UNIVERSITÀ DELLA CALABRIA

Dipartimento di Economia, Statistica e Finanza
Ponte Pietro Bucci, Cubo 0/C
87036 Arcavacata di Rende (Cosenza) - Italy
http://www.unical.it/desf/

Working Paper n. 10 - 2016

FROM HELL TO HEAVEN? TRAJECTORIES OF ILLEGAL MIGRANTS IN ITALY

Manuela Stranges
Dipartimento di Economia,
Statistica e Finanza
Università della Calabria
Ponte Pietro Bucci, Cubo 0/C
Tel.: +39 0984 492491
Fax: +39 0984 492421
e-mail: manuela.stranges@unical.it

François-Charles Wolff
Institut d'Economie et de Management
de Nantes - IAE (IEMN-IAE)
Université de Nantes
Boulevard de l'Université BP 152
44603 Saint-Nazaire Cedex

e-mail: Francois.Wolff@univ-nantes.fr

Ottobre 2016

From hell to heaven?
Trajectories of illegal migrants in Italy[#]

Manuela Stranges[*] and François-Charles Wolff[**]

October 2016

Abstract: This paper investigates the trajectories of illegal migrants in Italy using unique individual data stemming from a centre for reception of refugees and asylum seekers located in the southern region of Calabria during the period 2008-2014. We find that inflows in the centre have some peaks associated to political crises and wars in origin countries and lead to frequent overcrowding, but economic conditions also matter. There are large differences in the timing of exit decisions. Exit motives related to the obtainment of any form of international protection increase time spent in the centre. Conversely, more than 80% of migrants from Syria or Palestine have left the centre by their own only one month after their entry, meaning that those origin groups do not intend to settle in Italy. Overall, our results put in evidence the limits of the Dublin system which does not allow migrants to reach the country they wish to live.

Keywords: illegal migrants, refugees, asylum seekers, Italy, administrative data

JEL codes classification: O15, F22, N3

[#] We are indebted to Cris Bauchemin and seminar participants at the INED Monday seminar held in Paris in March 2016 for their very helpful remarks and suggestions on a previous draft. We also thank Alberto Nilo Domanico, Giuseppe Facino and Francesco Tipaldi for their help in collecting data. Any remaining errors are ours.
[*] Corresponding author. Department of Economics, Statistics and Finance, University of Calabria, Ponte P.Bucci, cubo 0c, 87036 Arcavacata di Rende (CS), Italy. E-mail: manuela.stranges@unical.it
[**] LEMNA, Université de Nantes, BP 52231, Chemin de la Censive du Tertre, 44322 Nantes Cedex, France and INED, Paris, France. E-mail: francois.wolff@univ-nantes.fr

1. Introduction

Due to the many war and conflict situations worldwide, a growing number of persons are escaping from their own country, searching for better living conditions without persecution, violence and war. According to the last available data (UNHCR, 2014; Caritas, 2015), the number of forced migrants across the world in 2014 was almost 60 million[1]. Over the last years, the Mediterranean Sea has experienced large inflows of migrants escaping from war, famine, oppression, political and economic instability, mostly taking their desperate chances to reach Europe aboard unseaworthy boats and dinghies, with a consequent very high toll of human life (UNHCR, 2015). The shipping lanes are not the only cross. The chronicles of 2015 have dramatically shown that after the arrivals of migrants by sea the journey continued by land through the route of the Western Balkans[2]. Countries such as Macedonia, Serbia or Hungary are crossed by many Syrians, Afghans and Kosovans, in transit from Greece to the countries of the Northern Europe, in particular Germany (Anci *et al.*, 2015).

Within this framework, Italy has played in the recent years a central role as receiving country of these massive inflows of migrants, especially because of the relative nearness to the coasts of North Africa. Sicily is the Italian region which is mostly interested by the inflows, followed by Calabria which is the most southern region of the peninsular Italy. In this paper, using unique data at the individual level collected directly from a reception centre located along the east shores in Calabria, we provide an empirical analysis of the trajectories of illegal migrants in Italy. Our empirical analysis is dynamic in the sense that we focus on both inflows, length of stay in the centre and outflows, these events being by definition interrelated.

Our data refer to the years between 2008 and 2014, meaning that we are able to document the period of acme of migrant flows in Italy. The number of arrivals in Europe via the Mediterranean route has almost quintupled in 2014 compared to 2008. Most migrants have left Africa starting their desperate trip to Europa from Libya. As the instability of the country has increased, this gate has become the most used by human traffickers. In particular, Italy was interested in 2014 by the arrival on its shores of over 170,000 migrants, the highest figure ever recorded in the country[3]. The role of Italy as main receiver of migrants' inflows is documented by the increase in the share of those arriving in the country over the total inflows to Europe, which has passed from 62.6% in 2008 to 78.7% in 2014.

[1] Among this, almost 2 million were asylum seekers, almost 20 million were refugees and the remaining were internally displaced persons.

[2] The number of people who crossed the boundaries of this area had already peaked in 2014 at 43,360, more than double than the previous year, mainly Kosovars who have crossed the Serbian-Hungarian border (Anci *et al.*, 2015).

[3] In 2015, the root through Italy has become secondary while the Balkan root through Greece has seen the major number of flows. While in 2014 around 79% of total migrant flow was passing through Italy and 19% through Greece, these figures have inverted in 2015, with 19% through Italy and 81% through Greece (Papavero, 2015).

Our data have been collected in a centre for refugees and asylum seekers located in Crotone, a city in the region of Calabria in the south of Italy. Due to its geographical position, Calabria is very attractive as a gate to enter Italy and Europe for illegal migrants, refugees and asylum seekers. But at the same time, the region is not really attractive as a place to live because it offers very few opportunities to those migrants[4]. According to Istat (2015), Calabria is actually the poorest region of Italy, with a GDP per capita of 14,383 euros in 2013 (the mean value in Italy is 26,400 euros), an incidence of poverty at household level of 32.4% (12.6% in Italy) and an unemployment rate of 22.2% (12.2% in Italy). Our sample includes more than 26,000 entries of migrants in the centre over the period under consideration. The large sample size allows us providing an accurate picture of the trajectory of migrants fleeting from Italy in its most intense period.

Our research hypothesis is that the current asylum system in Europe, and thus in Italy, may be inefficient in the sense that it creates outflows of illegal migrants between European countries. Actually, the whole asylum system in Europe is administered under the Dublin System, which consists of the Dublin Regulation (Regulation No. 604/2013) and the EURODAC Regulation[5]. According to the Dublin Regulation, asylum seekers have to apply for the international protection in the country where they first entered the European Union and that country is the only responsible for handling the entire process of asylum application, i.e. first accept or reject asylum and then manage the settlement. The aims of this strict measure are firstly to avoid that an asylum seeker may submit an application of international protection in more Member States and secondly to reduce the number of orbiting asylum seekers, who are shuttled from a Member State to another.

The EURODAC system establishes a Europe-wide fingerprinting database for unauthorised entrants to the EU. It is used by the police of all the member states to check whether asylum seekers have submitted request for international protection in more than one country. Asylum seekers have the right to remain in the host country even if they do not have regular entry documents and have the right to be assisted. If the asylum application is rejected, the applicant can appeal for a second time. The main problem with this system is that many asylum seekers actually do not want to apply in the country they first enter the EU (which, for migrants coming from Africa, are mostly southern European countries), but they wish to reach another country corresponding to their intended location. It may happen that migrants have their families already living in another European Country

[4] The incidence of foreigners over the entire population in the region is much lower than the mean value at a country level. In the last twenty years, Italian governments have approved many different amnesties, which have jointly legalized over 1.5 million of irregular migrants already living in the country. At all these regularizations, the vast majority of undocumented migrants were residing in Northern regions, which offer substantially better labour market opportunities than in the rest of Italy (European Commission, 2009).

[5] The Dublin Regulation is a European Union's law that determines which of the EU Member State is responsible to examine an application for refugees seeking international protection under the Geneva Convention and the EU Qualification Directive, within the European Union.

(Sweden or Germany for instance), but in their desperate trip to reach them they get caught and identified in another European country.

Due to its geographical position at the centre of the Mediterranean Sea, Italy is with no doubt one of the main gate to enter in Europe. But, as documented by numerous journalistic investigations and daily news, most of the illegal migrants do not really want to stay in Italy and, when they are not able to escape right after the landing, they leave away from the reception centres[6]. Unfortunately, there is no official figure on this phenomenon. Available data are based on the number of untraceable over the total number of asylum applications, meaning that they underestimate the phenomenon because many migrants escape before submitting their application[7]. This occurs because migrants know that, according to the Dublin regulation, they will be forced to stay in the country where they first apply, so they try to reach the country where they wish to live after they have landed in Italy (possibly before applying for international protection).

Our data offers a unique opportunity to document at the micro level the trajectories of illegal migrants, from their entry to the centre to their departure. So far, the existing literature on illegal migrants and refugees has essentially considered aggregate data (Carling, 2007, Toshkov, 2014). There are also examples of case studies from single refugee centres in Europe, but their focus is on specific nationalities and they are based on a limited number of interviews (Wijers, 2011). Here, for the first time, we provide evidence on the timing of the leaving decision of illegal migrants and on the underlying motivation with a quite long time horizon of seven years. If migrants intend to stay permanently in Italy, then we expect them to spend a long time in the centre till they obtain some protection status. Conversely, if Italy is only an entry door in Europe in order to go elsewhere, then migrants should remain very little time inside the centre and leave by their own quickly to reach their intended destination.

When turning to the data, we begin with a description of the dynamics of entries inside the centre. We find substantial variations over the period under investigation and study the influence of different factors (and among these, of wars and conflicts in the origin countries), using a panel data analysis explaining inflows of migrants by origin country. Our approximation of the total population highlights the frequent overcrowding in the centre. While the median length of stay in the centre is

[6] There are so many articles that deal with this issue that it is impossible to cite them all. But it is sufficient to write the sentences "*refugees don't want to stay in Italy"* or "*problems with the Dublin system"* or any similar search key on internet to find thousands of articles which document individual histories and report interviews with refugees and illegal migrants who declare that they do not want to stay in Italy. A recent documentary from Paolo Martino titled "Terra di Transito" ("Transit Land"), produced by the association "A buon diritto" (https://www.youtube.com/watch?v=5gJB27raA-I) have documented the condition of many asylum seekers "locked" in Italy where they actually do not want to stay.

[7] Official aggregate data (Commissione Nazionale per il diritto di asilo, 2014) show that between 2008 and 2014 a share comprised between 3% (in 2014) and 10% (in 2013) of migrants in the centres are untraceable at the end of the year (meaning that they have escaped after their asylum application, but before knowing the result of it). Furthermore, it should be considered that around 35% of asylum seekers in the same period obtained a refusal to their application, so they would probably become illegal migrants and try to reach another country.

about two months, we find large differences in the timing of exit decisions. Kaplan-Meier estimates reveal that exit motives related to the obtainment of any form of international protection increase time spent in the centre. Conversely, the exit time is much lower for migrants who leave the centre by their own. Finally, we estimate a competing risk model to explain the various risks of leaving the centre and find that more than 80% of migrants from Syria and Palestine have left the centre by their own one month only after their entry.

The remainder of the paper is organized as follows. In the next Section, we explain the Italian situation regarding the asylum system and provide some data on recent migrant inflows in the country. In Section 3, we concentrate on the description of the dataset and on the analysis of inflows within the centre. We focus on outflows in Section 4 where we study length of stay in the centre, exit motivations as well as exit timing. Finally, Section 5 concludes.

2. The Italian situation

2.1. The asylum system in Italy

Although Italy has been always concerned by immigration flows, policies aimed at regulating immigration in the country started only in the late 1980s (Ambrosetti and Cela, 2015)[8]. In the fifty years before, the immigration issues were regulated only by the T.u.l.p.s ("Testo Unico delle leggi di pubblica sicurezza", Unique Text of public order laws) of 1931, which aimed at controlling the movements of foreigners in relation to public security and order. The topic of illegal migrants and refugees has mostly been ignored in the Italian regulations since all the laws issued concentrated mainly on the regularization of migrant workers, on the base of the assumption that Italy was affected by the pull of labour demand migration. Only recently Italy has implemented some legal measures specifically on illegal migrants and refugees (Ambrosetti and Cela, 2015).

In Italy, there is a variety of centres that welcome, accommodate, identify or detain foreign citizens who entered illegally into the country. These centres have different legal status in relation to the purposes for which they were established. The regulations governing the creation and activities of these structures form a set of fragmented legal measures, contained in a series of laws and decrees[9]. In the case of applicants for international protection, some of these centres are in charge of implementing and controlling the assessment procedures of the relevant requirements. Currently, the system of shelters and detention for foreigners in Italy consists of four different types of structures: CSPA, CDA, CARA and CIE. All these structures are managed by different types of private entities (cooperatives, religious organizations, associations, etc) under the supervision of the Italian Government which provide the economic support of the centres.

[8] For an overview of the European Union migration policies in the Mediterrean area, see Ambrosetti and Paparusso (2014).
[9] For a recall of all the laws which regulates the asylum system in Italy, see Leo (2014).

CSPA (Centri di Soccorso e Prima Assistenza, Centres for Aid and First Reception) were established in 2006 and are dedicated to the reception of migrants intercepted and rescued in the sea prior to transfer to other centres. In these centres, migrants receive initial necessary medical treatments, are mugshot and may apply for international protection. Subsequently, depending on their condition, they are transferred in other types of centres. In Italy, such CSPA centres may be found in Lampedusa and Pozzallo in Sicily, Elmas in Sardinia and Otranto in Apulia. Calabria does not host any type of CSPA.

The second type of centres are CDAs (Centri di Accoglienza, Centres of Hospitality), established in 1995. In these structures, newly arrived migrants are transferred to, regardless of their legal status, to ensure them first aid and reception. Migrants are issued and provided with a decision which legitimate their presence on the Italian soil or with an order providing their expulsion from the country. So, these centres provide first shelter to foreigners tracked throughout the country for the time needed to identify and ascertain the legality of their stay in Italy. The illegal migrants who require international protection are instead sent in reception centres for asylum seekers (CARA), to be identified and initiate the procedures relating to international protection.

The third type of structure are CARAs (Centri di Accoglienza per richiedenti asilo, Reception Centres for Asylum Seekers), established in 2008. In these structures, the asylum seekers without identity documents or who recoil from the border control are sent in order to allow the identification and application of recognition of refugee status. The CDAs and CARAs centres in Italy are Gradisca d'Isonzo in Friuli Venezia Giulia; Arcevia in Marche; Castelnuovo di Porto in Lazio; Borgo Mezzanone, Palese, Restinco and Don Tonino Bello in Apulia; Mineo, Pozzallo, Contrada Pian del Lago, Lampedusa and Salina Grande in Sicily; Elmas in the province of Cagliari (Sardinia). There is also a CDA/CARA in Calabria, located in Crotone Sant'Anna, from which the data used in this paper come from.

The last type of centres are CIEs (Centri di Identificazione ed Espulsione, Centres for Identification and Expulsion). These structures detain foreigners who do not apply for international protection or do not have the requirements or who are addressed with an expulsion order from the Italian territory (but for whom the immediate implementation of the measure is not possible). The maximum time of staying in the centre is 8 months according to the Italian decree n.89/2011 converted into Law n.129/2011. It is functional to the identification procedures and subsequent expulsion or repatriation. Calabria hosts two CIEs: one in Lamezia Terme and another one in Crotone, which were both unused from 2008 to 2014.

Turning to the documents that establish the international protection for illegal migrants, there are currently three types of permits in Italy. The first one certifies the “status of refugee”. It is the safest for migrants and it is automatically renewed every five years, at the request of the “kit of stay” (a simple form to fill). The other two types, which are the most diffused within migrants in

Sant'Anna's centre, are subject to longer bureaucratic formalities: the "permit for subsidiary protection", which Law 18 of 2014 has compared to that of the "status of refugee" (the first was worth only for 3 years) and the "humanitarian protection", which expires after one year. The most relevant problem is that after these types of permits expire, there is no kit to fill for illegal migrants. Moreover, at the time of application for renewal, they must go again to the police station (Questura), not necessarily in the place of landing as it may be in any place on the Italian soil. However, very often, the Police from other cities send the migrants back to the first Police station that firstly gave the permit, requesting for documentation difficult to obtain for a foreigner.

2.2. Aggregate data on illegal migrant inflows in Italy

Due to its central position in Mediterranean Sea, Italy is an important landing place for legal and illegal migrants fleeing war, conflicts, famine, oppression, political and economic instability. The history of Italy as a receiving country for migrants is not recent, although the flows had a strong increase especially in the last four years.

In Table 1, we present aggregate data about migrant inflows in Italy from 2008 to 2014, which is the period covered by our data. Until 2008, the country had an average number of arrivals of around 23,000 migrants per year, with a peak of 50,000 in 1999 due to the Albania and Kosovo conflict. In 2008, there was another reprise of inflows in the country with a peak of 37,000 migrants, attributable to the conflicts and famine situation in Eritrea, Nigeria, and Somalia. In 2009 and 2010, Italy had a declining trend with 9,573 and 4,406 migrants arrived by sea, respectively. This decline can be related to the policies of the Italian government that, with the "security package" and the "Treaty of Friendship, Partnership and Cooperation Agreement" signed with Libya, aimed at countering strongly illegal immigration intensifying border controls and rejections in the sea[10].

[Insert Table 1 here]

The so-called Arab Spring of 2011, which resulted in the fall of autocratic regimes in Tunisia, Egypt and Libya, caused a reprise of the landings to the country, for a total of 63,000 migrants arrived on the Italian coasts in 2011. After another decrease in 2012, between 2013 and 2014 the humanitarian crisis had a sharpen increase and climaxed with over 216,000 arrivals in Italy by sea in 2014. During these years, the loss of human lives was huge and culminated in the tragedy of the

[10] For this agreement, Italy was condemned by the European Court of Human Rights on the 23rd of February 2012. The condemn refers specifically to the so-called Hirsi case of 2009, although the Italian misconduct involved many other cases. According to the Italy-Libya bilateral agreements on human trafficking, Italy pushed back hundreds of sub-Saharan migrants to Libyan authorities without due assessment of their needs for international protection. But this practice was against human rights laws, specifically in violation of article 3 of the Convention on human rights on the one degrading treatment and torture.

sinking of a boat off the island of Lampedusa in which 366 people lost their lives[11]. UNCHR (2015) provides data about the number of deaths from 2010 to 2014. Unfortunately, this number has grown as the number of persons seeking an opportunity to reach Europe by sea has increased, reaching its highest value in 2014 and 2015 at 3,500 and 3,771, respectively[12].

Table 2 shows the composition of asylum seekers landed in Italy between 2008 and 2014 by nationality. We observe that the ranking changes every year. Some nationalities (such as Afghanistan and Pakistan) are in the top positions of the ranking for all the years under investigation. This occurs because these countries are in a permanent conflict situation. At the same time, the number of migrants from these countries has substantially increased over the period. For some other countries, it is possible to pinpoint exactly the year of culmination of a crisis situation. For instance, Tunisia showed a low level of asylum seekers until 2010 (it was not in the first positions of the ranking in 2008, had just 241 in 2009, and 164 in 2010), but had a strong increase in 2011 as a consequence of the conflicts spread in the country during the Arab Spring. Analogously, Libya is the ranking of the top sending country only in 2011, year in which the country was itself concerned by the Arab spring.

[Insert Table 2 here]

3. The migrant population in Sant'Anna centre

3.1. Description of the data

Our empirical analysis is based on unique data collected from the Sant'Anna centre. This is a multipurpose CDA/CARA centre which is located in Crotone, one of the five provincial capitals of Calabria in the South of Italy. Crotone is a big port city located on a promontory overlooking the Ionian Sea right in front of the Greek coasts. Due to its strategic location, this centre is often overcrowded as we will show later.

Illegal migrant inflows occur through two main channels. First, many landings are made directly on the Calabrian coasts near the centre. Second, because of its closeness to Sicily, the centre receives a large inflow of migrants from the island of Lampedusa as well as the other reception centres located in Sicily (for instance in Mineo or Pozzallo). Sant'Anna centre, whose complete name is "refugees and asylum seekers' centre", is one of the largest reception centre for illegal migrants in Europe. It is operative since 1998 and has a declared capacity of 1,252 places, 256 guests for the CARA and 956 for CDA (Contextus, 2009). It is managed by a religious brotherhood (Misericordia),

[11] Following this tragic event, the Italian Government has promoted the military and humanitarian operation in the Mediterranean Sea called "Mare Nostrum" (started on the 18th October 2013 and concluded on the 31st October 2014) in order to face the state of emergency undergoing in the Strait of Sicily due to the exceptional inflow of migrants. The aid granted to migrants coming by sea up to 120 km from the Italian coast has reduced the incidence of the deaths. The previous year in the Libyan route the number of deaths was estimated at 1 in 17 landed, while in operation Mare Nostrum reported this ratio to a value of 1 death per 50 landed (Papavero, 2015).

[12] Deaths were equal to 20 in 2010, 1,500 in 2011, 500 in 2012 and 600 in 2013.

under the supervision of the Italian government. The centre is located on an old military airport, in front of the current airport, and is about 15 kilometers away from the centre of Crotone.

When arriving in the centre, migrants meet the Police headquarters and are delivered a card with an identification number. They are assigned housing and discuss with social workers who identify and support people in need of assistance like victims of trafficking or torture, unaccompanied minors, pregnant women or women with children. Migrants receive at this occasion first legal information and a description of the various services in the centre (legal assistance, mediation activities, leisure, Italian courses and so on). The space per capita in the centre is below the standard prescribed for the refugee camps set up in emergency[13]. The Sant'Anna is not a detention centre, so migrants are free to go outside and inside the centre whenever they want within 8 am and 8 pm. To our knowledge, there are no special or different controls for some nationalities and migrants receive all the same treatments.

Our data corresponds to the exhaustive list of entries of migrants in Sant'Anna centre between January 1, 2008 and December 31, 2014. After obtaining a special permission from the Ministry of Interior to collect and use data from the centre for research purposes, we have gathered the administrative registers filled by the officers working in the centre. Our dataset is different from a census in the sense that we never know exactly the exhaustive population living in the centre at a given date. For each migrant, we have the following information over the whole period: gender, date of birth, origin country, place of origin (if they come directly from the sea, from another reception centre, and so on), date of entry, date of exit (if any) and the reason associated to exit. Albeit we have little individual characteristics (there is for instance no information on either education or social status in the origin country), we can describe the trajectories of migrants inside the centre, from entry to exit, at least for those who have left the centre. Overall, the sample includes data on 26,666 entries in the centre: 5,661 in 2008, 2,621 in 2009, 2,451 in 2010, 6,555 in 2011, 1,701 in 2012, 3,250 in 2013 and 4,427 in 2014[14].

In Table 3, we provide a description of gender, age and nationality of migrants having entered the Sant'Anna centre between 2008 and 2014. In our sample, 38.9% of migrants come from Sub-Saharan Africa and 17.2% from Northern Africa. The main contributing countries from Africa are Tunisia (14.2%), Nigeria (8.0%), Eritrea (7.8%) and Somalia (7.4%). Concerning Asian and Middle East countries, migrants arriving in the Sant'Anna centre mainly come from Afghanistan (15.0%), Pakistan (9.5%), Iraq (6.1%) and Syria (5.9%). The proportion of male migrants is overall 88.7%, their average

[13] According to the international standards, in the early stages of an humanitarian emergency, refugee camps must have at least one toilet for every 20 people, the water points should be at no more than 150 meters away from the accommodation, and there should be at least 3.5 m^2 of space per person in the rooms.

[14] The original sample includes 26,675 entries. We exclude two observations with missing information on date of birth and seven observations with incoherent information (the date of entry was posterior to the reported date of exit).

age is 25.1 years with 5% of entries aged less than 16. We note substantial variations in gender and age distribution by origin country. Almost all Asian migrants (Afghanistan, Pakistan, Bangladesh) are male but the proportion of women is 20% for those from Palestine and 22.9% from Syria. Concerning African countries, the largest proportions of women concern migrants from Ethiopia (45.7%), Nigeria (35.7%) and Somalia (22.3%). Young migrants (less than 16) come more frequently from Syria (18.8%), Palestine (15.8%) and Egypt (13%).

[Insert Table 3 here]

3.2. The dynamics of entries in Sant'Anna centre

We present in Figure 1 the monthly number of entries in the Sant'Anna centre. A first finding is that there are large variations in inflows over the seven years under consideration. The average number of entries per month between 2008 and 2014 amounts to 317 migrants with a standard deviation of 331 so that the coefficient of variation is very large (above 100%). Periods with the lowest inflows are Summer 2009, Spring 2010, and the first semester of 2012. Monthly inflows of migrants range between a minimum of 37 (January 2012) and a maximum of 2,395 (March 2011), and the median value is equal to 204. Two main reasons are expected to affect the time profile of inflows. On the one hand, political crises and wars will force people to leave their origin country. On the other hand, available places in the reception centre should limit to some extent the possibility for local authorities to host new migrants in Sant'Anna.

[Insert Figure 1 here]

The peak that we observe in March 2011 is a very good illustration of the role played by the political context. In January, the total number of migrants who attended the Sant'Anna centre was equal to 116. It then rose very sharply, from 1,406 in February to 2,396 in March, before falling just as sharply to 937 in April and 222 in May. The peak is essentially explained by a huge increase in the number of migrants coming from Northern Africa due to the Arab Spring, and also to a lesser extent from Sub-Saharan Africa in March and April. We further investigate the time profile of entries by country of origin. For a few countries, it is possible to notice that there has been an increase corresponding to particular time of crisis.

The most evident peak concerns migrants from Tunisia in 2011. From 2008 till 2010, the cumulated number of entries from that country was 633. In February 2011, entries from Tunisia were equal to 1,167 and even 1,701 in March 2011. Clearly, these inflows have to be connected with the Jasmine Revolution which began by the mid of December 2010. The state of emergency was declared after the departure of president Ben Ali on January 14, 2011, but violence and looting continued for a couple of weeks. Starting by the mid of February 2011, about 5,000 Tunisian migrants landed on the island of Lampedusa, and this fact forced Italy to declare a state of emergency on that Island and

appeal other European Union members for help. There were suspicions that some of these arrivals were former servants of the ousted regime of the president Ben Ali.

Another peak in the inflows of migrants, although on a smaller level, is observed for Syria between 2013 and 2014. It is attributable to the increase in the number of conflicts in this country, which doubled from three in 2011 to six in 2012 and then arrived to seven in 2013 and 2014 (Conflict Barometer, 2013, 2014)[15]. The Syrian civil war, with approximately 125,000 deaths since its start in 2011, was by far the conflict with most casualties and accounted for more than six million displaced, causing an increase in the number of persons seeking for international protection. In 2013, the conflict reached the highest level of classification of gravity and intensity. In the same period, the country was interested by the conflict involving the Islamic State in Iraq and Syria. Also, the battle between Syria and Israel, permanently engaged in a border crisis over the contested Golan Heights, had a reprise with fire exchanges between militants on Syrian territory and Israeli Defence Forces. The effect of this last conflict is also evident on the inflows of migrants from Palestine. The peak of migrants from this country in 2014 can be linked additionally to the increase in the level of intensity of the historical conflict going on from 1988 between Hamas and the Israeli Government.

A question worth is to know whether the time series associated to migrant entries have a certain seasonality, for instance due to specific trip conditions. In particular, many migrants come to Italy by boat so that climatic conditions will be more favourable for a crossing completed during April to September. For that purpose, we calculate the average number of entries for each month. When considering all years, the lowest averages are observed in January (179.3 entries) and May (201.4) while the highest values are found in February (432.4), March (587.1) and October (400.3). However, these monthly averages are strongly affected by the huge number of entries from Tunisia observed in February and March 2011. When excluding 2011 from calculations, January and May are still the months with the lowest number of entries. Conversely, entries are more frequent on average in October (379.6), July (317.4) and September (281.4).

Our dataset includes the Italian city from which migrants came, which are basically places near to the landing area[16]. The most frequent cities are Crotone (N=7,950 and 29.8%), Lampedusa (N=4,059 and 15.2%), Agrigento (N=1,974 and 7.4%) and Siracusa (N=754 and 2.8%). Migrants coming from Lampedusa, Agrigento and Siracusa and other cities are those transferred from other centres[17]. Location should depend on the origin country of migrants. Consider the case of Crotone, a

[15] The Conflict Barometers provide an annual analysis of the global conflict events published since 1992 by The Heidelberg Institute for International Conflict Research (HIIK). All the annual reports are available on line (http://www.hiik.de/en/index.html).

[16] This information is available for 78.4% of migrants.

[17] Due to its geographical position in the Mediterranean Sea and near to Sicily, typically Sant'Anna centre is the first place where the refugees are hosted in Italy for newcomers landing in Calabria, and one of the first places where they are transferred from Sicily.

city located on the East shore of Calabria in front of Greece. Most migrants entering Italy through Crotone come from Asia or Middle East and the four most important origin countries are Afghanistan (24.1%), Pakistan (21.5%), Iraq (11.7%) and Syria (7.5%). Conversely, the Island of Lampedusa which is located in the middle of the Mediterranean Sea (between Malta and Tunisia) is the main entry point for migrants coming from Tunisia (65.7%), Somalia (10.4%) and Nigeria (7.9%). Finally, Agrigento and Siracusa are two cities located in Sicilia which attract mainly migrants from Sub-Saharan Africa, 28.3% of them being from Eritrea and 19.4% from Somalia.

3.3. From entries to population estimates

Since our database is not a census, we never know the exact population of migrants living in the camp on a given date. Let $t = 1, \dots, T$ the set of dates in our sample, t corresponding to a day. For a migrant i, the information that we have is the entry date $\underline{t}$ and the departure date $\overline{t}$ with $\overline{t} \geq \underline{t}$ (or T if the migrants has not left the centre at the end of the period). Let $\mathbb{I}_{i,t}$ a dummy variable such that $\mathbb{I}_{i,t} = 1$ when the migrant is in the centre at date t and $\mathbb{I}_{i,t} = 0$ otherwise. Then an approximation of the population inside the camp is given by $P_t = \sum_i \mathbb{I}_{i,t}$. The drawback of this measure essentially concerns the beginning of the period of observation since we have no information on migrants who have registered in the centre before $t = 1$, so that P_t will clearly underestimate the true population $\tilde{P}_t$ at the beginning of the period (low values of t). However, if there is no migrant permanently residing in the centre, then P_t will provide a good approximation of $\tilde{P}_t$ especially as long as t increases.

We describe in Figure 2 the number of migrants living in the centre calculated as $P_t = \sum_i \mathbb{I}_{i,t}$ on a weekly basis. At the beginning of the period and till the first fourth months of 2008, the number of migrants is characterized by a huge increase (81 after one month, 371 after two months, 982 after three months). This occurs because the total population is calculated as the sum of entries inside the camp minus the number of exits. The number of migrants reaches a peak exceeding N=1,600 by the mid of July 2008. We also plot in Figure 2 (dashed line) the maximal capacity of the Sant'Anna centre (N=1,252). Although we underestimate the exact population living in the camp, our results highlight the overcrowding of the centre since the approximate population exceeded the maximal capacity after about five months and till the end of 2008. Then, the population tends to decrease till January 2011. During that period, this means that there were on average more exits than entries in the Sant'Anna centre.

[Insert Figure 2 here]

The number of residents in the centre is characterized by a second peak by the mid of March 2011, with a maximum of 3,041 migrants. As previously emphasized, the peak is due to the political

crisis in Tunisia and the centre was excessively overcrowded during 6 weeks with more than 2,500 migrants from the 10th to the 15th week of 2011. After reaching a low point at around 1,000 migrants by the mid of 2012, the trend is rising since then and the number of residents in the centre is above 1,400 persons since the fourth semester of 2012. In 2014, the average weekly number of migrants was equal to 1,839 (ranging from 1,604 to 2,507), which is 8.7 percentage points higher compared to 2013 and even 43.5 points compared to 2012.

Knowing the maximal capacity of the centre (N=1,252), we define an indicator of overcrowding as the number of weeks when the total population exceeds the capacity size. From 2009 till 2014, we find that 59.8% of the weeks were characterized by an excess of migrants in the Sant'Anna centre[18]. The migrant population was 20% larger than the maximal capacity in 43.1% of weeks and 50% larger in 9.5% of weeks. The fact that periods when the centre is extremely saturated remain limited supports two different interpretations. On the one hand, the management of the centre may lead to some smoothing of migrant peaks. When squared meters available per person tend to become scarce inside the centre, then local authorities will have to arrange transfers of migrants to other camps. On the other hand, migrants may find the situation very difficult to live because of proximity and choose to leave the camp by their own.

3.4. The determinants of migrant inflows

Understand the factors leading people into exile as well as how illegal migrants are selected from their origin population is a very important issue. For instance, young adults who have completed studies and start their career may be tempted to find better economic conditions by working in the European Union. Mothers with young children may have more chances to obtain a refugee status because of their vulnerability. Conversely, older people who are more attached to the place they were born may be less inclined to leave their country of origin. However, assessing the selection of migrants remains challenging as it requires data describing population in their origin country. Instead, we turn to an econometric analysis which is conducted at the origin country-year level.

Let E_{it} the total entry inflows in the Sant'Anna centre from origin country i during year t. We estimate the linear regression $\ln E_{it} = X_{it}\beta + \gamma_i + \theta_t + \varepsilon_{it}$, where X_{it} is a set of origin country-specific explanatory variables, β are parameters to estimate, γ_i is a country fixed effect capturing time-invariant unobserved heterogeneity at the country level, θ_t is a year-specific effect which is common to all countries of origin, and ε_{it} is a residual perturbation such that $E[\varepsilon_{it}] = 0$ and $V[\varepsilon_{it}] = \sigma^2$. This specification corresponds to a two-way fixed effect regression. We rely on a fixed

[18] We choose to exclude 2008 from the calculation since our approximation of the population living in the centre is poor in the first semester of that year as shown in Figure 1.

effect model rather than a random effect model because the first specification does allow for some correlation between covariates and fixed effects.

We include the following covariates in X_{it}. First, we merge our data with economic variables as poor conditions in the origin country may provide incentive for the local population to seek for better opportunities. Using the World Development Indicators (WDI) database, we select the level of GDP per capita (constant 2005 US$), the annual GDP growth and the total unemployment rate as percentage of total labor force[19]. Second, to account for possible demographic pressure related to population size and structure, we introduce total population, percentage of population aged between 15 and 64 as a proxy of work offer and rural population as percentage of total population (which is also a proxy for economic development). Third, we use data from the Conflict Barometer to construct two indicators related to conflicts and wars in the origin country: a dummy equal to one when there was a war in the origin country o at date t, and the total number of wars and conflicts in origin country o at date t[20].

We perform our regressions on a panel comprising 36 origin countries and seven years[21]. We present our results in Table 4. In a first regression (column 1), we do not introduce country-specific fixed effects. The selected covariates explain about 30% of variations in the annual number of migrants per origin country. We find that the number of migrants is negatively correlated with GDP per capita, but positively with unemployment rate. So this confirms the importance of economic conditions in explaining the decision of people to escape from their own countries. Inflows are positively correlated with total population in the origin country and negatively with the proportion of adults in the population as well as with the percentage of rural population, confirming that demographic pressure also matters in explaining the decision to migrate. We control for the geographical distance separating Italy and the origin country, but fail to report any significant correlation[22]. This suggests that migrants are not afraid by very long trips in order to access to a better economic environment in Italy or somewhere else (if Italy is a gateway for Europe).

[Insert Table 4 here]

However, it could be argued that one of the main factors explaining migrant inflows relates to crisis and wars in the country of origin, as suggested by the events (and associated outflows) in

[19] The WDI are provided by the World Bank and are available online (http://data.worldbank.org/data-catalog/world-development-indicators).

[20] According to the Conflict Barometer's classification, wars correspond to level 5, the highest level of a conflict situation within a country. For our continuous measure of wars and conflicts, we consider any kind of conflict classified from level 1 to level 5 according to the Conflict Barometer's classification.

[21] Our sample is not strictly balanced since there is no information on the level of GDP in Eritrea (from 2012 till 2014) and Somalia in the WDI database. We include the non-missing variables of these two countries in our regressions.

[22] This result is not due to the log-log specification used to estimate the distance effect. We have also estimated a semiparametric regression in which distance was allowed to enter the model nonlinearly (Robinson, 1988), but the distance effect remained essentially flat.

Tunisia during the first trimester of 2011. In column (2), we introduce our first indicator of existence of wars and conflicts in the country of origin. Not surprisingly, we find a very high positive correlation between war and inflows in Italy. When there is a war in the country of origin, the number of migrants in Italy increases by $100 * (\exp(1.313) - 1) = 271.7\%$. The influence of war in explaining inflows is substantial as it improves the R squared of the model by nearly 20% (from 0.290 to 0.348).

As we have longitudinal data, we are able to account for unobserved country characteristics by adding country fixed effects γ_i in the regression. As shown in column (3), there are substantial differences with our previous estimates. This is due to the fact that a fixed effect model exploits within-group variation over time only[23]. Variation between groups is not used because it is expected to reflect omitted variable bias. According to the fixed effect estimates, the migrant inflow remains negatively correlated with GDP and positively with unemployment. It is also positively correlated with total population and with the share of 15-64 among the population. However, the coefficient related to the existence of war in the origin country (which is six times lower compared to the model without origin country fixed effect) is no longer significant.

A potential shortcoming of the war indicator is that there is not so much within variation. Among the 36 countries, there is no war during all the period in 20 of them while 4 of them suffered war during all the period (Afghanistan, Pakistan, Sudan, Somalia)[24]. As robustness check, we introduce in column 4 the number of wars and conflicts inside the country. This indicator ranges from 0 to 22, with an average of 3.9 and a standard deviation of 4.1. While the estimated coefficient of wars is positive, it is not statistically significant at conventional level. An explanation could be that wars are associated with economic instability in large areas and, even if they are not all persistent wars, they have a traumatic impact on people who may be tempted to migrate with the hope of finding better conditions for the rest of their lives as well as for their children and relatives.

4. Outflows of migrants in Sant'Anna centre

4.1. Length of stay in the centre

In Figure 3, we present the average number of days (defined as the difference between date of exit and date of entry) spent by migrants in the centre depending on their country of origin, countries being sorted by decreasing duration[25]. The average duration in the centre is nearly four months (113.2 days), with a standard deviation of 127.1 days. The median length of stay is 58 days,

[23] By definition, all time-invariant characteristics specific to a given origin country are picked up by the fixed effect γ_i. This explains why the distance effect is no longer identified in column 3.

[24] We also estimated a random effect model. The war coefficient amounts to 0.472 with a t-value of 1.56, but the associated critical probability of 0.119 remains above the significance level of 5 percent. Furthermore, a Hausman test shows that the fixed effect specification is preferable (with a Chi squared equal to 31.0 for 13 degrees of freedom).

[25] For the calculations, we choose to delete the subsample of migrants still residing in the centre at the end of December 2014 (N=1,357). By definition, these observations are right-censored since their total length of stay remains unknown.

but 25% of migrants have spent at most 8 days and 25% have spent more than 192 days. Thus there are large differences in the length of stay in the centre.

[Insert Figure 3 here]

At a more detailed level, migrants from Sub-Saharan African countries are those who stay longest in the centre, with eight countries in the top-10. In particular, the average duration is above 200 days for migrants from Congo, Senegal and Niger, and it exceeds 150 days for migrants from Benin, Gambia, Mali, Ivory Coast and Guinea. It is also above 150 days for migrants from Pakistan, Bangladesh, Chad, Iraq and Afghanistan. On the opposite, the shortest durations are observed for migrants from two different regions. The first one concerns countries from Maghreb, with Morocco (10.1 days), Tunisia (13.0 days) and Algeria (31.9 days). The second one concerns the countries of Middle East which have been affected by political crises and wars over the last years: Palestine (15.8 days), Syria (20.2 days) and Egypt (44.1 days).

We further investigate in Figure 4 differences in the timing of exit decisions of migrants, where we present Kaplan-Meier estimators of the survivor function for the main countries of origin[26]. Again, our results highlight substantial differences between groups of countries. When considering migrants from North Africa (Tunisia, Egypt, Morroco), we find that more than 80% of them have left the centre at most 30 days after their entry. This percentage was at most 40% for migrants from Sub-Saharan Africa (Nigeria, Eritrea, Somalia) and even 30% for migrants from Asia (Afghanistan, Pakistan, Bangladesh). The situation is much more contrasted in the Middle East group of countries. Migrants from Syria and Palestine leave very quickly since less than 10% of them are still in the centre two months after entry, but the survivor function estimates found for Iraqis migrants look much more like those found for Asian migrants[27].

[Insert Figure 4]

4.2. The pattern of exit motives

Migrants may leave the centre for very different reasons, either voluntary or involuntary. First, migrants arriving in an overcrowded centre can be transferred by authorities to other centres elsewhere in Italy due to space constraints. Second, migrants can stay in the centre while waiting for the examination of an asylum application or expecting some refugee status because of war or humanitarian crisis in their own country of origin. Third, migrants may be expelled from Italy if they come from a country from which migration is not perceived as illegal. Fourth, migrants may be not in the right place. In particular, Italy can serve as a gateway for illegal migrants coming from Africa or

[26] Migrants still living in the centre at the end of the period are now taken into account and are treated as censored observations.

[27] Around 50% of Iraqis were still in the centre six months after entry.

Middle East and seeking to go to another country in Europe. In that case, migrants will be tempted to leave the centre by their own in order to avoid having to stay in Italy. Depending on the underlying motive, migrants are expected to spend more or less time in the Sant'Anna centre.

We present in Table 5 the various exit motives recorded in our data by country of origin. The most frequently observed exit reason corresponds to personal decisions of migrants of leaving the centre by their own. This concerns more than 4 migrants over 10 (43.6%). By decreasing order of importance, the other reasons refer to permit for subsidiary protection (16.1%), transfer to another centre (12.5%), temporary residence permit (9.9%), humanitarian protection (7.0%) and political asylum (6.2%)[28]. Expulsions from Italy are very infrequent and concern only 2.6% of migrants[29]. Again, we find substantial differences by country of origin. For instance, the personal choice to leave the centre concerns 73.7% of migrants from North Africa, 63.8% from Middle East, but this percentage is more than twice lower for migrants from Asia (31.8%) and Sub-Saharan Africa (27.7%).

[Insert Table 5 here]

A closer look shows that differences in exit reasons are also large even when considering countries from a same area. In particular, only one out of four migrants from Egypt and Morocco chooses to leave the centre by their own, while this is the case of 83.4% of Tunisians. The same pattern is found for migrants from Middle East. Clearly, migrants coming from Syria and to a lesser extent Palestine do not seem to intend staying permanently in South Italy since 94.2% of the former and 83.9% of the latter have chosen to voluntary leave the refugee camp. The exit rate associated to transfers to another centre ranges between 10 and 20% for most countries, a noticeable exception being the case of Egyptians presumably due to the sudden inflows (54.4%). The humanitarian motive is more frequently observed for migrants from three Sub-Saharan countries, Ivory Coast (28.2%), Senegal (26.7%) and Sudan (24.8%), as well as Turkey (20.4%). Finally, political asylum concerns more often migrants from Sudan (24.8%), Iran (20.6%) and Ethiopia (19.4%).

We expect the various exit motives to be strongly correlated with the number of days spent in the centre. For instance, migrants who intend to join a third country are likely to leave the centre fairly quickly to reach their final destination. Conversely, those expecting a political refugee status or asylum in Italy will presumably have to wait for a long time before receiving an answer to their query and thus will stay in the centre till the official decision. We present in Figure 5 the Kaplan-Meier survivor estimates obtained for the different exit motives. For this descriptive analysis, we do not

[28] The temporary residence permit is released to those illegal migrants who have to apply for international protection in the meanwhile of their application.

[29] There is also a residual category concerning 2.3% of refugees. It includes other reasons like denial (those who did not obtain any kind of international protection), electronical residence permit (which may be released, for working purposes, to those who have obtained the refugee's status, or the subsidiary or humanitarian protection) or simulated landed (those who have falsely declared they have reached Italy by boat, while they were probably already on the Italian territory, so they do not have the right to apply for international protection).

account for the fact that the various exit motives are competing risks, but we will relax this restrictive assumption in our econometric framework.

Our results show the existence of two main separate profiles. On the one hand, the four exit reasons which are related to the obtainment of any form of international protection (refugee status, humanitarian protection, subsidiary protection, temporary residence permit) are characterized by very similar survivor functions. Four months after entry (120 days), less than 20% of migrants concerned by these motives had already left the camp. On the other hand, the exit time is considerably reduced for the remaining reasons. Among those leaving by their own, more than 80% of migrants were no longer in the camp after two months[30]. Finally, the shortest durations are observed for the residual category which is essentially due to the inclusion of migrant expulsions.

[Insert Figure 5 here]

4.3. Estimates from a competing risk model

Individual characteristics are also expected to influence the type of exit from the centre. Local authorities may be more sensitive to the situation of more vulnerable people, in particular children or women with young children, when delivering the refugee status. Conversely, young adults in their prime age may be more tempted to go to another country where they will be able to start a new life and find a full-time job in the labour market. We assess the role of the migrant's characteristics (restricted to gender, age and country of origin due to data constraints) on the various risks of leaving the centre using a survival analysis framework. We group all exit reasons related to the obtainment of a form of international protection and consider the four following causes of exit denoted by c: voluntary exit ($c = 1$), transfer to another centre ($c = 2$), obtaining international protection ($c = 3$), and other reasons ($c = 4$). Since each migrant may be affected by one of these four mutually exclusive events, we turn to a competing risk model (Fine and Grey, 1999).

Specifically, we rely on the flexible parametric survival model originally proposed by Royston and Parmar (2002). The cause-specific hazard for each exit motive is estimated using a competing risk setting. Assuming proportional hazards, the cause-specific hazard for a migrant with observable characteristics X depends on a baseline hazard which is specific to each cause c and cause-specific parameters β_c to be estimated. The cumulative hazard function is modelled as a natural cubic spline function of the logarithm of time. Next, the cause-specific hazards are used to determine the cumulative incidence function associated with each cause. This function will give the proportion of

[30] The pattern is somewhat similar for migrants transferred to other centres.

migrants endowed with characteristics X who have left the centre at a given time due to a specific cause c, provided that they may have left the centre for another motive[31].

When turning to the data, we estimate the survival model for the four exit causes simultaneously. The selected covariates are gender, age (four categories with less than 16 as reference), and country of origin[32]. Results from the flexible model for gender and age are reported in Table 6, where we present hazard ratios obtained from the proportional hazard estimates. Compared to men, the risk of either voluntary departure from the centre or obtaining an international protection is 44-45% higher for women. Conversely, women have a much lower risk of leaving the centre for another motive. Children below 16 are characterized by a higher risk of either voluntary departure, being transferred, or obtaining the international protection. The higher risk of being transferred may be related to the fact that when the children are not accompanied, authorities may take the decision to move them to a structure specifically for minors. At the same time, they obtain the international protection more easily because foreign minors, even if they have entered irregularly in Italy, hold all the rights enshrined in the New York Convention on the Rights of the Child of 1989, ratified by Italy and implemented by Law n. 176/91.

[Insert Table 6 here]

To investigate differences in the exit cause profile by country, we present in Figure 6 the stacked cumulative incidence functions obtained for the main origin countries of migrants. In doing so, we can compare for the various countries both the total probability of exit over time as well as the specific pattern of exit associated to each cause. Calculations are made for male migrants aged between 16 and 24 and predictions are restricted to a maximum follow-up time of one year[33]. Consider for instance the case of migrants from Afghanistan. One month after entry, the probability of exit is equal to 0.277. These fast exits are essentially explained by some voluntary choice to leave the centre (0.169) and to a lesser extent to transfer decisions by local authorities (0.091). At six months, the exit probability is equal to 0.594, but the distribution of motives is different. Voluntary decisions and imposed transfers now amount to around two-thirds of all causes of exit at that time [(0.277+0.128)/0.594 = 0.681]. The exit probability associated with international protection, which was almost negligible at one month, is now equal to 0.165. Afterwards, the refugee cause-specific probability continues to grow to reach 0.400 twelve months after entry.

Insert Figure 6

[31] The cumulative incidence function depends not only on the cause-specific hazard for cause c, but also on the cause-specific hazards for all other competing causes. See Hinchliffe and Lambert (2013a, 2013b).

[32] We include 21 dummies for countries contributing most to the sample. The reference category refers to other countries which include: Albania, Algeria, Armenia, Benin, Bhutan, Brazil, Burkina Faso, Cameron, Chad, China, China Tibet, Congo, Finland, Georgia, Germany, Jamaica, Guinea, Guinea Bissau, Guinea Conakry, India, Kenya, Kosovo, Kuwait, Lebanon, Liberia, Libya, Mauritania, Mongolia, Niger, United Kingdom, Central African Republic, Congo, Sierra Leone, Sri Lanka, Togo, Ukraine, Uganda, Uzbekistan and Zimbabwe.

[33] Each month is supposed to include 30 days, so that the duration of the year is approximated by 12 * 30 = 360 days.

We now try to bring out similarities between the main countries of origin of migrants. In terms of time profile, we can observe that for all countries the incidence functions associated to transfers to other centres and voluntary exits become horizontal rather quickly. Clearly, transfers are expected to be connected with the capacity of the centre. If migrants are not able to be accommodated in decent conditions, then they will presumably be redirected to other centres. Also, it seems obvious that migrants who have fled their country of origin and do not wish to stay in Italy will seek to leave the camp shortly after their arrival. Migrants having experienced harsh conditions to reach Italy will certainly take a few days or weeks to recover the forces necessary for the remainder of their trip till their intended destination. Lastly, we note that the profile found for the cause related to international protection starts increasing after 120 days and is growing till one year after entry. This is closely related to the time required for the examination of the refugee claims by local authorities.

At the same time, the comparison of the country-specific incidence functions sheds light on substantial differences not only between the selected countries, but also within countries of a same region of origin. Consider the case of the Middle East. As shown in Figure 6, migrants coming from either Syria or Palestine do not want to stay in Italy. One month after their entry in the camp, 86% of Syrian migrants (81.2% of Palestinians) had left the centre by their own and 91.5% (83.6%) after two months. Conversely, for migrants coming from Iraq, a very close country, the same exit proportions were only 17.5% at one month and 21.7% at two months. One year after entry, the proportion of residents having left the centre with a refugee status was around 46.5% for Iraqians, but 1.8% for Syrians and 0.3% for Palestinians.

The various incidence functions are more similar when considering migrants from Asia (Afghanistan, Pakistan, Bangladesh). The exit rate associated to voluntary exits ranges between 15% and 30% two months after entry. For migrants from North Africa, the sudden arrivals in February and March 2011 have led to massive voluntary exits for Tunisians (about 80% two months after entry) while more than 50% of Egyptians had left with a refugee status. Finally, for migrants from Sub-Saharan Africa, the proportion of those having left by their own is substantially higher for Eritreans than for Nigerians and Somalis. For these last two countries of origin, nearly one-half of migrants had left the centre one year after entry with a refugee status.

5. Conclusion

Due to the massive inflows from the poorest areas of the globe to the richest, the issue of illegal migrants and refugees has increasingly attracted the attention of both the media and policy makers over the last years. Despite this attention, very little is known on this topic, especially on the trajectories of illegal migrants when they arrive in Europe. The aim of this paper is to fill this gap by

providing an empirical analysis of the trajectories of migrants coming in Italy. For this purpose, we have used unique individual data collected in a reception centre located in Calabria, in the South of Italy, between 2008 and 2014. Although there are very few individual characteristics in our dataset, we are able to provide an accurate description of the trajectories of illegal migrants within the centre since the database provides time of entry, time of exit as well as reason of exit.

We find large variations in migrant inflows over the seven years under consideration, with peaks associated to political crises and wars in some countries. An estimation of the population in the centre shows that the Sant'Anna centre is often overcrowded since around 60% of the weeks from 2009 till 2014 were characterized by an excess of migrants. Both economic conditions in the origin country, demographic pressure and conflicts are significant determinants of yearly inflows by origin country. Concerning outflows, we highlight substantial differences both in the timing and motive of exit decisions between groups of country. The risk of either voluntary departure from the centre or obtaining an international protection is higher for women than for men and for children below 16, but the most important finding is that migrants from Syria and Palestine and to a lesser extent from Northern Africa leave the centre very quickly. This suggests that Italy, or at least the region of Calabria, is not the intended location of migrants from those origin countries.

Overall, our results have important policy implications. First of all, there is a huge number of migrants who leaves the centre voluntarily. Our datasets provides better information than official statistics about this leaving decision since official statistics are based only on the number of untraceable over the total number of asylum applications, so they underestimate the phenomenon because they do not consider those who go away before submitting the application[34]. The very high number of migrants leaving the Sant'Anna centre may be related to the strictness of the Dublin regulation, which does not allow them to fully accomplish their project of starting a new life in a chosen country different than their own. They presumably leave because they do not really want to stay in Italy, this country being mostly used as an entry gate to Europe due to its geographical position.

The whole system is therefore highly inefficient because it increases the probability that migrants will decide to leave the centre on their own as soon as possible. As a result, there is an increase of illegal migration within the countries which are not intended location for migrants and, subsequently, in the other countries where they will transit or go to live. Another important finding is that the hazard of leaving voluntarily the centre is higher for minors. Actually, minors who are much more vulnerable than adults should be protected under the New York Convention on the Rights of the Child of 1989, ratified by Italy and implemented by Law n. 176/91. However, when they

[34] Also our results are expected to underestimate the phenomenon because many illegal migrants try to leave Italy even before their admission into the centre, as documented by the journalistic chronicles.

voluntarily leave the centre, they become untraceable and their destiny remains totally unknown. As a consequence, it becomes impossible to guarantee them the correct application of the protection system.

Overall, our study contributes to the knowledge on illegal migrants because it provides for the first time detailed empirical evidence to the understanding of their trajectories when arriving in Europe. Our results provide a better understanding of the migrants' intentions to settle in the country where they first arrive. At the same, they also highlight all the limits of the Dublin's system which does not take into account the aspirations of illegal migrants regarding the country where they really intend to live. The system, thus, proves to be not ethical and highly inefficient in managing the inflows of migrants because it increases the likelihood that migrants who do not want to stay in the country they first reach will leave by their own as soon as possible. This will lead to additional flows of illegal migration in the EU countries, with obvious higher and higher difficulties to track and control those who enter and circulate in European countries.

References

Ambrosetti E., Cela E. (2015), "Demography of race and ethnicity in Italy", In Saenz R., Rodriguez N., Embrick D., (Eds), *The International Handbook of the Demography of Race and Ethnicity*, International Handbooks of Population 4, London, Springer, pp. 457-482.

Ambrosetti E., Paparusso A. (2014). Which Future for Migration in Europe? A Brief Analysis of the EU Migration Policies in the Mediterranean Area, Annali del Dipartimento di Metodi e Modelli per l'Economia, il Territorio e la Finanza, pp.13-28. ISSN: 2385-0825.

Anci, Caritas Italiana, Cittalia, Fondazione Migrantes, Sprar, UNCHR (2015), *Rapporto sulla protezione internazionale in Italia 2015*.

Caritas (2015). Dossier Statistico Immigrazione 2015. IDOS, UNAR, Confronti.

Carling J. (2007), "Unauthorized migration from Africa to Spain", *International Migration*, vol. 45, pp. 3-35.

Commissione Nazionale per il diritto di asilo (2014), *Quaderno statistico per gli anni 1990-2014*, Richieste di asilo.

Conflict Barometer (2008-2009), Annual Reports. Heidelberg Institute for International Conflict Research (HIIK). http://www.hiik.de/en/index.html

Contextus (2009), *Centri e territori*, Scheda Sant'Anna. http://www.contextus.org/centri/crotone/il-centro-di-accoglienza.html.

European Commission (2009), *Irregular Migration in Italy*, CLANDESTINO Research Project, Counting the Uncountable: Data and Trends across Europe. Policy Brief – Italy.

Fine J.P., Gray R.J. (1999), "A proportional hazards model for the subdistribution of a Competing Risk", *Journal of the American Statistical Association*, vol. 94, pp. 496-509.

Hinchliffe S.R., Lambert P.C. (2013a), "Flexible parametric modeling of cause-specific hazards to estimate cumulative incidence functions", BMC Medical Research Methodology, vol. 13, pp. 1-14.

Hinchliffe S.R., Lambert P.C. (2013b), "Extending the flexible parametric survival model for competing risks", Stata Journal, vol. 13, pp. 344-355.

Istat (2015), "Noi Italia. 100 statistiche per capire il Paese in cui viviamo", 7th edition, http://noi-italia2015.istat.it/index.php?id=3&L=0.

Leo L. (2014), *Aspetti critici del Sistema di Protezione Internazionale in Italia*, Report ASGI, http://www.asgi.it/wp-content/uploads/2015/03/report-febbraio-2014.pdf.

Papavero G. (2015), *Arrivi via mare in Italia e nuove rotte migratorie verso l'Europa*, Fact sheet ISMU – Novembre 2015, www.ismu.org.

Royston P., Parmar M.K.B. (2002), "Flexible parametric proportional-hazards and proportional-odds model for censored survival data, with application to prognostic modeling and estimation of treatment effects", Statistics in Medicine, vol. 21, pp. 2175-2197.

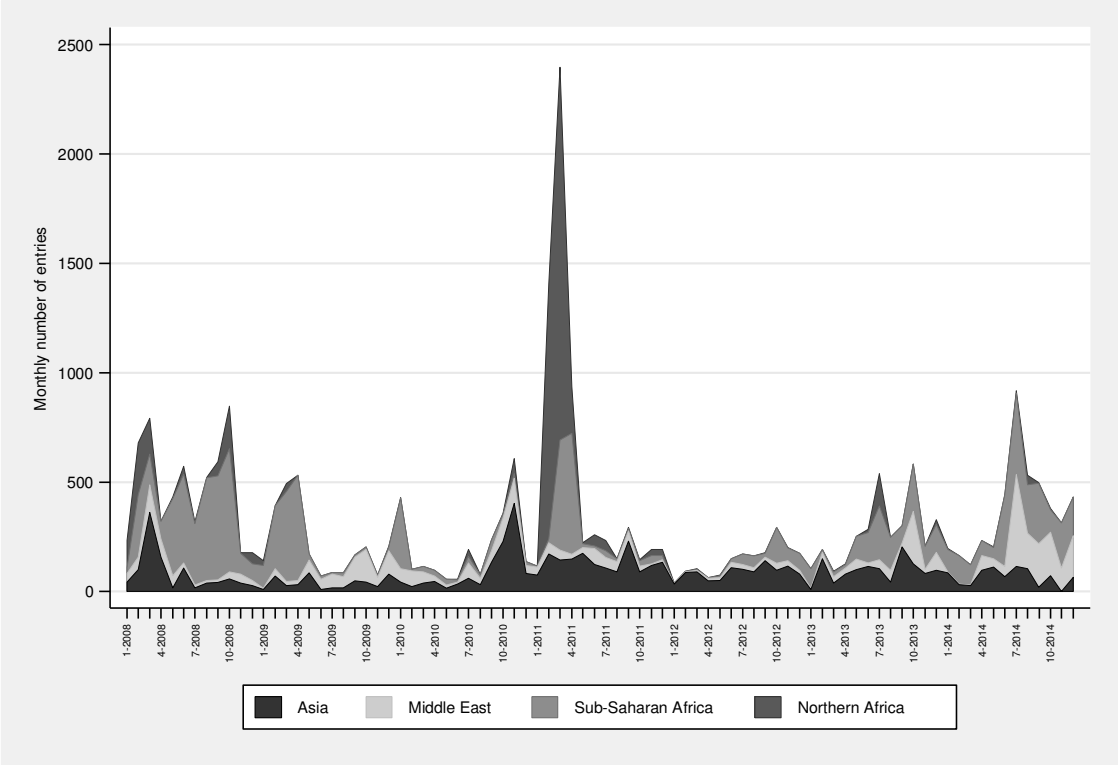
UNHCR (2014), *Global Trends Report*, http://unhcr.org/trends2013/.

UNHCR (2015), *Refugees/Migrants Emergency Response – Mediterranean*, http://data.unhcr.org/mediterranean/regional.php#_ga=1.38078819.1326910167.1451554920.

Toshkov D. D. (2014). The dynamic relationship between asylum applications and asylum recognition rates. European Union Politics, Vol. 15(2), pp.192-214

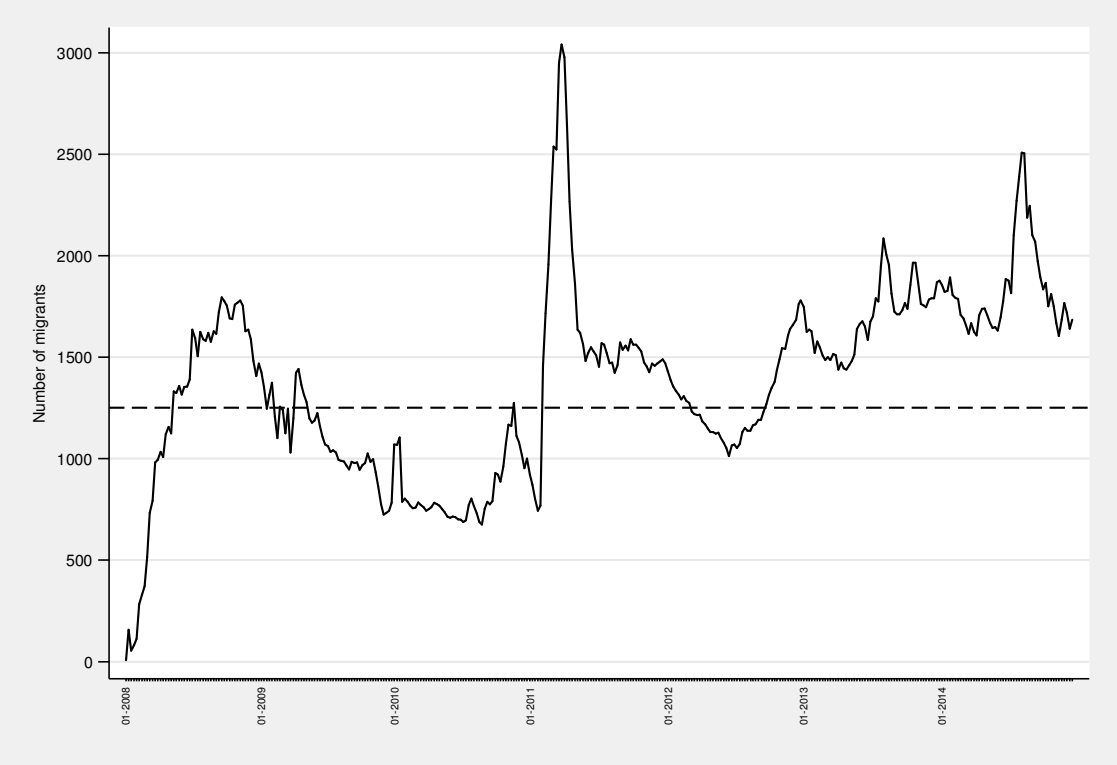
Wijers G.D.M. (2011), "The reception of Cambodian refugees in France", *Journal of Refugee Studies*, vol. 24, pp. 239-255.

Figure 1. Monthly number of entries in Sant'Anna centre



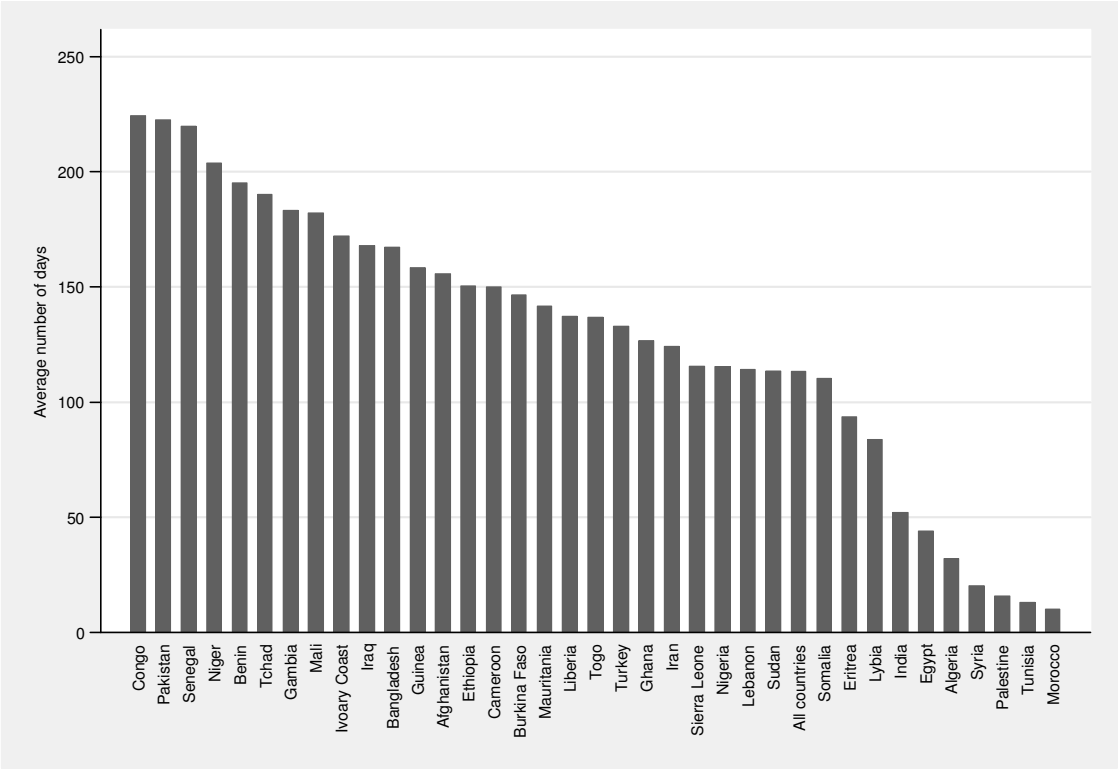
Source: data from Sant'Anna centre 2008-2014, authors' calculations.

Figure 2. Weekly number of migrants in Sant'Anna centre



Source: data from Sant'Anna centre 2008-2014, authors' calculations.

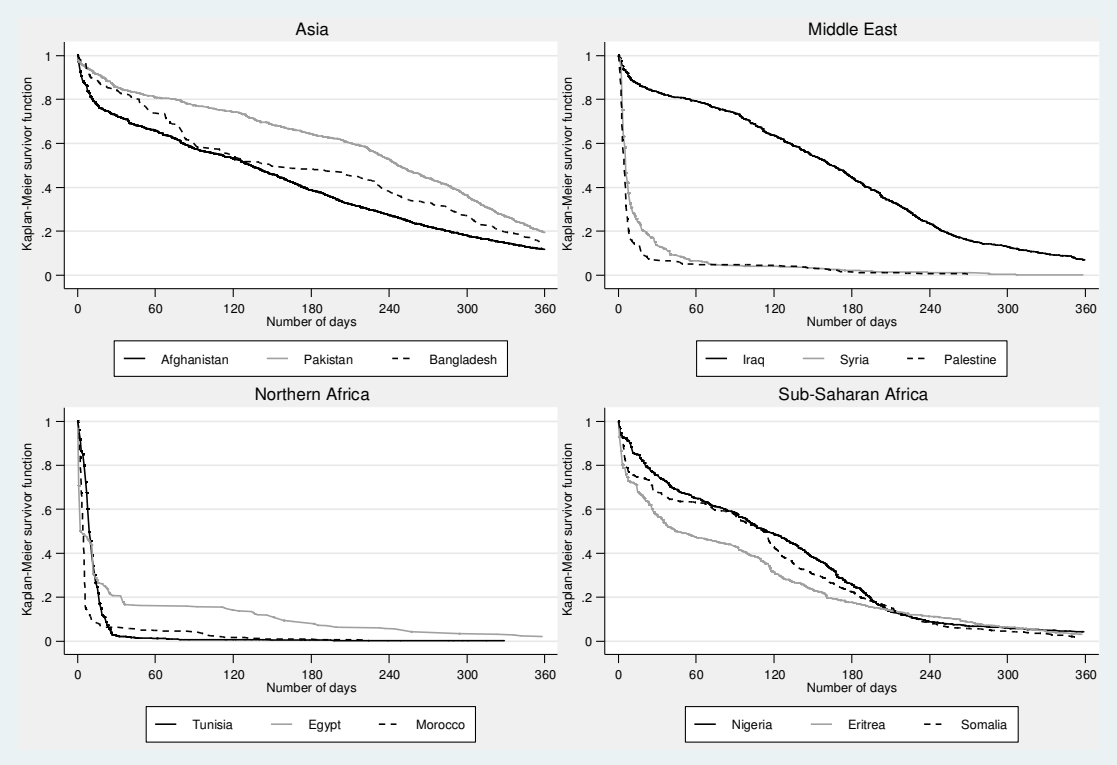
Figure 3. Average length of stay in Sant'Anna centre, by origin country



Source: data from Sant'Anna centre 2008-2014, authors' calculations.

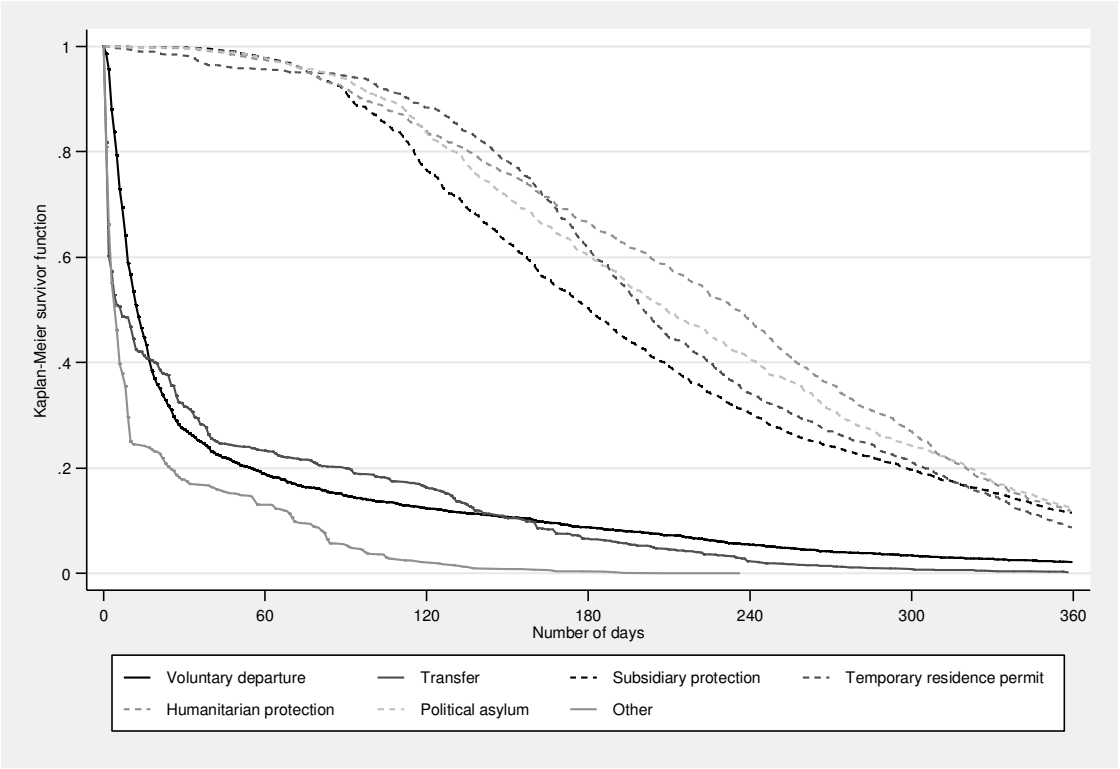
Note: countries are sorted by decreasing duration, migrants still residing in the centre at the end of December 2014 (N=1,357) being excluded.

Figure 4. Kaplan-Meier survivor function estimates of exit from Sant'Anna centre



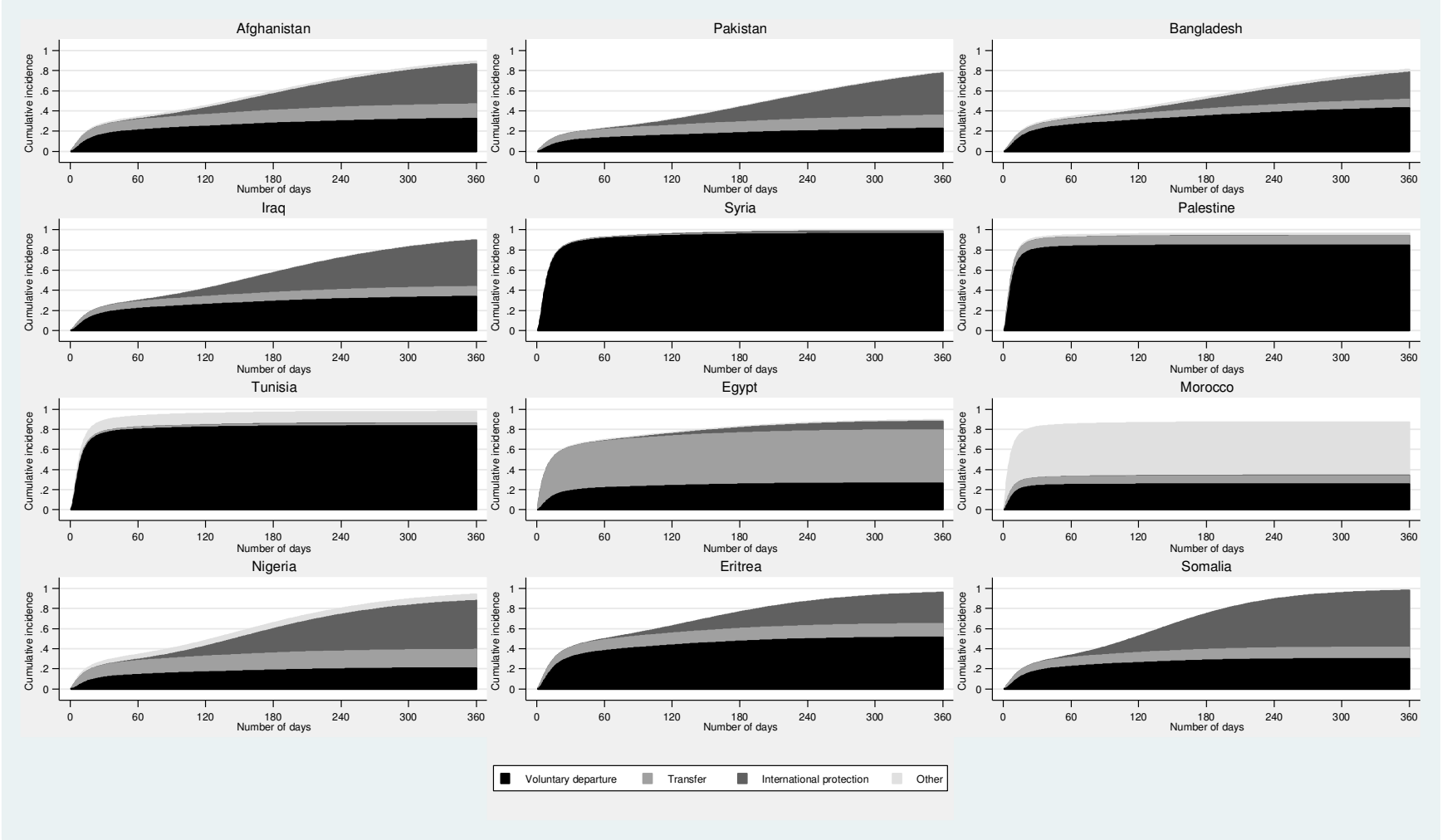
Source: data from Sant'Anna centre 2008-2014, authors' calculations.

Figure 5. Kaplan-Meier survivor function estimates of exit from Sant'Anna centre, by exit motive



Source: data from Sant'Anna centre 2008-2014, authors' calculations.
Note: migrants still residing in the centre at the end of December 2014 (N=1,357) are excluded. The other motive includes expulsions.

Figure 6. Stacked cumulative incidence of the various causes of exit from Sant'Anna centre, by origin country



Source: data from Sant'Anna centre 2008-2014, authors' calculations.
Note: the cumulative incidence functions are calculated for male migrants aged between 16 and 24.

Table 1. Number of migrants landed (by sea) in Italy 2008-2014

Year	Arrivals in Europe by Mediterranean sea	Migrants landed in Italy	Share of total arrivals by sea in Italy	Asylum application	Asylum application examined
2008	59,000	36,951	62.63	31,723	23,175
2009	56,252	9,573	17.02	19,090	25,113
2010	9,654	4,406	45.64	12,121	14,042
2011	70,402	62,692	89.05	37,350	25,626
2012	22,439	13,267	59.12	17,352	29,969
2013	59,421	42,925	72.24	26,620	23,634
2014	216,054	170,100	78.73	64,886	36,330

Source: for data on column 1, UNHCR (2016) http://data.unhcr.org/mediterranean/regional.php; for data on columns 2, 4 and 5, Ismu's elaboration on dati Ministero dell'Interno, Dipartimento della Pubblica Sicurezza, Direzione Centrale dell'Immigrazione e della Polizia delle Frontiere; e Commissione nazionale per i diritto di Asilo; data in column 3 are author's elaboration of data in columns 1 and 2.

Table 2. Composition of asylum seekers in Italy by nationality 2008-2014

2008		2009		2010		2011		2012		2013		2014	
Nationalities	Migrants	Nationalities	Migrants	Nationalities	Migrants	Nationalities	Migrants	Nationalities	Migrants	Nationalities	Migrants	Nationalities	Migrants
Nigeria	6,142	Nigeria	4,274	Former Yugoslavia	2,249	Nigeria	7,030	Pakistan	2,601	Nigeria	3,519	Nigeria	10,040
Somalia	4,960	Somalia	1,617	Nigeria	1,632	Tunisia	4,805	Nigeria	1,613	Pakistan	3,232	Mali	9,692
Eritrea	3,085	Pakistan	1,475	Pakistan	1,115	Ghana	3,402	Afghanistan	1,495	Somalia	2,774	Gambia	8,477
Ghana	1,909	Bangladesh	1,403	Turkey	1,020	Mali	2,607	Senegal	939	Eritrea	2,109	Pakistan	7,064
Afghanistan	1,840	Eritrea	1,109	Afghanistan	999	Pakistan	2,444	Tunisia	893	Afghanistan	2,056	Senegal	4,615
Bangladesh	1,786	Ghana	1,039	Iraq	492	Ivory Coast	2,095	Ghana	846	Mali	1,806	Bangladesh	4,511
Ivory Coast	1,724	Former Yugoslavia	934	Ghana	349	Bangladesh	1,691	Somalia	807	Gambia	1,760	Afghanistan	2,994
Pakistan	1,233	Afghanistan	786	Iran	338	Afghanistan	1,503	Mali	785	Senegal	1,021	Ghana	2,161
Iraq	773	Ivory Coast	674	Ivory Coast	288	Somalia	1,244	Eritrea	734	Egypt	907	Ukraine	1,933
Burkina Faso	713	Turkey	645	Bangladesh	268	Senegal	801	Ivory Coast	629	Syria	635	Ivory Coast	1,485
Togo	589	Iraq	487	Guinea	216	Sudan	777	Bangladesh	566	Ghana	577	Guinea	923
Turkey	539	Gambia	312	Eritrea	210	Burkina Faso	769	Turkey	478	Iraq	553	Somalia	797
Guinea	514	Burkina Faso	265	Senegal	182	Turkey	680	Egypt	445	Tunisia	509	Iraq	784
Sudan	496	Guinea	256	Gaza	166	Eritrea	560	Iraq	403	Turkey	495	Egypt	659
Algeria	480	Tunisia	241	Tunisia	164	Niger	559	Gambia	321	Bangladesh	464	Syria	502
Mali	432	Iran	234	Dem. Rep. Congo	116	Guinea	540	Morocco	282	Iran	396	Tunisia	480
Gambia	395	Mali	214	Sri Lanka	115	Chad	520	Bosnia Herzegovina	273	Morocco	308	Eritrea	474
Ethiopia	365	Togo	166	Burkina Faso	107	Libya	419	Guinea	183	Ethiopia	301	Guinea-Bissau	410
Former Yugoslavia	355	Sri Lanka	156	Gambia	103	Ethiopia	342	Iran	169	Ivory Coast	259	Turkey	403
Tunisia	298	Gaza	150	Somalia	99	Iraq	342	Burkina Faso	114	Bosnia Herzegovina	182	Iran	376
Sri Lanka	200	Dem. Rep. Congo	135	Togo	99	Syria	336	Kosovo	102	Guinea	171	Morocco	308
Iran	149	Algeria	125	Algeria	96	Morocco	291	Togo	102	Palestine	163	Burkina Faso	284
Dem. Rep. Congo	140	Sudan	101	Mali	86			Ethiopia	101	Sudan	148	Sudan	219
Sierra Leone	85	Sierra Leone	69	Ethiopia	47			Mauritania	100	Algeria	137	Togo	203
		Ethiopia	63	Sudan	43			Algeria	95	Serbia	117	Palestine	195
								Syria	5	Guinea-Bissau	117	Cameron	187
Other	2,521	Other	2,160	Other	1,522	Other	3,593	Other	1,922	Other	1,904	Other	3,280
Total	31,723	Total	19,090	Total	12,121	Total	37,350	Total	17,352	Total	26,620	Total	63,456

Source: Commissione Nazionale per il diritto di asilo, 2014.

Table 3. Descriptive statistics of entries in Sant'Anna centre

Origin country	Number of migrants	Percentage of total migrants	Men (prop. in %)	Age (mean)	Individuals below 16 (prop. in %)
Asia	7,131	26.7	96.6	24.9	5.3
Afghanistan	4,008	15.0	94.6	22.7	8.5
Pakistan	2,546	9.5	99.5	28.1	0.7
Bangladesh	474	1.8	99.6	25.5	0.3
Middle East	4,551	17.1	85.0	26.0	12.2
Iraq	1,629	6.1	91.5	25.7	7.2
Syria	1,565	5.9	77.1	26.0	18.8
Palestine	641	2.4	80.0	26.4	15.8
Turkey	393	1.5	94.9	26.1	6.4
Iran	254	1.0	91.7	27.4	2.8
Sub-Saharan Africa	10,361	38.9	81.0	24.7	2.9
Nigeria	2,130	8.0	64.3	24.2	2.7
Eritrea	2,087	7.8	79.1	24.5	6.5
Somalia	1,963	7.4	77.7	24.1	1.8
Ivory Coast	883	3.3	91.5	27.5	0.5
Mali	594	2.2	99.7	24.7	0.8
Ghana	547	2.1	96.0	25.8	0.8
Gambia	537	2.0	99.4	22.5	1.0
Senegal	323	1.2	99.4	23.9	0.5
Ethiopia	280	1.1	54.3	23.7	6.5
Sudan	231	0.9	88.3	25.8	1.4
Northern Africa	4,581	17.2	97.8	25.7	1.4
Tunisia	3,787	14.2	99.2	26.1	0.1
Egypt	423	1.6	93.6	21.4	13.0
Morocco	314	1.2	87.3	27.3	1.3
All	26,666	100.0	88.7	25.1	5.0

Source: data from Sant'Anna centre 2008-2014, authors' calculations.

Table 4. Estimates of entries of migrants (in log)

Variables	(1)	(2)	(3)	(4)
Constant	4.066	6.778*	-152.308*	-175.921**
	(1.03)	(1.76)	(-1.87)	(-2.12)
Log of GDP per capita (constant 2005 US$)	-0.989***	-1.184***	-3.241***	-3.367***
	(-3.38)	(-4.17)	(-2.65)	(-2.78)
GDP growth (annual %)	-0.007	0.001	0.009	0.006
	(-0.56)	(0.11)	(0.87)	(0.60)
Log of Unemployment rate (% of total labor force)	0.694***	0.465***	2.639***	2.496***
	(3.93)	(2.62)	(3.15)	(2.97)
Log of population	0.783***	0.628***	8.054*	9.352*
	(6.36)	(5.09)	(1.66)	(1.92)
Population ages 15-64 (% of total)	-0.065**	-0.019	0.634***	0.672***
	(-2.21)	(-0.64)	(2.88)	(3.04)
Rural population (% of total)	-0.047***	-0.045***	0.031	0.038
	(-3.34)	(-3.34)	(0.20)	(0.24)
Log of distance	-0.235	-0.390		
	(-0.68)	(-1.16)		
War and conflicts in the origin country (1=YES)		1.313***	0.261	
		(4.42)	(0.81)	
Number of wars and conflicts				0.138
				(1.49)
Year fixed effects	YES	YES	YES	YES
Country fixed effects	NO	NO	YES	YES
Number of observations	234	234	234	234
R^2	0.290	0.348	0.706	0.709

Source: data from Sant'Anna centre 2008-2014, authors' calculations.

Note: estimates from linear regressions explaining the logarithm of migrants calculated by year and origin country. Significance levels are 1% (***), 5% (**) and 10% (*).

Table 5. Exit motives from Sant'Anna centre, by country of origin

Country of origin	Voluntary departure	Subsidiary protection	Transferred by authorities	Temporary residence permit	Humanitarian Protection	Political asylum	Expulsion	Other motives	Number of observations
Asia	31.8	24.4	14.1	11.9	10.8	4.7	1.4	0.8	6,735
Afghanistan	32.7	36.0	15.0	0.8	9.0	3.7	2.4	0.3	3,965
Pakistan	25.1	9.3	13.9	29.5	14.2	6.7	0.0	1.1	2,288
Bangladesh	51.6	1.6	10.0	21.8	9.2	1.8	0.0	3.9	380
Middle East	63.8	14.3	7.0	1.3	4.0	8.3	0.9	0.4	4,532
Iraq	35.0	33.8	10.0	0.7	4.9	15.0	0.4	0.2	1,615
Syria	94.2	1.1	1.0	0.3	0.1	2.8	0.5	0.0	1,562
Palestine	83.9	0.9	10.2	0.0	0.6	2.0	2.3	0.0	640
Turkey	40.5	13.2	8.7	8.9	20.4	4.8	0.3	3.3	393
Iran	51.4	8.3	10.3	1.6	4.7	20.6	3.2	0.0	253
Sub-Saharan Africa	27.7	18.7	16.1	17.0	8.6	8.8	0.1	3.0	9,426
Nigeria	23.7	1.8	19.8	37.9	9.6	1.0	0.1	6.2	1,982
Eritrea	51.1	17.2	13.0	0.3	1.2	16.8	0.0	0.3	2,083
Somalia	29.0	48.5	11.0	0.3	1.7	9.5	0.1	0.1	1,960
Ivory Coast	5.2	28.3	14.2	13.0	28.2	8.6	0.0	2.5	802
Mali	12.0	9.9	35.4	23.2	17.7	0.3	0.0	1.6	384
Ghana	12.6	2.9	25.5	43.0	4.3	0.8	0.2	10.6	509
Gambia	21.0	2.4	21.0	35.9	12.1	5.9	0.0	1.7	290
Senegal	9.7	5.8	18.4	33.0	26.7	4.4	0.0	1.9	206
Ethiopia	35.6	16.5	5.8	2.2	19.8	19.4	0.0	0.7	278
Sudan	52.7	6.8	7.2	4.1	2.3	24.8	0.5	1.8	222
Northern Africa	73.7	0.2	7.6	0.8	0.6	1.0	11.2	5.0	4,577
Tunisia	83.4	0.1	2.2	0.3	0.2	0.1	7.7	6.0	3,786
Egypt	26.2	0.2	54.4	5.2	4.7	8.0	1.2	0.0	423
Morocco	26.0	1.3	10.0	0.6	1.0	0.0	60.8	0.3	311
All	43.6	16.1	12.5	9.9	7.0	6.2	2.6	2.3	25,309

Source: data from Sant'Anna centre 2008-2014, authors' calculations.

Note: migrants still residing in the centre at the end of December 2014 (N=1,357) are excluded.

Table 6. Flexible parametric survival hazard ratios for competing risks of exit from Sant'Anna centre

Variables		Voluntary departure	Transferred by authorities	International protection	Other motives
		hazard	hazard	hazard	hazard
Female		1.440***	1.043	1.449***	0.623***
		(11.88)	(0.71)	(9.92)	(-3.80)
Age	16-24	0.766***	0.774***	0.535***	0.942
(ref: less than 16)		(-6.27)	(-3.17)	(-9.73)	(-0.27)
	25-34	0.643***	0.594***	0.525***	0.928
		(-10.30)	(-6.23)	(-10.03)	(-0.34)
	35 and more	0.676***	0.558***	0.538***	1.033
		(-8.15)	(-5.81)	(-8.87)	(0.14)
Origin country		YES	YES	YES	YES
Number of observations		26,666			
Log likelihood		-55,886.914			

Source: data from Sant'Anna centre 2008-2014, authors' calculations.

Note: estimated hazard ratios from a flexible parametric survival model for competing risk. Significance levels are 1% (***), 5% (**) and 10% (*). The model includes a set of origin country dummies for each cause whose estimates are not reported.