent flows.

<sup>5</sup> This is due to coding of immigrants' country of birth in some OECD countries. In Germany, for example, Israelis are not identifiable in the 1% micro census, as they are grouped together with other Middle Eastern immigrants.

<sup>6</sup> The number of the Israeli-born in Germany is most likely smaller than their number in France, with its large community of North African Jews. Belgium, too, is a popular destination for orthodox Israeli-Jews, mostly those in the diamond industry. But the Netherlands probably draws a larger number of young and secular Israeli-born emigrants.

<sup>7</sup> 25,000 = 9,000 (Germany and Netherlands) + 5,000 (FSU) + 6000 (Asia and Africa) + 5,000 (South and Central America).

in Table 2. This being the case, it is safe to conclude that the number of Israeli-born emigrants aged 15 and over, in all destinations circa 2000, was below 190,000 (164,000 + 25,000 = 189,000).

**Table 2. Number of emigrants by destination, age group, and gender.**

	Number	% of total	% men	Age groups (%)		
				15–24	25–54	55+
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Country of residence</b>						
United States	107,744	65.6	55.8	13.0	71.2	15.8
Canada	14,785	9.0	52.6	19.3	63.6	17.1
United Kingdom	10,260	6.3	51.6	18.7	58.4	23.0
Australia	5,794	3.5	55.3	14.0	64.6	21.5
Mexico	850	0.5	60.1	11.8	65.6	22.6
New Zealand	480	0.3	57.9	34.9	55.3	9.9
Ireland	213	0.1	56.3	23.9	63.4	12.7
Total, Anglo-Saxon	140,126	85.4	55.1	14.2	69.1	16.7
France	6,601	4.0	52.1	19.5	70.9	9.5
Switzerland	3,000	1.8	56.1	24.5	65.1	10.3
Belgium	2,281	1.4	55.1	15.7	69.6	14.6
Austria	1,376	0.8	56.3	27.5	58.5	14.0
Luxembourg	68	0.0	55.9	13.2	75.0	11.8
Total, Western Europe	13,326	8.1	53.8	20.8	68.3	10.9
Turkey	2,334	1.4	51.7	19.8	61.1	19.1
Italy	2,088	1.3	58.9	12.7	73.7	13.6
Spain	900	0.5	68.9	17.8	71.1	11.1
Greece	650	0.4	56.6	11.4	58.3	30.3
Portugal	64	0.0	54.7	18.8	65.6	15.6
Total, South. Europe	6,036	3.7	57.3	16.1	66.7	17.2
Sweden	1,635	1.0	64.5	15.9	73.4	10.7
Denmark	1,313	0.8	66.2	10.8	68.2	21.0
Finland	410	0.2	73.1	17.9	76.9	5.1
Norway	380	0.2	60.8	7.0	84.4	8.6
Total, Scandinavia	3,738	2.3	65.7	13.5	72.8	13.6
Hungary	478	0.3	67.6	27.0	66.1	6.9
Poland	282	0.2	72.3	5.3	52.1	42.6
Czech Republic	113	0.1	68.1	13.3	67.3	19.5
Slovak Republic	41	0.0	65.9	26.8	58.5	14.6
Total, Eastern Europe	914	0.6	69.0	18.6	61.6	19.8
OECD – Total	164,140	100.0	55.4	14.8	69.0	16.2
Israeli-born in Israel			51.5	34.0	55.2	10.8

Sources: OECD 2008, analysis of Database on Immigrants in OECD Countries (DIOC).

For the Israeli born in Israel (bottom row): analysis of Israeli Labor Force Survey, 2001.

We need to take two more steps to reach an estimate for the stock of *all* Israelis in *all* destinations. The first is to determine the number of children younger than 15 who emigrated (most likely with their parents). The second is to estimate the number of foreign-born Israeli emigrants. The estimation of emigrant children can be derived from US census data. The 2000 PUMS provides the age distribution of all Israeli-born emigrants. In 2000, 87.54% of Israeli-born in the US were 15 years old and over and the rest were younger children. Applying this age distribution to all other countries, we reach a figure of about 187,000 for the countries listed in Table 2 (164,140 x 1.142), and 217,000 (190,000 x 1.142) for an upper end estimate of the population of Israeli-born emigrants in all destinations in 2000.

Estimating the stock of foreign-born Israeli emigrants is the most challenging task. Emigrants returning to their country of birth, as is the case with many European and American born Israelis, are not listed as immigrants in their countries of birth. In addition, many foreign-born Israelis spent only a short time in Israel, and it is not clear that they should be labeled as emigrants. In some cases – the emigration of Iranian refugees following the Iranian revolution is perhaps the best known example – many emigrants used Israel as a stopover before continuing on their way to the UK or to the US. In another recent case, about 6,000 Argentinean Jews immigrated to Israel in 2002, following the financial crisis in Argentina. A few years later, when the economic situation in Argentina had stabilized, most of them had returned to Argentina. Should such people be considered *Israeli* emigrants? The Israeli CBS includes them in the emigration statistics. This makes sense if the country is concerned about loss of Jews and of human capital. I therefore follow below the CBS rule, and try to estimate the stock of all foreign-born Israeli citizens who reside outside Israel.

While there is no direct method for estimating the stock of foreign-born Israeli emigrants, it is possible to derive it as a residual category once we know the total number of Israelis abroad, as well as the number of the Israeli-born from the DIOC. According to the CBS, the emigration balance of post-1989 foreign-born Jews (and their non-Jewish family members) between 1990 and 2006 is 120,000 (CBS 2007, 2008); the number of Israeli-born who emigrated between 2000 and 2006 is about 21,000 (CBS 2008, Tables 1 and 2). Adding 21,000 to the estimated 217,000 Israeli-born emigrants residing abroad in 2000 according to the DIOC and the US PUMS, we get the following breakdown for the estimated 544,000 Israelis residing abroad at the end of 2006: 238,000 are Israeli-born (Jews and Arabs), 120,000 are post-1989 immigrants (Jews and their non-Jewish family members), and the remaining 186,000 are, by definition, Jewish immigrants who arrived Israel before 1990 and left sometime between 1948 and 2006.

While admittedly crude, these estimates are not far from the “true” numbers, and they confirm previous research, suggesting that emigration from Israel is not particularly high given Israel’s population composition (high rates of foreign-born individuals) and the country’s security situation. Israeli-born emigrants comprise only 6.46% of the Israeli-born population in 2006, a percentage which is probably not higher than the percentage of many countries, including the UK from which 2 million citizens (most of them native born) emigrated between 1997 and 2006 (The Telegraph 2008). Finally, while the stock of Israeli emigrants grew more than the population during the 1990s, most of this growth was among the foreign-born, whose rate of emigration (10.2%) is still very low relative to the emigration of foreign-born populations in other countries. To take the UK again, nearly four million immigrants arrived during 1997-2006, but 1.6 million (40%) foreign nationals left the country during that same period (The Telegraph 2008).

## 2. The Selectivity of Israeli emigrants

### 2.1. Past Research

Previous research reported that the skill selectivity of Israeli emigrants has been very positive. Gould and Moav (2007) used a special file of the 1995 Israeli census, containing an indication of whether a person is abroad in 2002, and reported that the emigration propensities of Israelis to all destinations were higher among the young, the highly-educated, those with above average earnings (but not those in the top earnings quintile), and among members of high-status occupations. Ben David (2008, Forthcoming) focused on the emigration of scientists and professors and presented evidence that the number of Israeli professors in the US is the highest in the world relative to the sizes of Israel's population and senior faculty in Israel's universities. Using Israeli and US census data from the 1980s and 1990s earlier studies (Cohen 1996; Cohen and Haberfeld 2001) showed that Israeli immigrants in the US were younger and of higher educational level than the Israeli population that they had left behind. Indeed, their educational level was higher than the levels of non-Hispanic white US natives, and their earnings surpassed that of demographically comparable natives (namely, natives of the same education, age and other productivity related characteristics) upon arrival or a few years after arriving in the US (Cohen 1996). This implies that Israeli emigrants were positively selected from the Israeli population not only on their observed skills (i.e. education), but also on their unobserved skills. This might include motivation, willingness to take risks or some other dimension of "ability", however defined, that cannot be measured properly and which is probably responsible for their extraordinary success in the US labor market. Unfortunately, there are no studies which estimate the selectivity and economic assimilation of Israelis in European countries or in Oceania. Likewise, despite the claim that the Israeli brain-drain problem is getting worse over time, no studies have attempted to estimate if the most recent emigrants are indeed more positively selected than their predecessors. The following pages will present relevant theories and analysis aimed at addressing these issues.

### 2.2. Theory

That Israeli immigrants were positively selected from their country of origin is consistent not only with previous empirical research, but also with the dominant theory of immigrant self-selection. The theory maintains that only those who believe they can "make it" in the new country take the costly, risky step of starting over elsewhere (Chiswick, 1978). Not all economic immigrants, however, are positively selected. Immigrants' (labor market) skills depend, in part, on the returns to skills offered in both countries of origin and destination (Chiswick 2000, Borjas 1994). From countries of high-income inequality, where skills are generously compensated, the selection of immigrants is negative: the unskilled are those seeking to improve their economic lot by migrating to a more egalitarian country, where they expect to be protected by a net of social services. In contrast, the selection of immigrants from relatively egalitarian countries, where skills are poorly compensated, is positive, as highly-skilled workers seek to migrate to labor markets that will reward their skills.

Since earnings and returns on skills in Israel have been lower than in the US, one would expect that immigrants from Israel to high-income, high-inequality countries – such as the U.S. and the other Anglo-Saxon countries – would be positively selected. Indeed, the intensity of positive selectivity depends on the gaps in earnings levels and in returns on skills between the destination and origin countries. The greater the gaps in returns (destination to origin), the more intense is the positive selectivity.

Continental Europe, however, is very different from the US and the other Anglo-Saxon countries. Levels of earnings inequality (a proxy for returns to skills) in most European countries, in Scandinavia in particular, are appreciably lower than in the Anglo-Saxon countries (OECD 2004). We should therefore expect the selectivity of Israeli emigrants to be most positive in those countries where both

the level of earnings and the returns on skills are the highest, namely, the Anglo-Saxon countries, and especially the US. The least positive selectivity should be observed in the Scandinavian countries where levels of earnings inequality are the lowest of all Europe. Other high-income countries in continental Europe should be somewhere in the middle.

Finally, there remains the question of dynamics. Has the brain drain from Israel become more severe over time? In other words, has the selectivity of the emigrants been more positive in recent years than in the past? Theoretically, the answer to this question should depend on trends in returns on skills in the source and destination countries. To the extent that returns on skills in the destination countries have increased more than in Israel, we should expect more positive selectivity of Israelis to these destinations. Conversely, selectivity should be less positive to countries where the returns on skills have decreased in recent years (or increased less than in Israel). Since 1990 earnings inequality increased at a faster rate in Israel than in most European countries, perhaps as much as in the Anglo-Saxon countries, although less than in the US (Gottschalk and Smeeding 1997; Kristal and Cohen 2007; Kristal, Cohen and Mundlak, 2006; OECD 2004, 2008). We should, therefore, not expect greater selectivity of Israeli immigrants to most European destinations, especially not to the Scandinavian countries. Improved selectivity of recent immigrant cohorts would be expected in the US, where returns to the highly skilled have increased more than in Israel (Gottschalk and Danziger 2005; Piketty and Saez 2006).

### 2.3. Methodology

The DIOC will be used to estimate the characteristics of recent Israeli-born emigrants to the 25 OECD countries. Ideally, the focus should be on Israeli-born emigrants, 25-54 years of age, who arrived in their destination countries during the 5-year period prior to the survey year (circa 2000). Their educational and labor force characteristics represent the characteristics with which they came to their destination countries, before any meaningful assimilation had occurred. Thus, comparing the educational level of these groups of recent emigrants in various destinations, to their counterparts who stayed in Israel (based on my analysis of the 2001 Israeli labor force survey), will enable us to test the main hypothesis of this study: that selectivity of Israeli emigrants is more positive to high-inequality countries, where the returns to skills are higher.

While educational level is no doubt the best measured indicator for skill level, there are other characteristics in the DIOC, such as age, labor force status, and occupation, that are also suggestive of immigrants' skills (unfortunately there is no earnings information in the DIOC). I will, therefore, consider these characteristics in assessing the selectivity of Israeli emigrants. In such labor market outcomes the relevant comparison is not to the Israeli population (as is the case with educational level), but rather to the benchmark native populations of the destination countries.

Unfortunately, because of the way the DIOC is structured, I will not be able to limit the analysis of all characteristics to recent immigrants; moreover, the analysis will include all immigrants' aged 15 and over, rather than persons in their prime working age (25-54). The DIOC includes information on age (grouped), gender, duration (up to 5 years, 6-10 years, and over 10 years), citizenship status, education (six categories, based on International Standard Classification of Education [ISCED]), labor force status (employed, unemployed and inactive) and occupation. The information, however, is included in different panels, thereby not enabling the presentation of all characteristics by duration and/or age groups. For example, while it is possible to construct a table of educational level by duration, as well as a table of educational level by age, it is not possible to construct a three-way table of education/by-duration/by-age. The data on labor force status is available by gender, but not by age and/or duration; likewise the occupations of immigrants are available for employed persons by gender, but not by duration or age.

## 2.4. Results

**Age and sex:** Table 2 presents the distribution of all Israeli-born immigrants in the 25 countries by gender, duration and age groups. The bottom row of the table, presents the characteristics of the Israeli-born population in the same ages (15+) from which these emigrants were drawn. Like all immigrant groups, Israeli immigrants are selected on the basis of age and gender. The proportion of men among immigrants (55.4%) is higher than among the Israeli population (51.5%), but this underestimates the selectivity, because it includes all immigrants, 15 years and over. It is likely that selectivity is more pronounced among persons in their prime migration age (25-54) than among children who are tied movers and, therefore, are not selective on gender. The proportion of men differs by destination. While in most countries the proportion of men is between 52% and 58%, in Scandinavian countries and Eastern Europe, the proportion of men is much higher: 65.7% in Scandinavia and 69% in Eastern Europe. The high proportion of Israeli men in the Scandinavian countries may reflect marriage patterns of Israeli men with Scandinavian women who have spent time in Israel as volunteers.

Age selectivity is also evident. Among immigrants, the proportion of persons 25-54 years old is 14 points higher than among the native-born population of Israel. Likewise, very young adults are less likely to emigrate. This, in large part, reflects compulsory military service in Israel that prevents Israeli Jews from emigrating until they are 21 or 22 years old. It also reflects the fact that emigrants appear to have fewer children than Israeli natives. Interestingly, the proportion of old persons (55+) is greater among immigrants than among Israeli natives. Since the table is not limited to recent immigrants, this does not necessarily mean that older Israelis emigrate more than young Israelis; rather, it reflects past emigration patterns. In other words, it is likely that the 16.2% of older Israelis in OECD countries left Israel when they were younger.

**Duration:** Information regarding duration is available for only a small number of countries, and for some of these, the information is missing in 20-40% of the cases. Therefore, with the exception of France, duration is presented in Table 3 only for countries for which there are no more than 22% missing observations. If we define as “recent” immigrants those who are in the country for 10 years or less, we find a larger proportion of recent immigrants in Europe than in the Anglo-Saxon countries. In the US there are about 30% recent immigrants and in Canada and Australia about 22-23%. In Belgium and Spain the proportion is higher, respectively 43% and 58.1%. Scandinavian countries are similar to other European countries: 33.7% of all immigrants in the four Scandinavian countries came in the past 10 years. In sum, recent emigrants comprise a greater proportion in European countries than in the Anglo-Saxon countries. This should have implications for indicators of economic integration, because duration is positively associated with indicators of labor market integration (but not with educational level).

**Citizenship:** Information about citizenship status is available for most countries. Citizenship depends on duration, but also on immigration and citizenship laws. In general, the higher the proportion of immigrants staying in a country over 10 years, the higher the citizenship rates. Thus, citizenship rates are highest in Canada and Australia, where the proportion of veteran immigrants is the highest, and lower in Belgium, Spain, and the Scandinavian countries, where a larger proportion of the Israeli immigrant population has arrived in the 10-year period before the survey year. However, it is also possible that restrictive citizenship laws in these countries account for the difference as they make naturalization more difficult.

**Table 3. Duration and citizenship status in destination countries (percent).**

Duration (years since migration) :	Up to 5 years	6 to 10 years	More than 10 years	% citizens of country of residence
	(1)	(2)	(3)	(4)
<u>Country of residence</u>				
United States	16.9	12.7	70.4	64.6
Canada	9.1	12.5	78.4	84.3
United Kingdom	–	–	–	–
Australia	14.2	8.1	77.7	85.9
Mexico	–	–	–	–
New Zealand	–	–	–	–
Ireland	–	–	–	50.7
Total, Anglo-Saxon	16.0	12.5	71.5	67.8
France*	11.2	10.8	78.0	78.9
Switzerland	–	–	–	64.2
Belgium	27.4	15.1	57.5	50.4
Austria	–	–	–	51.5
Luxembourg	–	–	–	22.1
Total, Western Europe	25.9	11.1	62.9	68.0
Turkey	–	–	–	28.5
Italy	–	–	–	42.0
Spain	53.5	4.7	41.9	31.1
Greece	–	–	–	64.9
Portugal	–	–	–	32.8
Total, Southern Europe	40.5	13.6	45.9	37.6
Sweden	23.0	14.0	63.0	61.3
Denmark	20.9	14.1	65.0	51.5
Finland	–	–	–	52.6
Norway (N=380)	3.7	12.4	83.9	72.6
Total, Scandinavia	19.8	13.8	66.3	57.8
Hungary	–	–	–	24.9
Poland	–	–	–	77.2
Czech Republic	–	–	–	41.1
Slovak Republic	–	–	–	41.5
Total, Eastern Europe	–	–	–	43.6
OECD - Total	17.2	12.5	70.4	66.2

Duration: Anglo-Saxon includes US, Canada, Ireland, Australia and New Zealand.

Western Europe includes France, Switzerland, Belgium, and Luxembourg

Southern Europe includes Greece, Italy and Spain.

Scandinavia includes Sweden, Denmark, Norway and Finland.

\*Duration data is missing in over 22% of cases.

Source: OECD 2008, analysis of *Database on Immigrants in OECD Countries (DIOC)*.



**Educational level:** Education is the main observed indicator for skills. The DIOC includes 4 levels of education according to the ISCED classification. Table 4 presents three levels of education by country of destination among persons 25-54 years of age. Because Ph.D. level is grouped with other academic degrees in some countries, the BA+ category (columns 2, 5 and 8) also includes Ph.D, which is presented separately in columns 3, 6, and 9 for the countries providing this information. Since there are no appreciable differences between men and women, I focus on the first 3 columns, which are gender combined.

**Table 4. Percent emigrants, 25-54 years old, in selected educational levels.**

Sex :	All			Men			Women		
	Less than High School	BA+	PhD	Less than High School	BA+	PhD	Less than High School	BA+	PhD
Education level (ISCED) :	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Country of residence</u>									
United States	12.5	50.4	4.0	12.0	50.7	5.0	13.3	50.1	2.6
Canada	9.6	56.9	1.3	10.5	55.9	1.7	8.6	58.0	0.9
United Kingdom*	21.5	55.7	–	24.3	54.8	–	18.5	56.6	–
Australia	14.8	45.4	1.1	13.7	42.8	1.7	16.2	49.0	0.3
Total, Anglo-Saxon	12.8	51.2	3.6	12.6	51.0	4.5	13.2	51.3	2.4
France*	27.2	35.8	–	26.6	35.2	–	27.8	36.6	–
Switzerland	14.7	46.4	35.5	14.9	51.3	39.6	14.6	40.2	30.1
Belgium	23.5	40.9	2.0	24.4	42.5	3.1	22.3	38.7	0.6
Total, Western Europe	26.1	36.9	19.0	25.8	37.6	21.5	26.5	36.0	15.6
Turkey	19.5	41.5	2.7	17.5	43.7	3.1	21.7	39.1	2.3
Italy	11.6	40.9	12.3	9.2	44.5	15.4	15.6	34.9	7.4
Total, Southern Europe	16.5	45.3	8.6	14.3	49.3	11.3	19.5	39.6	4.9
Sweden	15.5	32.4	1.8	18.8	27.8	2.1	9.3	41.3	1.3
Denmark	18.5	38.7	0.3	16.9	39.7	0.4	21.7	36.6	0.0
Total, Scandinavia	20.7	32.2	1.1	22.5	30.3	1.4	17.0	36.1	0.6
Total, Eastern Europe	9.0	48.7	10.42	8.1	51.5	10.77	12.2	39.0	8.89
OECD - Total	14.1	49.5	3.7	13.7	49.5	4.6	14.5	49.5	2.4
Israeli-born in Israel	24.3	23.5	0.7	25.1	21.8	0.9	23.8	25.2	0.5

Totals for each group includes all countries in the group (see Table 1 for all 25 countries by groups)

\*Data for Ph.D.s is not available.

Sources: OECD 2008, analysis of *Database on Immigrants in OECD Countries (DIOC)*.

For the Israeli born in Israel (bottom row): analysis of Israeli Labor Force Survey, 2001.

Based on an analysis of the Israeli labor force survey for 2001, 23.5% of Israeli-born 25-54 years of age had at least a BA degree (bottom row of Table 4), and approximately the same proportion (24.3%) had an educational level that was lower than a full high-school education (i.e., had 11 or less years of schooling). In general, emigrants are of higher educational level than the Israeli-born population from which they were drawn. This is especially true with respect to the higher-educational

levels, where in all countries except for Austria and Finland (not shown in the Table), Israeli emigrants have higher rates of university education than their counterparts who stayed in Israel. This is also the case with respect to less educated emigrants, those who never acquired a high-school diploma. In most destinations the proportion of high-school dropouts among Israeli emigrants is smaller than in Israel, with the exception of France (and also Austria, Portugal and Finland, not shown in the table), where the proportion of high-school dropouts among Israeli emigrants is greater than in Israel. Of particular importance is the proportion of emigrants with a Ph.D. degree. The rate of Ph.D. holder in Israel (0.7%) is among the highest in the world. But emigrants are much more likely to hold a Ph.D. 3.7% of all emigrants hold this educational level, which implies that the propensity of Israeli-born to emigrate is higher among Ph.D. holders (or those planning to obtain their Ph.D. degree in the country of destination). The population of emigrants who are Ph.D. graduates is particularly important for understanding the Israeli brain-drain argument. We will analyze it below.

As expected, the educational selectivity of Israelis differs across destinations. The most positive educational selectivity is observed in the Anglo-Saxon countries, especially the US and Canada, and the least positive in the Scandinavian countries and France. In Anglo-Saxon countries the proportion of university graduates is around 50%, while in Scandinavia and France the respective figures are 32% and 36%. Likewise, while only about 13% of emigrants in the Anglo-Saxon countries are high-school dropouts, the respective proportions are higher in Scandinavia (20.7%) and France (27.2%). Emigrants to Eastern European countries are highly educated, a finding which is consistent with rising earnings inequality in these countries in recent years (OECD 2004). Finally, with the exception of low education emigrants in France (and Austria, data not shown), the educational levels of Israelis in other countries in Western and Southern Europe are somewhere between the high levels in the Anglo-Saxon countries and the low levels in Scandinavia.

It is of course possible that part of the emigrants' education was obtained in the destination country and not in Israel, in which case it may represent not only selectivity in the strict sense, but also educational assimilation in the destination country. Table 5, showing educational levels by duration, suggests that, for the most part, this is not the case, or at least not with respect to immigrants arriving in their destinations in the 10-year period prior to 2000. Of particular interest are emigrants who arrived in their destinations during the 5-year period before the survey date, for whom we can assume that their schooling was obtained in Israel. Unfortunately, the data in Table 5 is reported for all persons aged 15 years and over. Therefore, it does not report the percentage of those with less than a high-school education, but only those with academic degrees.

The pattern of results regarding the most recent immigrants in the Anglo-Saxon countries and the Scandinavian countries (i.e. those who have been in a given destination for up to five years) is the same as that among all immigrants: educational selectivity is more pronounced in the US, Canada, and Australia, than in Scandinavia. Half the recent immigrants to the US are university educated, and over 4% of them hold a Ph.D. degree. By contrast, in Scandinavia, only 35.8% are university graduates, and fewer than 2% have Ph.D.s. However, recent immigrants to France are as highly educated as those who went to the Anglo-Saxon countries, reflecting the improved selectivity of recent immigrants to this country.

Recall that one of the claims in the Israeli literature is that the brain drain intensifies with time, so recent cohorts of Israeli emigrants are said to have a higher-educational level than earlier cohorts. By comparing columns 1-2 and 5-7 we can test the empirical status of this claim.<sup>8</sup> It is certainly true for the US, Canada, and France. Over half of recent emigrants (those arriving in the late 1990s) in the US and Canada are university graduates, compared to about 37-38% among those arriving in the early 1990s. To be sure, the lower figures regarding the latter group may be because the proportion of university graduates in Israel was lower in the early 1990s than in the late 1990s, while selectivity,

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<sup>8</sup> But not columns 3 and 8, that reports the (high) schooling levels of those arriving before the 1990s; these high schooling levels may be due to educational assimilation in the destination countries and do not necessarily reflect high selectivity of pre-1990s immigrant cohorts.

measured by the gap between emigrants and the native Israeli graduation rates, has not changed. This did indeed occur to some extent, as Israel has transformed its higher educational system, opening over 50 BA-granting colleges since 1995, thereby significantly increasing the number of BA holders in the late 1990s compared to the pre-1995 period.

**Table 5. Percentage of emigrants, 15 years old, with academic degrees by duration.**

Academic degrees:  Duration:	BA+				PhD			
	Up to 5 years	6 to 10 years	More than 10 years	All durations of stay	Up to 5 years	6 to 10 years	More than 10 years	All durations of stay
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>Country of residence</u>								
United States	50.0	38.2	45.2	45.1	4.25	3.17	3.97	3.92
Canada	52.6	37.8	49.2	48.4	1.98	0.00	1.56	1.42
Australia	41.5	37.5	36.4	37.0	–	–	–	–
Total, Anglo-Saxon	49.9	38.1	45.4	45.2	4.14	2.84	3.67	3.63
France	49.6	32.1	31.9	32.1	–	–	–	–
Belgium	40.9	38.2	30.9	34.2	1.63	2.07	1.25	1.45
Total, Western Europe	50.4	42.4	30.5	33.1	1.63	2.07	1.25	1.45
Italy (N=2,088)	33.7	29.8	37.9	35.2	6.27	3.95	10.02	10.39
Total, Southern Europe	42.3	38.4	40.9	38.9	9.01	9.38	7.79	9.18
Sweden	37.3	36.1	22.3	26.9	1.96	2.78	1.12	1.49
Denmark	33.5	38.0	31.9	33.0	–	–	–	–
Total, Scandinavia	35.8	37.2	28.5	30.6	1.96	2.78	1.12	1.49
OECD - Total (N=145,463)	49.4	38.3	44.1	43.8	3.81	2.75	3.33	3.32

Anglo-Saxon includes US, Canada, Ireland, Australia, and New Zealand (data is missing for Mexico and UK).

Western Europe includes France, Switzerland, Belgium and Luxemburg (data is missing for Austria)

Southern Europe includes Greece, Italy, and Spain (data is missing for Greece, Turkey and Portugal).

Scandinavia includes Sweden, Denmark, Norway and Finland.

\* N of cases related to all durations of stay, see table 2 for non-missing YSM.

Source: OECD 2008, analysis of *Database on Immigrants in OECD Countries (DIOC)*.

In sum, the educational selectivity of Israeli-born emigrants in most destinations has been positive, and has slightly improved in recent years in the destinations where the returns on skills are the highest, namely the Anglo-Saxon countries, and in particular the two largest destinations for Israeli emigrants – the US and Canada (but also in France). At the same time, educational selectivity for the four Scandinavian countries has been less positive throughout the 1990s, a fact explained by the relatively egalitarian income distribution in these countries, where skills are poorly compensated when compared to the Anglo-Saxon countries.

**Ph.D. holders:** Table 6 presents the number and some characteristics of very high skilled Israelis, those coded as level 6 in the ISCED, which designates persons holding a Ph.D. or an equivalent degree. There are at least 5,568 such persons in the DIOC, and this does not include the UK and France, which means that the total number is around 6,000. The share of the US among very high skilled immigrants (75.8%) is about 10 percentage points higher than its share among all emigrants (65.6%, Table 2). Other countries attracting large numbers of Israeli Ph.D.s are Canada (200), Switzerland (560) and Italy (217). While the figures for Italy and Canada are reasonable (Italy is a popular destination for medical students, and many of them probably stay there after obtaining their MD degrees and practice medicine), the number of Ph.D.s in Switzerland is surprisingly high.

**Table 6. Number of emigrants 15 years and over with Ph.D, by destination, sector of employment, field of study and employment status.\***

	Number	% of total Ph.Ds	% in educational sector	% degree in science, humanities and business	% degree in sciences, engineering and health	% not working	% over 65 years old
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Country of residence</u>							
United States	4,220	75.8	41.0	see table 6a	see table 6a	14.7	7.0
Canada	200	3.6	33.3	46.7	53.3	16.3	20.0
Australia	55	1.0	44.0	34.8	65.2	7.9	0
Mexico	20	0.4	35.7	58.8	41.2	15.0	0.5
New Zealand	36	0.6	11.1	44.4	55.6	33.3	0
Total, Anglo-Saxon	4,534	81.4	40.5	45.3	54.7	14.0	7.0
Switzerland	560	10.1	15.0	–	–	23.0	7.0
Belgium	24	0.4	–	–	–	16.7	0
Total, Western Europe	584	10.5	15.0	–	–	17.3	6.3
Turkey	50	0.9	0.0	–	–	54.0	14.0
Italy	217	3.9	5.1	–	–	10.1	3.7
Spain	100	1.8	0.0	40.0	60.0	60.0	0
Total, Southern Europe	386	6.6	5.6	38.1	61.9	27.5	3.9
Sweden	25	0.4	0.0	14.3	85.7	33.3	0
Total, Scandinavia	32	0.6	11.5	18.6	81.4	19.4	0
Poland	24	0.4	37.5	–	–	0.0	0
Total, Eastern Europe	32	0.6	26.7	25.0	75.0	3.8	0
OECD - Total	5,568	100	36.2	41.0	59.0	16.8	7.1

\*No Ph.D. data for the UK and France.

Source: OECD 2008, analysis of *Database on Immigrants in OECD Countries (DIOC)*.

Over two thirds (36%) of Ph.D. holders are in the educational sector, which means that they are professors in colleges and universities. But this figure is largely due to the Anglo-Saxon countries, where 40.5% of all Ph.D. holders are employed in the educational sector. In Western Europe only 5-15% of Israeli-born Ph.D.s are employed by educational institutions, while in Eastern Europe we are closer to the Anglo-Saxon pattern. About 60% of Ph.D.s received their degrees in sciences, engineering, and health. The remaining 40% are graduates of the social sciences, business, and the humanities.

These figures, however, are based on less than 500 Israelis, mainly because the US distribution on this variable is missing. For the US, the DIOC provides broad occupational distribution for employed Ph.D.s, suggesting that 30.7% of them work in life, physical, and social-science occupations; an additional 26% hold education, training, and library occupations (Table 6a).

**Table 6a. Occupational distribution of employed Ph.D.s in the US. (%)**

United States	Men	Women	Total
-	(1)	(2)	(3)
<u>Occupation</u>	N = 2,735	N = 878	N = 3616
Life, physical, and social science occupations	28.2	38.7	30.7
Education, training, and library occupations	26.7	23.9	26.0
Management occupations	13.9	12.5	13.6
Healthcare practitioner and technical occupations	7.7	6.3	7.3
Computer and mathematical science occupations	5.9	1.7	4.8
Architecture and engineering occupations	3.7	2.8	3.5
Legal occupations	3.5	2.3	3.2
Sales and related occupations	2.6	2.8	2.6
Business and financial operations occupations	2.4	2.3	2.4
Arts, design, entertainment, sports, and media occupations	1.5	2.8	1.8
Office and administrative support occupations	1.3	2.8	1.7
Community and social services occupations	2.0	-	1.5
Protective service occupations	0.5	0.5	0.5
Healthcare support occupations	0.4	-	0.3
Personal care and service occupations	-	0.5	0.1
Total	100	100	100

Source: OECD 2008, analysis of Database on Immigrants in OECD Countries (DIOC).

Not all Ph.D. holders are employed. This is, in part, because 7% of them are over the age of 64. However, in total 16.8% are not working, which means that at least one in ten Israeli-born Ph.D. emigrant, younger than 65 years old, is not working. This proportion varies by country. In the US, Canada, and Italy the respective figure is only about 7%, but in Western Europe it ranges from about 15% in Switzerland and Belgium, to 60% in Spain. Surely, these non-working, relatively young emigrants, are not as highly skilled as their degrees suggest, at least not with respect to their unobserved characteristics. Put differently, to the extent that employment ratio is an indicator for unobserved skills, we can conclude that the US attracts the best and the brightest Israeli-born Ph.D.s, while Europe tend to get less skilled Ph.D. graduates.

**Labor Force Status:** Immigrant groups which are positively selected tend to participate in the labor market more than less selective immigrant groups. Upon arrival, immigrants are expected to suffer from high unemployment rates and intermittent employment, but with time, as immigrants learn the language, adapt to the local labor market and their skills are more transferable to the host labor market, their employment and unemployment rates are expected to converge with those of natives, or at least with those of demographically comparable natives (i.e., natives of the same gender, education and age). Ideally, we would observe labor force status for persons in their prime working ages by duration of status. Since the DIOC does not allow it, Table 7 includes labor force status among all persons 15 years and over. To be sure, the proportions of the three statuses, “employed”, “unemployed”, and “inactive” are correlated with the number of children and young adults that may still be at school, as well as with the proportion of persons over 54 or 60 who have retired. Thus, the results in Table 7 for emigrants and natives in each country should be interpreted with an eye on Table

**Table 7. Labor force Status of emigrants, 15 years and over.**

Sex :		All			Men			Women		
		% Empl.	% Unempl.	% Inactive	% Empl.	% Unempl.	% Inactive	% Empl.	% Unempl.	% Inactive
Labor force status:		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Country of residence</u>										
United States	Immigrants	63.5	2.8	33.7	75.8	2.9	21.4	48.1	2.6	49.2
	Natives	60.9	3.6	35.6	66.8	4.0	29.3	55.4	3.2	41.4
Canada	Immigrants	71.0	4.1	24.9	76.6	4.0	19.4	64.7	4.1	31.1
	Natives	62.9	5.0	32.1	68.2	5.7	26.1	57.9	4.3	37.7
United Kingdom	Immigrants	58.7	3.9	37.4	65.9	4.2	30.0	50.9	3.7	45.4
	Natives	63.2	3.7	33.1	69.2	4.7	26.1	57.4	2.7	39.9
Australia	Immigrants	62.1	5.1	32.7	69.5	5.5	25.0	53.0	4.7	42.3
	Natives	60.9	4.6	34.5	67.6	5.6	26.7	54.5	3.6	41.9
Total, Anglo-Saxon, Immig.	Immigrants	63.9	3.1	33.0	74.9	3.2	21.9	50.3	3.0	46.7
	Natives	59.7	3.2	37.2	68.9	3.7	27.4	51.1	2.7	46.3
France	Immigrants	49.2	14.5	36.3	58.4	16.1	25.5	39.1	12.8	48.1
	Natives	48.6	6.6	44.8	55.7	6.2	38.1	42.1	6.9	51.0
Switzerland	Immigrants	65.0	6.3	28.7	74.3	5.7	20.0	53.7	7.0	39.3
	Natives	63.2	1.7	35.1	72.9	1.6	25.5	54.1	1.7	44.2
Belgium	Immigrants	45.1	10.9	44.0	58.0	11.6	30.4	27.9	10.1	62.1
	Natives	49.5	5.2	45.3	57.5	4.4	38.1	41.9	5.9	52.2
Total, Western Europe, Immig.	Immigrants	52.3	11.8	35.9	61.9	12.7	25.4	41.1	10.9	48.0
	Natives	50.5	5.7	43.8	58.1	5.4	36.5	43.4	6.0	50.5
Turkey	Immigrants	19.5	15.9	64.6	23.9	20.5	55.6	14.7	11.1	74.2
	Natives	54.0	5.2	40.8	68.8	7.5	23.7	39.0	3.0	58.0
Italy	Immigrants	49.9	4.9	45.2	62.3	5.0	32.6	32.1	4.7	63.2
	Natives	42.5	5.5	51.9	54.2	5.6	40.2	31.8	5.4	62.8
Total, South Europe, Immig.	Immigrants	35.5	9.8	54.6	44.8	11.3	43.9	23.1	7.8	69.0
	Natives	47.5	3.7	48.8	57.8	3.6	38.7	24.5	4.0	71.5
Sweden	Immigrants	42.0	5.6	52.4	43.1	5.4	51.5	40.0	6.1	53.9
	Natives	57.2	1.7	41.1	60.4	1.9	37.6	54.1	1.5	44.4
Denmark	Immigrants	52.4	4.4	43.2	57.9	4.3	37.9	41.7	4.7	53.6
	Natives	64.6	2.4	33.0	70.1	2.3	27.6	59.4	2.4	38.2
Total, Scandinavia, Immig.	Immigrants	46.6	6.6	46.8	49.5	6.9	43.6	41.2	5.9	52.8
	Natives	59.4	3.3	37.4	63.2	3.5	33.3	55.6	3.0	41.3
Total, Eastern Europe, Immig.	Immigrants	47.5	3.7	48.8	57.8	3.6	38.7	24.5	4.0	71.5
	Natives	46.5	9.9	43.6	52.8	11.0	36.2	40.8	8.9	50.4
OECD – Total	Immigrants	61.5	4.1	34.4	72.0	4.3	23.7	48.4	3.8	47.8
	Natives	54.5	4.6	40.9	64.1	5.1	30.8	45.5	4.1	50.4

Totals for each group includes all countries in the group (see Table 1 for all 25 countries by group)

Immigrants: Israeli emigrants in the country of destination

Natives: native-born in the country of destination.

Source: OECD 2008, analysis of *Database on Immigrants in OECD Countries (DIOC)*.

2, where the proportion of younger and older emigrants is reported. Unlike the educational level of emigrants, where the appropriate benchmark group is the Israeli-born population in Israel, in labor-force status the relevant comparison group is that of the natives of the destination country, because labor force status, in particular unemployment, is affected by local labor market conditions to which both natives and immigrants are subject.

Overall, as shown in the bottom two rows of Table 7, Israeli immigrants are more likely to participate in the labor market than the native population, and less likely to be unemployed. But the data varies by destination country and gender. In general, with respect to employment ratios, Israeli

immigrant males are doing better than Israeli females in their new labor markets. In most countries the proportion of Israeli employed men is greater than the proportion among natives, while the situation among women is the opposite, as native women are more likely to be employed than Israeli-born women. With respect to unemployment, however, in most countries both male and female immigrants suffer from higher unemployment rates than natives of the same gender.

But in the two most popular destination countries, the USA and Canada, two countries that account for about 75% of all Israeli emigrants, the unemployment situation is better among Israeli immigrants, both men and women, than among natives. Israeli immigrants in the Anglo-Saxon countries (taken as a group) and especially in the US are doing much better (relative to natives) than in Europe, where only in Italy and Eastern European countries are Israeli immigrants less likely to be unemployed than natives. In all other European countries (as well as in the UK, and Australia) both men and women immigrants from Israel are more likely to be unemployed than the local male and female populations. The same pattern of results is also apparent regarding the employment of men. Employment ratios of Israeli men in the US and Canada are 9 points higher than native men. In all other countries where Israeli men are more likely to be employed than native men, the gaps are relatively small, in the order of 2-3 percentage points.

Israeli women appear to be less selective than men, as their labor force participation rates (relative to native women) are lower in all countries, except Canada and Italy, than that of their male counterparts (relative to native men). Since the educational level of Israeli women immigrants is as high as, or even higher than, that of their male counterparts, it is not lack of observed skills that prevents them from finding jobs. Rather, it is most likely because a higher proportion of females than males are “tied movers” rather than “pure” economic immigrants.

In sum, to the extent that employment and unemployment ratios are proxies for immigrants’ selectivity, the patterns of results regarding men are fully consistent with the theory: Israeli men are more positively selected to destinations where the inequality levels are the highest – the Anglo-Saxon countries (especially the US and Canada), Italy, and Eastern European countries.

**Occupation:** Occupation serves as a proxy for permanent income. As such, it is a measure of immigrants’ assimilation in the labor market. The measure for occupation presented in Table 8 is the proportion employed in Professional, Technical, and Managerial (PTM) occupations. The occupational codings are uniform across all countries, with the exception of the US, where the coding is based on the US census’s occupational codes. This is not a prohibitive problem, because the relevant comparisons are within countries of destinations. The proportion of Israeli immigrants in PTM occupations is higher than the proportion among natives, and the gap between immigrants and natives in most countries is substantial. In the Anglo-Saxon and Western European countries the gap is about 15-18 percentage points (there are only minor differences between men and women). In Southern and Eastern Europe the gaps are larger, 27 points and 39 points respectively. By contrast, in Scandinavia, Israelis are less likely to hold PTM occupations than natives (Israeli women in Denmark are the exception).

These findings are consistent with the educational levels of Israelis in the various destinations. Israeli-born immigrants in most Anglo-Saxon and European countries are often college graduates, enabling them to enter PTM occupations. The lowest educational level of Israelis are to be found in the Scandinavian countries, which are the only countries where Israeli-born immigrants fail to converge or surpass the occupational standing of natives.

While occupation is a measure of assimilation, it is also affected by selectivity. The greater the positive selectivity of immigrants, the more likely they are to surpass natives in general or natives of the same demographic characteristics. Evidently, Israeli immigrants to Anglo-Saxon countries, as well as to Eastern Europe and Southern Europe are the most successful, followed by immigrants to France, Switzerland, Belgium, and Austria. The least selective are those immigrating to the four Scandinavian countries.

**Table 8. Occupations of employed emigrants: Percent in Professional, Technical, and Managerial occupations.**

		Sex :	All	Men	Women
			(1)	(2)	(3)
<u>Country of residence</u>					
United States	Immigrants		47.3	46.3	49.2
	<i>Natives</i>		29.7	29.7	29.6
Canada	Immigrants		61.6	64.8	57.4
	<i>Natives</i>		43.5	36.2	42.3
United Kingdom	Immigrants		63.9	68.0	58.2
	<i>Natives</i>		43.5	36.2	42.3
Australia	Immigrants		60.2	61.1	58.9
	<i>Natives</i>		43.9	40.1	43.7
Total, Anglo-Saxon	Immigrants		50.7	50.2	51.5
	<i>Natives</i>		30.6	28.6	30.5
France	Immigrants		59.4	63.2	53.2
	<i>Natives</i>		43.4	37.3	37.2
Switzerland	Immigrants		68.5	70.7	64.8
	<i>Natives</i>		51.3	50.4	44.1
Total, Western Europe	Immigrants		58.9	62.1	53.6
	<i>Natives</i>		44.4	38.7	38.1
Turkey	Immigrants		40.5	39.3	42.7
	<i>Natives</i>		9.8	10.7	8.2
Italy	Immigrants		72.2	75.3	63.4
	<i>Natives</i>		35.8	37.2	40.2
Total, South Europe	Immigrants		61.7	63.4	57.2
	<i>Natives</i>		24.4	23.8	26.1
Sweden	Immigrants		37.6	40.8	31.6
	<i>Natives</i>		47.7	44.3	43.2
Denmark	Immigrants		34.9	30.9	44.8
	<i>Natives</i>		46.8	34.3	39.6
Total, Scandinavia	Immigrants		35.4	34.8	36.6
	<i>Natives</i>		44.9	40.2	40.4
Total, Eastern Europe	Immigrants		74.1	74.1	74.2
	<i>Natives</i>		35.2	27.9	41.9
OECD – Total	Immigrants		51.2	51.0	51.6
	<i>Natives</i>		31.4	28.7	31.7
Israeli-born in Israel			34.1	31.0	37.7

Total for Anglo-Saxon also includes Ireland, New Zealand and Mexico.

Total for Western Europe also includes Austria and Luxemburg (data for Belgium is missing)

Total for Southern Europe also includes Greece, Spain and Portugal.

Total for Scandinavia also includes Finland (data for Norway is missing).

Eastern Europe includes Hungary, Poland, Czech Republic and Slovak Republic.

Immigrants: Israeli emigrants in the country of destination

Natives: native-born in the country of destination

Definitions for PTM workers in the US and Turkey are different from all other countries.

Sources: OECD 2008, analysis of *Database on Immigrants in OECD Countries (DIOC)*.

For the Israeli born in Israel (bottom row): analysis of Israeli Labor Force Survey, 2001.



## 2.5 Discussion

Table 9 summarizes the main results regarding skill selectivity among Israeli-born emigrants. For each destination country it presents its rank order with respect to several measures of skills (education, occupation, employment status), and demographic characteristics (age, % men, and % citizens). In addition to these measures of immigrant characteristics, the first two columns present ranking of countries on two indicators which are relevant for immigrant selectivity and returns to skills. The first is the 90/10 earnings ratio – the ratio of earnings of a person located at the 90<sup>th</sup> percentile of the earnings distribution to the earnings of a person located at the 10<sup>th</sup> percentile. The measure is available for 19 countries in the late 1990s (OECD 2004, Table 3.2) and captures the returns to highly-skilled immigrants better than any other measure for inequality; the higher the ratio, the greater the earnings gap between skilled and unskilled workers. The second labor market indicator is the level of

**Table 9. Rank order of countries by emigrant characteristics and level of inequality and coordination in the labor market.**

	90/10 Ratio	Coord- ination	%BA	Gap in Occup.	Gap in Empl.	Gap in Unemp	% 25-54
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Country of residence</u>							
United States	1	1	10	16	9	6	6
Canada	5	1	6	15	5	5	17
United Kingdom	8	1	8	10	16	9	22
Australia	11	2	13	18	12	10	16
New Zealand	9	1	9	13	17	22	24
Ireland	3	4	3	9	4	11	18
France	10	2	21	19	14	23	8
Switzerland	13	4	12	17	11	19	15
Belgium	15	4.5	19	–	15	21	9
Austria	6	4	24	20	8	18	21
Italy	14	3	18	6	6	7	4
Spain	-	3	4	12	19	13	7
Sweden	17	3	22	21	23	17	5
Denmark	18	3	20	22	22	14	10
Finland	15	5	25	23	21	25	2
Norway	19	4.5	15	–	24	16	1
Hungary	2	1	23	7	20	3	12
Poland	7	1	1	2	1	2	25
Czech Republic	12	1	2	3	10	15	11
Slovak Republic	-	2	7	1	18	1	20

Sources: 90/10 Ratio and Coordination in labor market: OECD 2004.

% BA: Table 4.

Gaps in occupations: Table 8 (% immigrants in PTM occupations – % natives in PTM Occupations).

Gaps in Unemployment: Table 7 (% unemployed natives – % unemployed immigrants).

Gaps in Employed: Table 7 (% employed immigrants – % employed natives).

“coordination” in the local labor market (OECD 2004, Table 3.5). It is highly correlated with corporatism, union density and coverage, and the level of centralization in the labor markets. Thus, it is a reasonable proxy for labor market flexibility, ranging from 1 (the most flexible) to 5 (the most rigid).

Table 9 tells a well known story regarding the labor market of OECD countries: The labor markets in the Anglo-Saxon countries, together with those of the Eastern European countries, are the least

coordinated and the most unequal. They are ranked higher on the 90/10 ratio and lower on the coordination indicator. By contrast, the Scandinavian countries are the most coordinated and most equal. Column 3 shows that skilled emigrants prefer unregulated and unequal labor markets. The rankings of the Anglo-Saxon countries and the Eastern European countries on this indicator (% with BA+) are the highest, while the rankings of the Scandinavian countries are the lowest.

Employment and unemployment rankings (measured as the difference between immigrants and natives in each country) also appear to be strongly related to returns on skills and labor market coordination, though both New Zealand and the UK deviate from the general pattern of the Anglo-Saxon countries, while the Czech Republic deviates from the pattern in Eastern Europe. The Scandinavian countries, however, are clearly at the bottom in both measures of employment and unemployment.

With respect to the gap in the proportion of emigrants to natives in PTM occupations, the rankings of the Eastern European and Scandinavian countries are, as expected, at the top for the former and at the bottom for the latter. But the rankings of the Anglo-Saxon countries are not as high given the positive selectivity to these countries. This is in part because the occupation gap is influenced by the (low) level of PTM of the native populations in less developed countries in Eastern Europe, and the high proportion of PTM workers in the Anglo-Saxon countries. Furthermore, the ranking for the US is based on a different occupational coding, depressing the gap between immigrants and natives in that country.

Table 10 presents Pearson bivariate correlations between the 7 variables presented in Table 9.<sup>9</sup> The results are as expected: the correlations between the indicators for return on skills (90/10 ratio and coordination) and immigrants' skills are high, in the expected direction, and statistically significant in most cases (the correlation between the 90/10 ratio and the percentage of emigrants with a BA or higher degree is positive and in the right direction (0.349), but it is not statistically significant).

**Table 10. Pearson correlation, labor market and emigrants' characteristics**

	% 25-54	% BA	Gap Occup.	Gap Empl.	Gap Unemp.	90/10 Ratio
% 25-54	---					
%BA	-0.335	---				
Gap in Occupation	-0.430*	0.600*	---			
Gap in Employment	-0.234	0.435*	0.285	---		
Gap in Unemployment	-0.359*	0.450*	0.603*	0.456*	---	
90/10 ratio	-0.527*	0.349	0.500*	0.552*	0.550*	---
Co-ordination	0.520*	-0.484*	-0.4402	-0.241	-0.423*	-0.553*

p < 0.1

Sources: 90/10 ratio and Coordination, OECD 2004.

Other variables: Tables 2, 4, 7, 8 in this report.

Admittedly, the above rank order and correlations are based on a small sample of countries, and cannot serve for much more than description. Yet, the general pattern of results supports the hypotheses advanced in this paper: that skilled immigrants prefer countries where the labor markets are less regulated, and where, consequently, the returns on their high skills are higher.

## Conclusions

The analysis presented in Tables 1-10 leads to several conclusions regarding emigration from Israel and selectivity among Israeli-born emigrants residing in OECD countries. Regarding emigration rates, Israel experienced a rise in emigration during the 1990s, but emigration lessened in the early years of

<sup>9</sup> The correlations include all countries for which there was information.

this century. The most credible estimates for the total number of Israelis abroad are provided by the CBS, 465,000 for 1999 and 554,000 for 2006. Much of the rise in emigration in the 1990s is due to the emigration of foreign-born Israelis while the emigration propensities of native-born Israelis are lower. According to the analysis presented in the first part of the paper, based on the DIOC and US census data, the number of Israeli-born emigrants in all destinations in 2000 and 2006 was 187,000 and 217,000, respectively, with the US attracting most Israeli-born emigrants.

Previous research in the 1980s (Paltiel 1986) estimated that the US accounts for about 50-60% of Israeli emigrants. The analysis of the DIOC suggest that this estimate is valid for 2000 as well. Fully two-third of emigrants to the 25 OECD countries were in the US, which implies that 66% is the upper range for the proportion of Israeli-born emigrants in the US, while the lower range would be around 55%. The other major destinations for Israeli-born emigrants are the large Anglo-Saxon countries: Canada, the UK, and Australia. Together with the US, these countries account for 85% of emigrants to the 25 OECD countries, and if we adjust this figure for countries not included in the DIOC, the proportion is probably between 75 and 80 percent. Other than the Anglo-Saxon countries, France is the only major destination country for Israeli-born emigrants. These figures imply that, for estimating migration stock and analyzing patterns of selectivity among Israeli emigrants, it is important to focus on the large Anglo-Saxon countries and France.

Finally, although this study does not intended to explain why Israeli emigrants flock to the US and other Anglo-Saxon countries (and France), other factors, in addition to economic opportunities, appear to be particularly important. English (which skilled Israelis mastered at school) and social networks are probably two powerful factors attracting Israelis, including the highly skilled, to these five countries (US, Canada, UK, Australia and France), where there are large Jewish communities and relatively large communities of established Israeli emigrants.

The main hypothesis guiding this study expected more positive selectivity of immigrants to destinations that rewards skills more generously, i.e., the US and other high inequality countries. The results with respect to differential selectivity lend support to the hypothesis: the most skilled Israelis are drawn to the labor markets of the Anglo-Saxon countries where the returns on their high skills are the greatest. By contrast, the least skilled are choosing the relatively egalitarian Scandinavian countries as their new destination. Selectivity to other European countries is somewhere in the middle, but the emerging unregulated and unequal economies of Eastern Europe appear to attract very few, albeit highly-skilled Israelis, thereby providing further support to the main hypothesis of this study.

Additional support for the hypothesis is evident from an analysis of 5,600 emigrants with a Ph.D. degree or its equivalent residing in OECD countries (about 75% of them reside in the US). While only about 7% of those in the Anglo-Saxon countries do not work, the respective proportion in Europe is much higher, implying that the unobserved skills of many Israeli Ph.D.s in Europe are not as high as their (observed) high degree. Put differently, the unobserved skills of highly-educated Israeli emigrants are more positive in the US and Anglo-Saxon countries than in Europe. Finally, the relationship between selectivity and returns on skills and other labor market characteristics are also demonstrated in correlations between labor market characteristics and immigrant skills.

Unfortunately, the cross sectional DIOC does not enable rigorous analysis of changes in selectivity over time. The educational results suggest, however, a rise in the proportion of highly-educated Israelis in the US, Canada, and France in the *late* 1990s, compared to the earlier emigrant cohort of the *early* 1990s. In the US and Canada, however, emigrants arriving in the late 1980s were as highly educated as those arriving in the late 1990s. Moreover, developments in Israel's wage structure in the past two decades increased the 90/10 ratio in Israel to a greater degree than in most other countries, with the exception of the US, hence the incentive for high-skill, high-earning Israelis to emigrate to most destinations has probably declined in recent years. This being the case, we must wait for more longitudinal research before a conclusion on the intensification of the Israeli brain drain can be reached.

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