WP3/23 SEARCH WORKING PAPER

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Some Evidence from Israel

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August 2013

SEARCH
SHARING KNOWLEDGE ASSETS: INTERREGIONALLY COHESIVE NEIGHBORHOODS

EUROPEAN COMMISSION
European Research Area

SEVENTH FRAMEWORK PROGRAMME

Funded under Socio-economic Sciences & Humanities

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2010-2.2-1) under grant agreement n° 266834

International Immigration and Tourism to ENP Countries: Some Evidence from Israel

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Abstract

Tourism accounts for a significant share in the economies of many ENP's. This paper contributes to an emerging literature which claims that international immigration is an important determinant of tourism. The pattern of tourism from the EU to the ENPs is reviewed. Israel is used as a case study for an empirical investigation of the immigration-led tourism hypothesis (ITH). Time series data are used to test ITH. Although tourism and immigrants are highly correlated, we show that tourism does not cointegrate with the number of immigrants and other potential determinants of tourism. Also, panel cointegration tests reject ITH. Nor do we find that immigration depends on previous shocks to tourism. Indeed, tourism and immigration seem to be entirely unrelated phenomena.

Keywords

International immigration, tourism flows, time series, panel data, ENP countries

JEL Classification

C23, R23

1. Introduction

Tourism is a key industry in many ENPs and its importance in some of these countries cannot be overstated. Tourism is also a channel for wider socio-economic objectives. Since tourists may be sources of new ideas, types of demand and standards, tourism might generate positive externalities that increase efficiency and productivity in host countries. In this way tourism might serve as an important conduit for social and economic change (Marrocu and Paci 2011).

This paper examines the relationship between tourism and immigration. Ostensibly, tourism and immigration would seem to be independent over the short term since factors affecting tourism (airfare, substitute prices, habit persistence, exchange rate fluctuations and the like) would not seem to affect immigration. Similarly factors affecting immigration decisions (employment, social benefits etc) are unlikely to affect tourism. Over the longer term, however, matters may be different. There may also be common factors such as terror and geo-political upheaval that have mutual and reciprocal impacts.

We use Israel as a case study to investigate these relationships. While not the archetypical ENP country, the Israeli case is instructive. The share of tourism in the national economy is not inordinately large as in some other ENP countries. Indeed, tourism does even not constitute a specific sector in Israel's national accounts. Its direct contribution to GDP is estimated at about 2 percent and its total contribution (direct +indirect) is estimated as 8 percent (WTTC 2013, Freeman and Sultan 1998). Israel is considered a mature tourism destination. This is in contrast to other ENPs, where the share of tourism in the economy has varied widely over the last two decades. For example, tourism's share of GDP in Egypt has fluctuated from 8.8% in 1990 to 15.7% in 2005 to 14.3% in 2012. Furthermore, European tourists account for a large share of total tourism in Israel. Tourist arrivals in recent years total around 2.8m with five European countries serving as the origin for over 60 percent of incoming tourism (Russia 13%, France 10%, Germany and the UK 6%, Italy and Ukraine 4%). Finally, Israel provides a unique natural experiment for this relationship with clear before and after (with/without

treatment) effects resulting from disruptions to both tourism and immigration arising from geo-political and domestic shocks.

The paper proceeds as follows. We review the literature relating to the causal links between tourism and immigration. Much of this literature posits a one-way relationship with the stock or number of immigrants driving the flow of tourists (Seetaram and Dwyer 2009, Seetaram 2012). The travel motivation behind this one way flow is generally presumed to be VFR (visiting friends and relatives) and as such, the flow is conceived as a short-run variant of standard travel behavior with friends and relatives replacing landmark attractions or business motives. We then describe the empirical context and trace tourism between the EU and ENP countries in general and the EU/ENP countries and Israel in particular. We proceed to investigate the role of immigration in the transmission mechanism for tourism using long time series and paying careful attention to the nonstationarity nature of the data. We use econometric methods designed for nonstationary time series and panel data to test hypotheses about the mutual relationship between immigration and tourism.

The main drivers of tourism are hypothesized to be immigrants, real exchange rates and global tourism. We investigate whether the increase over time in the number of immigrants and tourists are causally related, or whether they are simply spuriously related.

2. Literature Review

One approach to linking tourism flows with immigration conceives tourism as a form of temporary international migration (Williams and Hall 2000). This view essentially ignores structural and demographic change that accompanies international population movement placing all the difference on the temporal features of migratory flows. Viewed this way, the relationship between tourism and immigration may not be causal but simply a demographic identity in that tourism is just one form of movement in a system of global accounting of human mobility[1]. If this is so, the difference between

[1] In similar fashion, tourism can be conceived as a balance of payments identity with respect to trade in national accounts.

tourists, seasonal visitors, migrants, expatriates and residents simply boils down to the duration spent at a destination location.

The immigration-led tourism hypothesis (ITH) posits a causal effect of immigration on tourism. A small empirical literature exists on this topic (Seetaram 2012, Seetaram and Dwyer 2009). Tourists are likely to feel more at home in destinations where large concentration of immigrants from similar origins, reside. This mediates the language and cultural differences at the destination. Immigrants can also implicitly subsidize the cost of travel through offering accommodation to friends and relatives (Seetaram 2012). Immigrants in a destination also bridge some of the information asymmetries associated with tourism flows. They intimately know the laws, culture and business practices in destinations and convey this knowledge freely. They reduce the barriers to both trade and tourism by acting as information brokers between countries of origin and tourist destinations, thereby ironing out market imperfections.

These motivations notwithstanding, this literature has some methodological shortcomings. Seetaram and Dwyer (2009) recognize that panel data on tourism to Australia and immigration are non-stationary. However, instead of testing their model using data on the levels of tourism and the number of immigrants, they first-difference the data to turn them into stationary variables. This is a methodological error because if ITH is true, this does not necessarily mean that there should be a relationship in first-differences. Indeed, differencing the data runs the risk of differencing away the true long-term relationship in the data (Hendry 1995). Seetaram (2012) studies tourism to Australia and uses the Arellano & Bond estimator under the implicit assumption that the data are stationary, despite the result in Seetaram and Dwyer (2009) that these data are nonstationary. Therefore his results might be spurious, because nonstationary panel data may appear to be related when in fact they are entirely independent (Phillips and Moon, 1999).

An even more modest literature concerns the reverse causality in which tourism drives immigration, or tourism-led immigration hypothesis (TIH). It is hard to posit a theoretical argument why tourists might decide to move permanently. TIH can be evoked as a mediating factor but not more than that. A rare empirical exception that looks at the

effect of tourism on immigration under special circumstances, is Oigenblick and Kirschenbaum (2002). They use survey evidence of Russian tourists in Israel to estimate the probability of these visitors becoming future immigrants. According to them, tourism can be a precursor to migratory decisions. Their analysis emphasizes the increasing returns to social capital in the migration process whereby the growth of immigrant enclaves induces additional migration. There would seem to be two issues that cloud this result. The first relates to identification since tourists might have been motivated by immigration; they might be testing the waters and deciding whether they wish to migrate. The second relates to selection bias. Those tourists with a tendency to migrate might have a greater propensity to visit potential destination countries than others.

A further variation on this theme is to observe the effects of the tourism industry, as a source of labor demand, on human mobility. Much of this work focuses on labor-driven migration, job seeking and 'guest'-working (King 1995). This may lead to international immigration over the long run as temporary or guest workers become foreign nationals. However, this is very different to the case of travel induced immigration. Finally, TIH can also arise in the case of retirement immigration (Williams, King, Warnes and Patterson 2000). A positive tourism experience is invariably behind the decisions of senior citizens to spend their retirement in a foreign country.

Tourism has been studied as a transmission mechanism for trade (Kulendran and Wilson 2010, Keum 2011), income inequality (Croes and Vanegas 2008) and economic growth (Lee and Chang 2008). Studies generally show that tourism enhances trade, inequality and economic growth. In the case of the latter however, the direction of causality is not always clear. Economic theory does not easily incorporate tourism as a factor in economic growth. Endogenous growth theory (Romer 1994) for example, suggests that economic growth is related to activities generally anathematic to tourism: high intensity R&D sectors with high productivity, operating at a large scale and producing tradeable goods. Empirical evidence however suggests that on average tourism-based economies grow faster than others and international tourism is generally recognized as related to long run economic growth. It stimulates new foreign (and local) investment, attracts foreign exchange, generates secondary and tertiary impacts in

ancillary sectors, diffuses technical knowledge and raises productivity (Lee and Chang 2008, Marrocu and Paci 2011,Schubert, Brida and Wisso 2011)[2]. For these reasons it has become a popular economic development strategy in many countries (WTTC 2013).

Empirical studies show inconsistent results for the tourism-driven economic growth hypothesis. The results for newer and transitional economies are particularly pertinent in the context of the ENP's. This heterogeneity in findings exists despite the similarity in method (times series or panel data regression) universally adopted by all studies. Chou (2013) reports results for ten transitional economies and finds support for the hypothesis with respect to Cyprus, Latvia and Slovakia, and they find reverse causality for Poland and the Czech Republic. Chen and Choiu-Wei (2009) find support for the tourism growth hypothesis in the case of Taiwan but not in the case of South Korea. For larger economies, results tend to be more uniform (Dritsakis 2012).

3. The Context: EU tourism flows to the ENP countries

3.1 Tourism in the ENPs

Tourism is an important sector in many of the ENP's. Table 1 shows shares of tourism in ENP economies. While they vary widely both between ENP-E and ENP-S and within the ENP's themselves, in all countries this share has grown over the past decade. In the ENP-E, with the exception of Georgia, tourism is an important but not priority sector[3]. GDP and employment shares have generally grown over the decade 2002-2012. For example tourism's share in Ukrainian GDP has risen over this period from 3.2-7.4 percent and in Armenia from 3.6-8.0 percent. In contrast it has contracted from 4.3 to 3.1 percent in Moldava (WTTC 2013).

In the ENP-S, the situation is rather different. The weight of tourism in national economies is much more pronounced with the sector (dangerously) accounting for upwards of 20 percent in Jordan and Lebanon. In Morocco, Egypt and Jordan, tourism is a national high priority sector. The volatility of the sector can be observed via the

[2] Note these should not be confused with the potential economic 'benefits' of tourism, such as increases in earnings, income, employment and taxes

[3] This is reserved for the energy sector in Azerbaijan, mining and mineral products in Armenia.

changing shares of GDP 2000-2012. In the aforementioned countries GDP share has grown with Morocco increasing from 12.3-18.7 percent, Egypt from 11.4- 15.1 percent and Jordan 16.3-22 percent. In other countries contraction or stagnation has occurred related to political instability, for example Tunisia (18.4-15.1 percent). Lebanon in the aftermath of civil war has seen a rise from 9.3-24.1 percent illustrating just how large these fluctuations can be.

3.2 EU Tourism to the ENPs

We use a proxy relating to air transport passengers to capture EU tourism flows to the ENP's by point of origin (Fig 1). While these data are not definitive (EU travelers to the ENP-E are not necessarily air travelers), they are nevertheless instructive. Over the period 1993-2012, air travel to the ENPs grew nearly three-fold from 8.8 m passengers pa to 28.5m. The bulk of this flow was generated by 5 EU countries, Spain, France, UK, Italy and Germany. Together they accounted for 22.5m passengers (79% of the total flow). Over this period, countries such as Spain and Italy experienced growth rates far in excess of the EU average.

Figure 1 shows a rising trend across all major origin countries with respect to air travel to the EU. The 'September 11 effect" that caused a downturn in global air travel tourism post 2001, cannot be discerned in this data. The upward trend accelerates throughout the 2000's partially as a result of the pool of origin countries growing as the EU expands and partially due to the fall in the cost of air travel.

3.3 EU Tourism to Israel

Compared to other supranational blocs, EU tourism dominates total inbound tourism to Israel. Total visitors over the period 1990 -2012 grew from 1.06m to 3.52m while the corresponding figures for European tourism were 0.61m in 1990 and 2.25m in 2012 (Figure 2). The growth in European travel to Israel occurred with the break-up of the USSR and by 1994 the number of arrivals in Israel from Europe were1.102 m with 0.88m arriving from the EU15 and a further 0.21m from non-EU15 Europe. The early 2000's saw the outbreak of the 'second Intifada' popular uprising and the attendant terror

that caused a sharp decline in arrivals. Since 2006 annual arrivals have picked up and even surpassed pre 2001 levels. In recent years non –EU15 arrivals have even outgrown EU entrants in part due to the visa waiver agreement signed between Israel and Russia in 2008.

Looking at entrants from individual EU origin countries, the pattern seems similar to that for general EU travel patterns in the ENPs. France, UK, Germany and Italy dominate inbound travel to Israel accounting for 75 percent of all EU arrivals in Israel in 2012 and 25% of all arrivals. Russian and Ukrainian tourism accounts for a further 16 percent (CBS 2012b). In line with the general pattern, EU tourism experienced a sharp downturn post 2001 and gradually picked up over the second part of the 2000's.

4. Data and Method

We investigate the relationship between tourism and immigration using time series (1960 – 2011) and panel data (1978-2011). While most of our effort is concerned with the effect of immigration on tourism (ITH), we also check whether there is a causal effect of tourism on immigration (TIH).

4.1 Data Description

Our central hypothesis is that tourism to Israel varies directly with the number of foreign-born (FB) and two shifter variables, global tourist receipts (GT) and the real exchange rate (ExRate). Tourism has a distinct trend and is I(1) (Fig 4), i.e. its level is nonstationary, but its first-differences are stationary.

The number of immigrants born abroad (Foreign-Born) is also I(1) and has a distinct trend , as can be seen from Figs 5 and 6. In contrast, the flow of immigrants to Israel (Immigration) is essentially I(0) and is punctuated by two distinct waves of immigration (Fig 7). The first occurs in the aftermath of independence 1948-1950 and the second in the wake of the collapse of the former Soviet Union (1990-1992).

Global Tourism which represents the volume of tourist activity worldwide is expected to be directly related incoming tourism to Israel. This variable has a clear trend

as can be seen in Fig 8. The real exchange rate is a further shifter. Tourism is expected to vary directly with the real exchange rate since Israel becomes relatively cheap to visit. Finally, we use a graduated period dummy (Q) to capture the effects of the two Intifadas (Palestinian uprisings) in 1990-1991 and 2002-2003 (Fig 4). This is expected to be inversely related to tourism.

4.2 Method

We hypothesize that tourism varies directly with the number of foreign-born residents, global tourism, the real exchange rate and inversely with a period dummy representing the two Intifadas.

$$\ln T_t = \alpha + \rho \ln FB_t + \theta Q_t + \eta \ln X_t + \chi \ln GT_t + u_t \qquad (1)$$

where: T denotes foreign tourists, FB denotes the number of foreign-born residents ; X denotes the real exchange rate; and GT denotes global tourism.

ITH predicts that ρ is positive. We expect η to be positive since real devaluation makes tourism in Israel relatively cheap, we expect χ to be positive and close to unity, and we expect θ to be negative. Since all the variables in equation (1) happen to be difference stationary (Q excluded) and I(1) variables, corroboration of the hypothesis requires that u be stationary (Engle and Granger 1987).

We may also test ITH using panel data in which case equation (1) becomes:

$$\ln T_{it} = \alpha_i + \rho \ln FB_{it} + \theta Q_t + \eta \ln X_t + \chi \ln GT_t + v_{it} \qquad (2)$$

where i refers to the origin of tourists and immigrants. Since all the panel data variables in equation (2) happens to be difference stationary, corroboration of ITH requires that v be stationary. For these purposes we use panel cointegration tests proposed by Pedroni (1999, 2004).

5. Results

5.1 Unit Root Tests

Table 2 tests for non-stationarity in the data. Figures 4-8 clearly indicate that all the variables in Table 2 are nonstationary because with the exception of immigration these variables have positive time trends. The DF statistics reported in the first column create the opposite impression, but this results from the fact that the residuals of the Dickey-Fuller regression are serially correlated. By contrast, the first differences of these variables are clearly stationary. Therefore, we assume that with the exception of immigration, the variables in Table 2 are difference-stationary.

Table 2: Unit Root tests, 1948-2011

Variable	ADF: d = 0	ADF: d = 1
lnTourism	-4.07	-1.93
Ln Foreign-Born	-8.36	-4.05
lnImmigration	-2.86	-4.60
lnGlobal Tourism	-3.55	-1.86
lnReal Exchange Rate	-3.10	-3.09

5.2 Time Series Tests of ITH

Estimates of equation (1) are reported in Table 3. Since the data are logarithms the coefficients refer to elasticities. Ostensibly it would seem from Model 1 that foreign-born residents have a positive effect on tourism with an elasticity of 0.22, and that, as expected, tourism varies directly with the real exchange rate with an elasticity of 0.86, and it varies directly with world tourism with an elasticity of 0.76. It also indicates that the Intifadas had major adverse effects on tourism as can be clearly seen in Figure 4. Although R^2 is 0.93 model 1 is far from being cointegrated. The ADF statistic for the residuals is -2.52 which is much larger than its critical value of -4.69. Therefore we cannot reject the null hypotheses that the residuals of model 1 are nonstationary, which means that model 1 is a case of spurious regression. It looks as though tourism varies directly with the stock of immigrants, but this is not a genuine effect. .

Dropping the foreign-born residents in Model 2 has hardly any effect on the ADF cointegration test, which shows that the explanatory contribution of FB in model 1 is almost zero. Similarly in Model 3, omitting the Intifada effect marginally weakens the overall model, has no effect on the significance of immigration, and does not affect the cointegration tests. These results indicate that tourism does not depend on number of foreign-born.

Table 3: Cointegration Tests of ITH, 1960-2011

Variable	Model 1	Model 2	Model 3
Constant	0.471	1.941	4.093
LnForeign-born	0.216		0.273
lnGT	0.762	0.787	0.762
lnExRate	0.862	0.836	0.714
Intifada	-0.643	-0.631	
R^2	0.934	0.935	0.890
ADF	-2.521	-2.559	-3.075
ADF*	-4.69	-4.31	-4.31

Estimation OLS. Dependent variable: lnT; ADF* is the critical values of ADF based on MacKinnon (1991) Since models 1 and 2 include a dummy variable these MacKinnon values should be even smaller (Gregory and Hansen 1996).

5.2 Panel Data Tests of ITH

Equation (2) is estimated using panel regression and utilizing annual data during 1980-2011 for four main origins: Africa, Asia, Europe and America. The results in Table 4 are even less encouraging than those reported in Table 3. The signs on the explanatory variables are 'incorrect' in all cases except global tourism and in any case GADF indicates that the model is not panel cointegrated. The model fixed effects point to Europe as by far the most important source of tourists.

Table 4: Panel Cointegration Tests of ITH, 1980-2011

Variables	
Constant	3.322
lnForeign-born	-0.172
lnGT	0.488
lnExRate	-0.529
Fixed Effects	
Africa	-1.524
Asia	-0.621
Europe	1.628
America	0.517
GADF	-1.462

Estimation: SUR (pooled EGLS); dependent variable $\ln T_{it}$;

5.4 Testing TIH

In this section we investigate whether immigration is influenced by past immigration and previous shocks to tourism. Since tourism is I(1) and immigration is I(0) we specify the relationship in terms of the log level of immigration and the change in the log of tourism. We specify a lag length of up to 3 years. Model 1 in Table 5 shows that whereas immigration is significantly autoregressive, past changes in tourism do not significantly affect subsequent immigration . Indeed, this is confirmed by an F test (0.904) which tests the restriction of dropping lagged values of tourism. Although this test suggests that lagged tourism has no influence on immigration, the LM statistic for serial correlation exceeds its critical value (11.2 > 7.81), i.e. omitting tourism induces serial correlation in immigration.

Table 5: Testing TIH 1963-2011

Variable	Model 1	Model 2
Constant	0.955 (0.324)	1.257 (0.326)
lnImmig-1	1.152 (0.121)	1.041 (0.131)
lnImmig-2	-0.710 (0.165)	-0.523 (0.178)
lnImmig-3	0.255 (0.114)	0.105 (0.124)
ΔlnT-1	0.340 (0.260)	
ΔlnT-2	-0.035 (0.263)	
ΔlnT-3	0.312 (0.268)	
Russian_IM	0.603 (0.289)	0.566 (0.308)
$AdjR^2$	0.708	0.665
Redundancy (F-test)		0.904
LM	0.398	11.20

Estimation -OLS; Dependent variable: log of immigration; ;standard errors in parentheses; Redundancy= redundant variables test (F=stat) ;LM= 3rd order Lagrange multiplier statistic for serial correlation

6. Conclusions

This paper investigates the immigration-led tourism hypothesis. Using Israeli time series and panel data we find no evidence to support this hypothesis. The time series results show that tourism and foreign born are spuriously correlated and the panel data show no relationship at all between tourism and the foreign-born.

Nor do we find any evidence supporting the hypothesis that tourism may affect subsequent immigration. The two phenomena appear to be entirely unrelated.

To what extent are these results for Israel pertinent to other ENPs? It could be that the unique circumstances of immigration to Israel might account for the lack of relationship between tourism and the foreign-born. Whereas in most countries the rationale implied by ITH (i.e. immigrants as a conduit for tourism) may be plausible, in Israel matters might be different. Immigration is uniquely bound up with Jewish national identity and this might account for the lack any tourism-immigration relationship. In countries with rich international immigration histories such as Australia and the USA,foreign-born residents may be a determinant of tourism. For most ENP countries however, ITH might not be relevant since unlike Australia, Canada and even Brazil there are insignificant numbers of foreign-born residents..

Data Appendix

We use both time series data (1948 – 2011) and panel data (1978-2011) for the econometric analysis.

4.1 Data Description

Annual data on tourists entering Israel is published by the Israeli Central Bureau of Statistics (CBS 2012c). Since 1980, this is available by continent of origin.

We distinguish between stock of immigrants defined as residents born abroad (Foreign-born) and flow of immigrants (termed 'immigrants'). The source of both series is the Annual Statistical Abstract of Israel (CBS).

Global tourism is represented by International Tourism Receipts in constant $USb. The source for this series is UNWTO (2012).

The real exchange rate is calculated as the shekel- US dollar exchange rate multiplied by the ratio of the CPI (consumer price index) for industrialized countries (IC's) divided by Israel's CPI. The source of this data is the Bank of Israel, Israeli CPI comes from the CBS database (CPI 2005=1.0) and IC CPI comes from the IMF IFS database (2005=1.0).

Table 1: Share of tourism in national GDP and Employment for ENP countries, 2012

	GDP	Employment
ENP-E		
Belarus	9.3	8.7
Ukraine	7.4	6.6
Moldova	3.1	2.9
Georgia	15.9	14.2
Armenia	8.0	7.1
Azerbijan	8.0	7.2
ENP-S		
Algeria	7.7	6.8
Egypt	15.1	13.3
Israel	7.8	8.2
Jordan	22.0	19.4
Lebanon	25.1	24.0
Libya	4.0	3.7
Morocco	18.7	16.7
Syria	10.4	9.1
Tunisia	15.1	13.7

Source: WTTC (2013). No data available for Palestinian Authority.

Fig 1: Air transportation passengers from EU to ENP countries, 1993-2011 (Source: Eurostat)

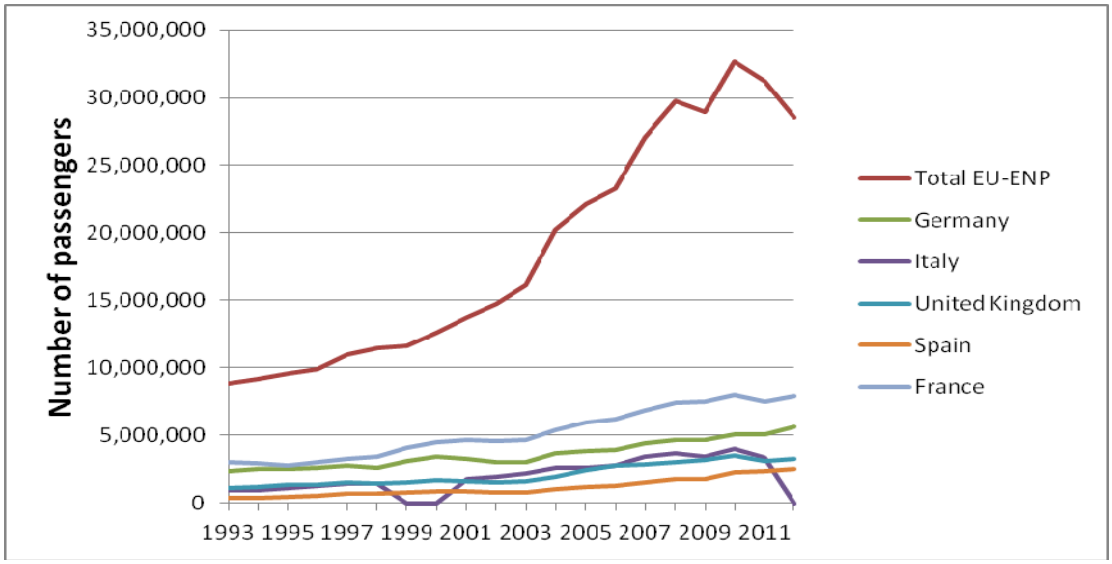
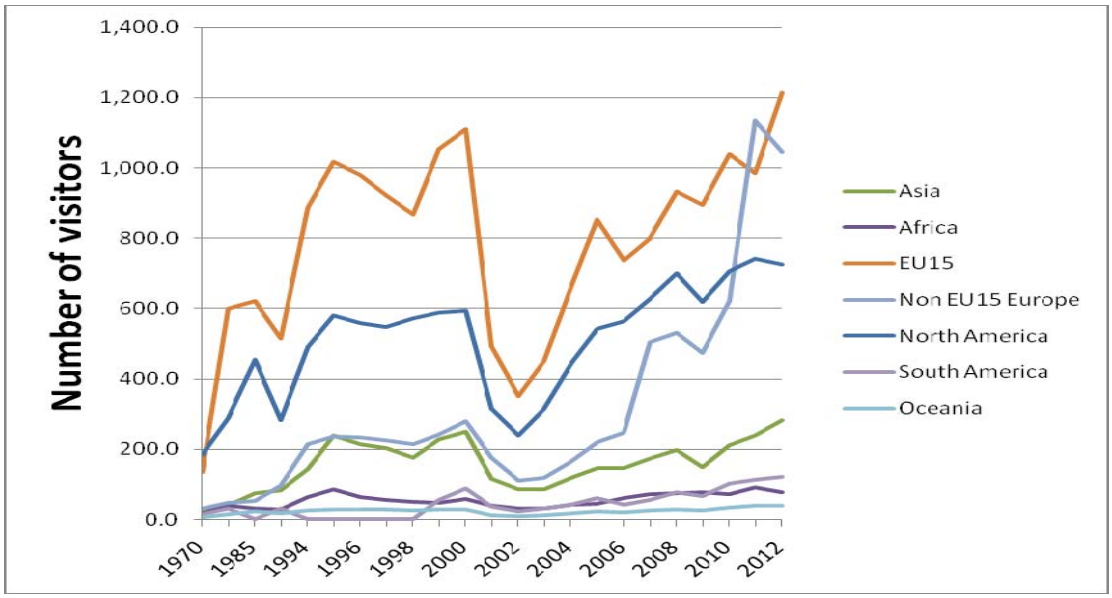
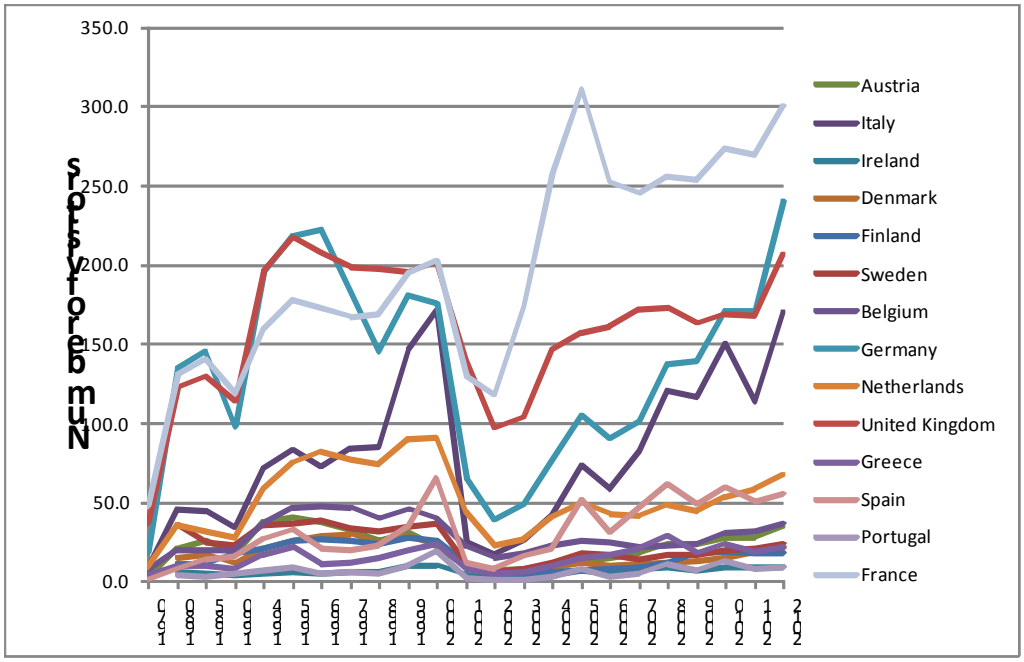


Fig 2: Inbound Tourism to Israel by Regional blocs, 1970-2012



Source: CBS (2012b)

Fig 3; Inbound tourism to Israel from EU15, 1970-2012



Source: CBS (2012b)

Fig 4: Annual flow of foreign tourists to Israel 1949-2012
Source: CBS (2012c)

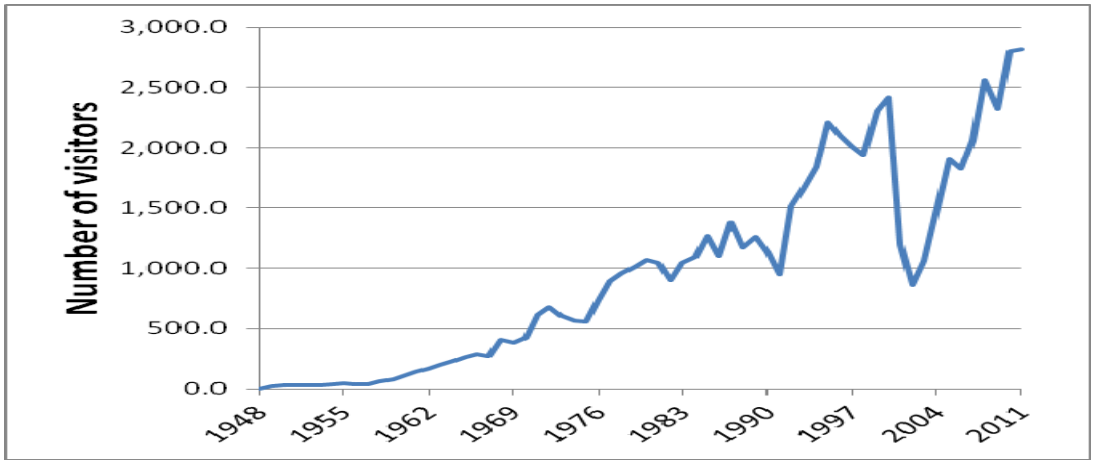
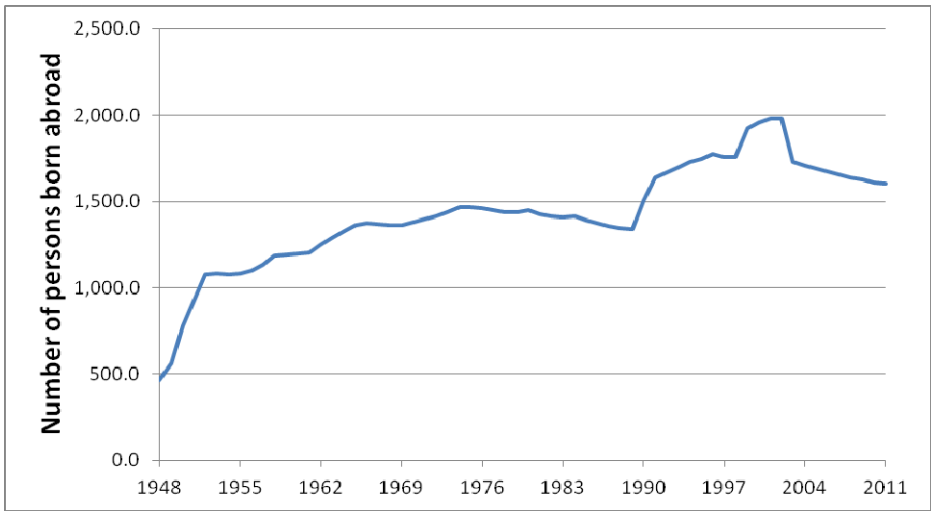


Fig 5: Stock of Immigrants (persons born abroad), 1948-2012



Source: CBS Annual Statistical Abstracts

Fig 6: Immigrants to Israel by Continent of Birth, 1948-2012
(source: CBS 2012a)

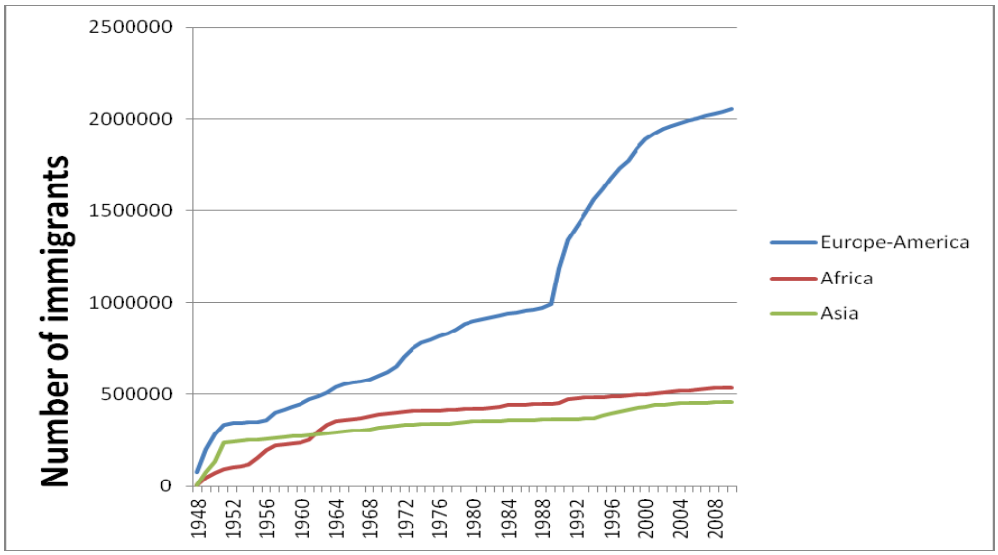


Fig 7: Flow of Immigrants (persons born abroad), 1948-2012
(Source: CBS Annual Statistical Abstracts)

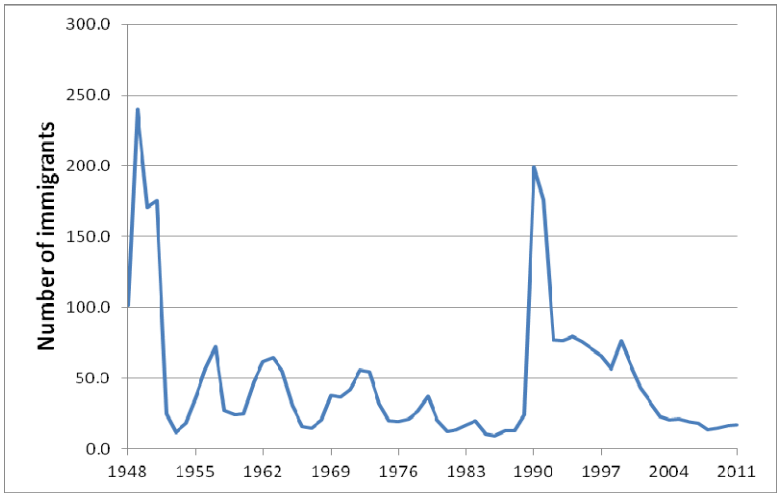
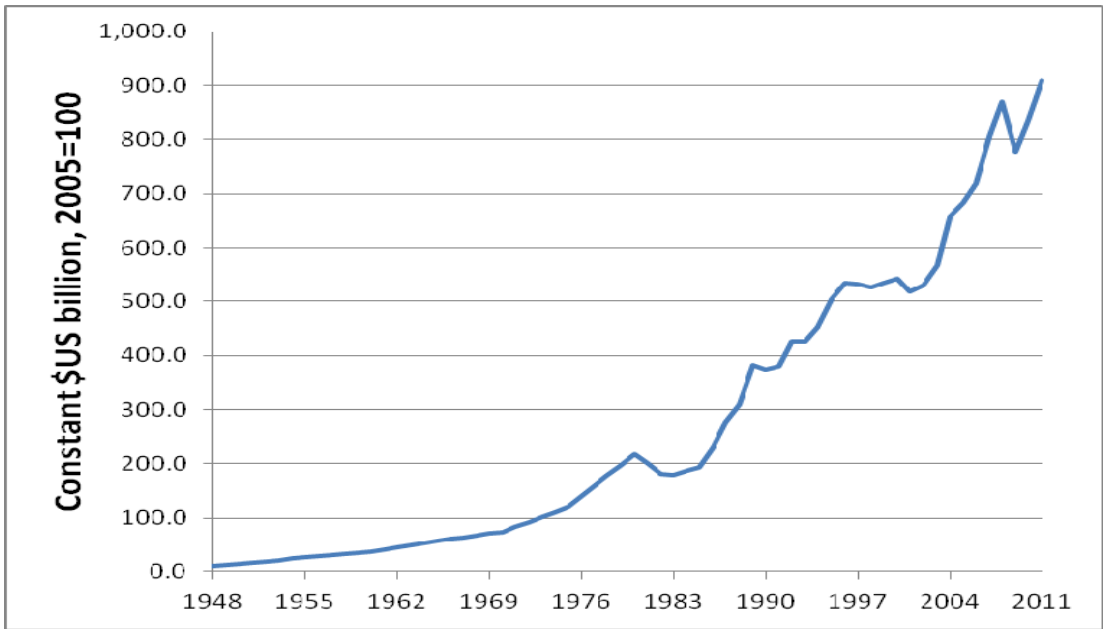


Fig 8: Global Tourism receipts Source: UNWTO (2012)



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