

Scienza e Pace

Science & Peace

ISSN 2039-1749

Vol. XI, No 1 (2021)

Closing the tap: restrictive policies to reduce irregular migration flows on the Central Mediterranean Route

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*Online Journal of the “Sciences for Peace”
Interdisciplinary Centre - University of Pisa*



This paper has been refereed through double-blind peer review

Received: 25 March 2020.

Accepted: 12 February 2021.

To cite this article:

Restelli G. (2021), "Closing the tap: restrictive policies to reduce irregular migration flows on the Central Mediterranean Route", *Scienza e Pace*, XI (1), pp. 89-116.

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Closing the tap: restrictive policies to reduce irregular migration flows on the Central Mediterranean Route

Gabriele Restelli *

Abstract

Responding to growing immigration concerns, European countries have increasingly resorted to restrictive entry policies in recent years. While migration literature tends to support this policy lever, reporting a significant association between restrictive legislation and immigration flows, findings are generally based on measures of regular migration only. This paper complements available evidence using innovative data on irregular flows between 2003 and 2016 on the Central Mediterranean Route (CMR) to provide a critical analysis of the use of restrictive regulations as a migration management tool. It finds that such restrictions, rather than deterring irregular migration, are likely to push more people into the asylum system. Reducing access to legal pathways has no significant effect on the volume of irregular migrants apprehended on the CMR, while it increases the number of those that seek regularization through asylum application.

Keywords: Migration; Irregular migrants; Migration policy.

Abstract

Per rispondere ai crescenti problemi associati all'immigrazione, negli ultimi anni i paesi europei hanno sempre più spesso fatto ricorso a politiche restrittive di ingresso. Mentre la letteratura in tema di politiche migratorie tende a supportare questa modalità, segnalando una significativa associazione tra legislazioni restrittive e flussi migratori, tali conclusioni sono solitamente legate alla sola misura dei migranti regolari. Questo articolo integra le evidenze disponibili utilizzando dati inediti sui flussi di migrazione irregolari tra il 2003 e il 2016 sulla Rotta del Mediterraneo Centrale, per fornire un'analisi critica delle attuali legislazioni restrittive come strumento di gestione della migrazione. L'autore constata che tali restrizioni, invece che scoraggiare la migrazione irregolare, portano piuttosto più persone a tentare di entrare nel sistema dell'asilo. Ridurre l'accesso alle vie legali non ha, dunque, un effetto significativo sulla quantità dei migranti che viaggiano lungo la rotta del Mediterraneo Centrale, mentre fa crescere il numero di quelli che cercano la regolarizzazione attraverso il processo d'asilo.

Parole chiave: Migrazione; Migranti irregolari; Politiche migratorie.

Introduction

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In December 2018, Italy adopted new legislation that restricts access to protection for refugees and migrants and hardens border security with the aim of deterring irregular immigration (Wallis, 2019). A key provision of the new Italian Security and Immigration Decree is the abolition of residence permits granted on a discretionary basis for humanitarian reasons not covered by the 1951 Refugee Convention or by EU legislation. The law also introduces new restrictions on access to other types of residence permits and to related rights (Portale Immigrazione, 2019).

The legislative measure by the Italian government can be located within a broader EU preoccupation with the so-called "refugee crisis" and with immigration in general. With the launch of the European Agenda on Migration in May 2015 and the subsequent Valletta Summit, stricter entry regulations have been advocated as a tool to stem inflows of migrants and asylum seekers, while financial resources have been increasingly allocated to border control activities (Cassarino and Giuffrè, 2017; Kervyn and Shilhav, 2017). The so called "Salvini Decree" also follows similar measures taken by the United States to restrict access to humanitarian protection as a way to advance an anti-migration agenda (Caldwell and Campo-Flores, 2017).

The effectiveness of restrictive policies at reducing aggregate inflows has been long debated, with an apparent divide between evidence from qualitative and quantitative studies. Qualitative research tends to support a sceptical view. Social dynamics, globalization, and transnationalism have been shown to undermine the deterrent intent of some migration policies (Castles, 2004). Authors find that, by reducing safe and legal ways to reach hosting countries, restrictive policies contribute to turning asylum seekers into illegal migrants (Schuster, 2011).

To the contrary, most studies that attempt to quantify the relative effect of migration determinants tend to find that restrictive policies do reduce the volume of migration flows. In other words, the stricter the policy, the smaller the migrant inflow (Mayda, 2010; Ortega and Peri, 2013). However, all these studies rely on dependent variables that measure regular migration only. The only exception, relevant to the European context, is a study from Czaika and Hobolth (2016) covering the period between 2008 and 2011. The authors find that restricting access to international protection and visas, rather than reducing the number of new immigrants, pushed more migrants and asylum seekers into irregularity.

Adopting new data, this study complements available evidence on the use of restrictive regulations as a migration management tool, using Italy and the Central Mediterranean Route as a case study. It only focuses on one destination because there is limited comparability of national migration statistics (Raymer et al., 2013) and potentially large problems of double counting (Frontex, 2017). There are three main entry points to Europe: Italy, Greece, and Spain. The study focuses on Italy as it has higher levels of irregular immigrants than Spain, and more consistent flows than Greece (which saw a large spike in 2015). Two dependent variables are used to

capture irregular inflows: the number of apprehensions at the border and the number of asylum applicants.

The main finding is that there is no significant deterring effect of restrictive policies on irregular migration. Instead, there is a positive association with the number of asylum applications providing some evidence to support a deflection hypothesis. I also find the main drivers of irregular migration to Italy are the migrants' network at destination as well as low incomes, population size and the presence of violent conflict at origin. This echoes recent qualitative evidence on the Mediterranean crossings (Crawley et al., 2016).

The remainder of this paper is composed as follows: section 2 reviews relevant literature on the impact of migration policies; section 3 introduces the key variables and section 4 describes data and stylised facts; section 5 and 6 introduce the econometric model and present the empirical results; section 7 concludes.

1. Literature Review

1.1 Theoretical Background and Empirical Evidence

The extent to which restrictive policies succeed at affecting aggregate inflows has been long debated. From a theoretical point of view, restrictive measures can be expected to yield effects on both volume and composition of migration flows (Czaika and De Haas, 2013). Drawing on neoclassical theories, which posited that people move to maximize their individual utility (see for instance Borjas, 1989), stricter policies can be expected to make it harder for new migrants to obtain entry permits, thus increasing migration related costs and decreasing expected utility. As a result, fewer immigrants should be associated with tougher regulations. On the other hand, policies designed to categorize migrants, and to differently regulate their admission and residence, could effectively shape aggregate behaviour (Castles, 2004). Hence, selective policies can also be expected to affect the composition of migration flows. For instance, it has been argued that in recent decades Western countries have tended to gradually liberalise policies towards high-skilled workers, students, and migrant families while increasing restrictions towards asylum seekers and low-skilled workers (Bonjour, 2011).

However, many scholars have posited that efforts by states to regulate and restrict immigration have often failed (Czaika and De Haas, 2013). Dependency and world systems theories frame migration as a forced consequence of globalization processes. They argue that international movements are mostly driven by structural factors, such as labour market imbalances, inequalities in wealth, and political conflicts in origin countries, on which migration policies have little or no influence (Castles et al., 2014). Rather than affecting overall volumes of inflows, immigration restrictions would primarily change the ways in which people migrate, such as through an increased use of family migration or irregular means of entry.

Furthermore, migrants' networks, employers, and the "migration industry" (recruiters, lawyers, smugglers, and other intermediaries) are expected to facilitate the continuing movement of people (Massey, 1990; Krissman, 2005). These material and cultural links lead to greater migration as previous migrants can function as "bridge-heads" reducing the costs and the risks of subsequent migration (Bocker, 1994). Such dynamics would explain why migration can become self-perpetuating, reducing the impact of restrictive policies (Castles et al., 2014).

Many qualitative studies have found empirical support to these theories. Koser (2000), relying on interviews with Iranian asylum applicants in the Netherlands, finds visa availability influences the propensity for migrants to turn to irregular entry strategies. Reducing access to legal entry has pushed Iranian asylum seekers into irregularity rather than deterring them from reaching the Netherlands. Similarly, Schuster (2011) illustrates the case of a group of Afghan men in Paris. The author argues that restrictive asylum policies tend to turn some refugees that transit southern EU Member States into undocumented migrants. Massey and Pren (2012) document how illegal Mexican migration was to a large extent a consequence of the dismantling of the 'Bracero' guest-worker programme in 1965. However, despite the broad geographical coverage of these studies and the wide spectrum of policies considered, it remains unclear to what extent findings from small samples can be generalized.

To the contrary, a small but growing number of quantitative empirical studies support the idea that policy restrictions do significantly affect immigration flows (Mayda, 2010; Ortega and Peri, 2013; Vogler and Rotte, 2000). Nonetheless, this strand of literature is far from having reached definitive conclusions because of limited data availability as well as challenges with measuring and comparing policies. Quantitative research has been hampered by the paucity of reliable and cross-nationally comparative data on immigration laws and policies (Beine et al., 2016). One common technique (see for instance Vogler and Rotte, 2000) is to proxy for relevant policy changes with the use of year dummies that have the limitation to also account for any unobserved events at that specific time, thus hindering identification.

More importantly, while recent work has brought methodological improvements to the measurement of policy restrictiveness, all quantitative studies that find a significant deterring effect focus on regular migration. Both Mayda (2010) and Ortega and Peri (2013) measure immigration through the number of residence and/or work permits issued in any given year. Hence, what they find is that restrictive policies decrease the number of permits issued. But regular movements only accounts for a share of international mobility. It remains to be seen whether a reduced number of permits translates into lower migration inflows.

A partial exception is Massey et al. (2016) who study the effect of border enforcement on undocumented migration to the USA from Mexico. Adopting

instrumental variables, the authors investigated whether increasing the budget for border enforcement has been an effective strategy to reduce the number of irregular crossings. Their main finding is that such a policy was not an efficacious strategy for controlling Mexican immigration. Further, it backfired by cutting off a long-standing tradition of migratory circulation and promoting the largescale settlement of undocumented migrants who otherwise would have continued moving back and forth across the border. Nonetheless, border enforcement is only one of many policy options and it is not easy to assess to what extent findings from the USA-Mexico border can be generalized to the European context.

A more relevant exception to the focus on regular migration is a study from Czaika and Hobolth (2016) covering 29 European destinations over the period between 2008 and 2011. The authors consider borders and territory apprehensions finding that restricting access to international protection and visas, rather than reducing the number of new entries, has pushed more migrants and asylum seekers into irregularity. These findings echo extensive qualitative literature that suggests restrictive immigration policies have failed to stem inflows in the presence of labour demand (Castles et al., 2012). Instead, they may have deflected newcomers into irregular migrants.

One limitation is that Czaika and Hobolth (2016) operationalise policy restrictive-ness with the number of visa rejections. Because the number of rejected applications also depends on the size and composition of the pool of applicants, there could be variance in the number of rejected visas and asylum claims even in absence of any changes in policy. If a higher number of non-eligible individuals applies, there will be an increase in the number of rejections.

A second important limitation is that the authors measure irregular migration through (i) the number of immigrants found to be irregular resident and (ii) the number of refused entries. This leads to several considerations. First, the aggregate variable that sums the two indicators accounts for both (an unknown share of) flows and (an unknown share of) stocks of irregular migrants. It is therefore difficult to interpret what the aggregate variable measures. A second problem has to do with timing the detection of those residing irregularly at destination. A migrant can potentially live in irregular status for several years before being detected. Moreover, changes in the number of detected migrants could be attributed to policy changes while being simply due to demographic flows (i.e., birth and deaths of irregular immigrants) and status changes (i.e., expiring of a visa). Third, detection on territory is contingent to the capacity and willingness of relevant authorities to detect irregular migrants already residing in the country. The assumption that this likelihood does not vary significantly across destinations does not hold empirically. For instance, it has been shown that countries with large informal economies tend to be more lenient with irregular migrants (Reyneri, 2003). Eurostat (2018), the source of these data, clearly disclaim that apprehensions on territory are not intended to be a measure of the total number of persons who are present in the country on an unauthorised basis. Fourth, the number

of refused entries is strictly related to the geographical position of a receiving country as well as the possibility for authorities to actually refuse entry. Geographical barriers make it practically impossible for irregular migrants to reach European destinations that are not located at the external border (Djajic, 2014). On the one hand, because of the land connection with Morocco, Spain alone accounts for 65% of all reported refused entries between 2008 and 2016. On the other hand, other key entry ports to Europe, Greece, and Italy, despite a higher number of irregular arrivals, recorded a much lower number of refused entries (Eurostat, 2018).

The present study complements available evidence by adopting variables that more accurately measures irregular migration flows, mitigating these problems. Moreover, it relies on recent improvements in data availability on immigration laws to operationalise policy restrictiveness with a country specific index that accounts for all relevant legislative changes.

1.2 Research Question and Hypotheses

The research aims at addressing one main question: Do restrictive policies contribute to curbing irregular migration flows on the Central Mediterranean Route? Drawing on previous literature (Ortega and Peri, 2013; Mayda, 2010), it can be expected that more restrictive policies are associated with a lower number of legal permits issued at destination and, therefore, to a reduced number of regular migrants:

[H1] Keeping other determinants constant, restrictive policies contribute to decrease regular migration flows to Italy.

To the contrary, aiming at reducing access to legal pathways without addressing the roots of displacement and migration, restrictive policies are expected to have a deflecting effect (Czaika and Hobolth, 2016), leading to increased numbers of those reaching without a valid legal permit. This is compounded by evidence making the case for a “displacement crisis” rather than a “migration crisis” (Abel and Sander, 2014; UNHCR, 2017). Given that displaced populations are largely resorting to irregular routes (Djajic, 2014), it is expected that a higher share of individuals affected by forced displacement can be found within irregular flows, compared to overall migration flows (ODI, 2016). Therefore:

[H2] Keeping other determinants constant, restrictive policies contribute to increase irregular migration flows to Italy.

2. Empirical Strategy

2.1 Research Design

This study tests for the effect of restrictive bilateral policies on irregular migration using panel data of dyadic migration flows between Italy and

countries of origin. Italy is chosen as a key entry points to Europe via the Central Mediterranean Route. Focusing on one destination reduces concerns regarding the lack of comparability between national migration statistics (Raymer et al., 2013) and a potentially large problem of double counting at the continental level (Frontex, 2018).

Using two-dimension panel data still gives various advantages. Focusing on a multitude of origin countries allows covering a far stronger variation than one single country could experience within several decades (Vogler and Rotte, 2000). In addition, including both time and cross-sectional dimensions allows accounting for country and time specific factors (Mayda, 2010). In particular, I can control for unobserved time-invariant country heterogeneity that cannot be directly included into the model (Wooldridge, 2010).

2.2 Dataset and measures

2.2.1 Dependent Variable

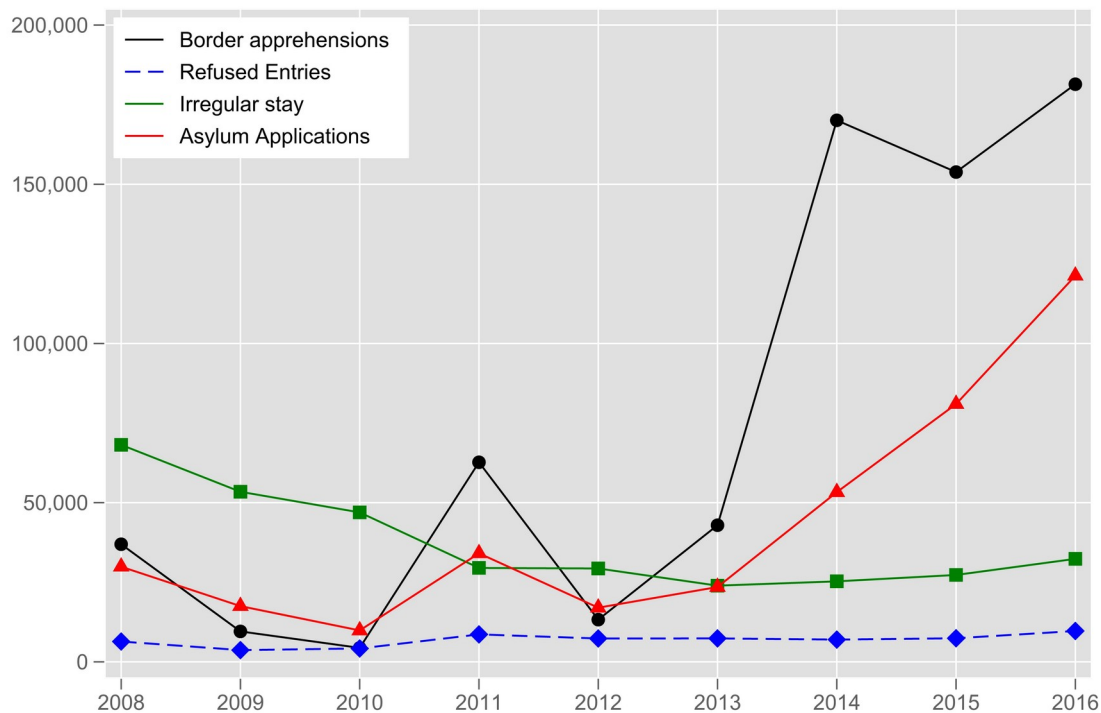
The main innovation in this study is the use of flow of irregular migrants as dependent variable, rather than the alternatives of changes in stocks or flows of regular migrants. I use two such measures. First, the annual number of migrants apprehended along the Italian segment of Europe's external border from the European Border and Coast Guard Agency (Frontex, 2018). The data record arrivals are available from 2009. Second, from the UNHCR Populations Statistics Database, the annual number of asylum applications lodged in Italy from 2003.

Focusing on one section of EU external borders mitigates potential problems of over-counting. In the case of border apprehensions, an individual detected at the southern border may manage to continue his journey and be apprehended again in another EU country. While figures at aggregate European level can be inflated, data on Italy only are not affected by the issue. As per asylum applications, the likelihood of over-counting is limited because additional applications are not recorded if the first application has been lodged in the same reference period (i.e., the calendar year) (UNHCR, 2018). Moreover, the EURODAC regulation establishes a database of fingerprints of asylum seekers and irregular migrants entering the Schengen area so that every new application can be verified against already existing data.

The opposite problem may be also at work for the number of apprehended migrants if some managed to immigrate without being apprehended. However, the largely maritime border of Italy makes it relatively easy to detect illegal border crossings (Hanson and McIntosh, 2016) as confirmed by technical reports from both the European Commission and the Border Agency (European Commission, 2016; Frontex, 2017). The likelihood of a migrant being smuggled into Europe undetected is limited.

These potential limitations are outweighed by the advantages. Figure 1 compares, at the aggregate level, the two dependent variables adopted here with those used by Czaika and Hobolth (2016). It can be seen that border apprehensions and asylum applications more effectively capture the spike in irregular migration flows observed during recent years. To the contrary, both the number of refused entries and the number of apprehensions on territory show a flat pattern after 2011 and well below the actual number of irregular new arrivals via the Central Mediterranean Route.

Figure 1. Measures of irregular migration to Italy, 2008-2016



Sources: Eurostat for refused entries and irregular stays; FRONTEX for border apprehensions; UNHCR for asylum applications

2.2.2 Main Independent Variable of Interest

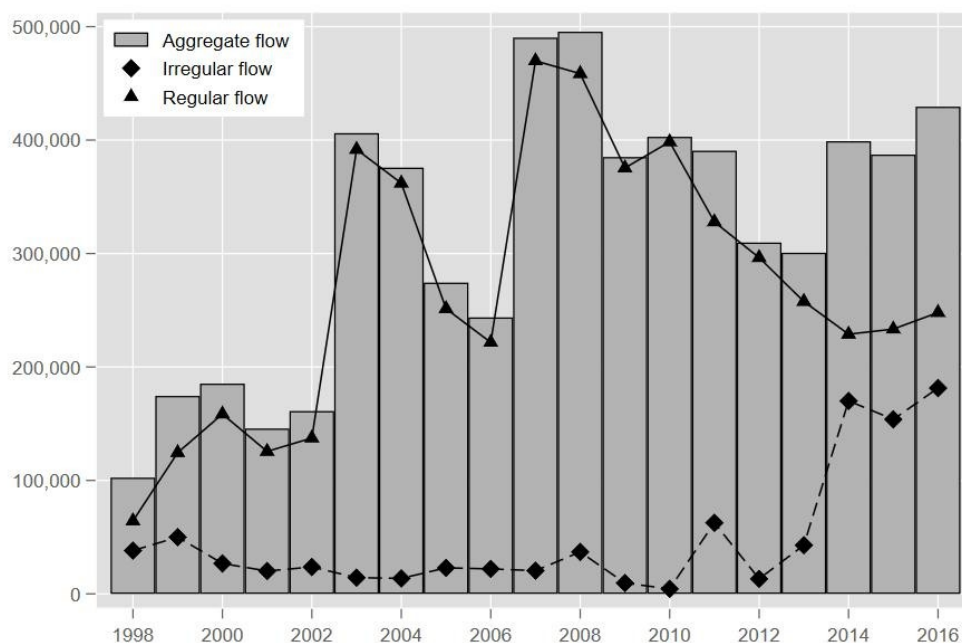
The main independent variable of interest is bilateral immigration policies. I use data from the DEMIG project (De Haas et al., 2014) to construct an index recording bilateral yearly changes in policy restrictiveness. Each relevant piece of legislation has been coded by DEMIG's researchers as "more restrictive" (+1), "less restrictive" (-1) or "no changes" (0). I use the yearly sum to create a cumulative index for bilateral policy changes. Immigration restrictions do not affect countries of origin to the same extent and therefore, the index is not absorbed by year fixed effects. Because the DEMIG project only covered until 2013, additional information was collected from OECD International Migration Outlooks (OECD, 2015, 2016, 2017) to compile the index for 2014 and 2015. The list of non-zero legislative measures is provided in Appendix (Table A3).

3. Stylized facts

3.1 Migration trends on the Central Mediterranean Route

Figure 2 shows aggregate data on immigration flows from non-DAC countries between 1998 and 2016. Looking at trends over time there is no sign of an increase in aggregate inflows to Italy that points to a “migration crisis”. After peaking in 2008, total entries stabilized. In 2015, the year of the so-called “migration crisis” in Europe, net migration in Italy hit the lowest level since 2000 and, for the first time since 1993, it failed to compensate for the net birth rate, which reached a record low at 162,000 (OECD, 2017).

Figure 2. Aggregate Inflows from Non-DAC Countries, 1998-2016



Sources: International Migration Database (OECD) for regular flows; ISMU and FRONTEX for irregular flows

Figure 2 also shows that regular and irregular inflows have followed divergent patterns. After peaking at 480,000 units in 2007, regular entries have been steadily decreasing with 2015 and 2016 stabilized at 2014 levels, just above 240,000 individuals. Romania was the most represented country, followed by Morocco, China, and Albania. To the contrary, irregular entries have been rising steeply between 2012 and 2016, marking a record high in 2016 with more than 180,000 sea arrivals. The main nationalities were Nigeria, Gambia, and Eritrea.

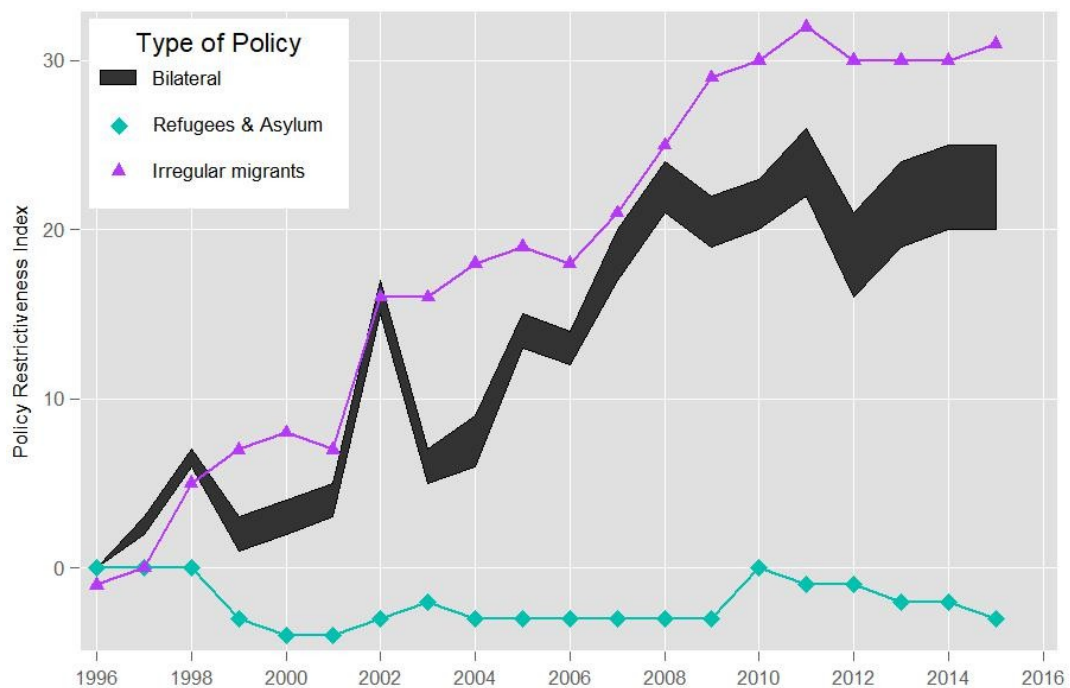
The all-time low recorded in 2010 can be dated back to bilateral agreements between Italian authorities and Libya signed in 2009, which included joint push back operations and cooperation to establish identification centres on Libyan soil (Fargues, 2009). Similarly, following the new Memorandum of Understanding (MoU) with Libyan authorities in 2017, sea arrivals have dropped to 23,000 in 2018 (Heller and Pezzani, 2018; Frontex, 2018).

Figure 2 shows the importance of directly investigating irregular migration: it follows different patterns than regular flows and any effects of policies are unlikely to be accurately inferred from previous studies that adopt legal permits as a dependent variable.

3.2 Policy trends

Figure 3 plots the policy index based on data of migration policy changes compiled by the International Migration Institute (DEMIG POLICY) at the University of Oxford. Using 1996 as a baseline, the graph shows cumulative annual totals of the coding scores for three types of policy change in Italy: bilateral ones only affecting citizens of specific non-DAC countries; average annual scores for measures targeting irregular migrants; average annual scores for measures only affecting refugees and asylum seekers.

Figure 3. Policy restrictiveness in Italy, 1996-2015



Sources: Sources: author's elaboration based on DEMIG and OECD's Int. Migration Outlooks

Examples of recent measures targeting irregular migrants in Italy include extending the maximum duration of detention for those reaching without a valid entry document. Resettlement programs and temporary entry permits granted in 2011 in response to the Arab Spring are examples of policies affecting refugees and asylum seekers.

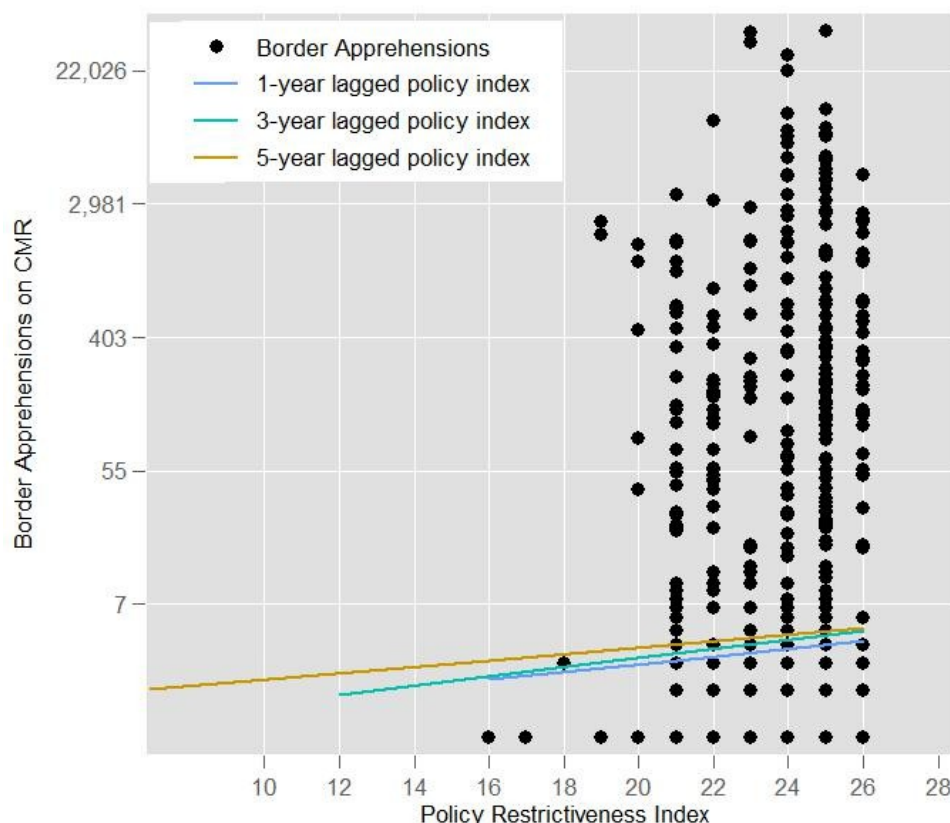
What is immediately apparent from Figure 3 is that restrictiveness rose significantly between 1996 and 2015. Clear jumps can be seen in 1998, 2002 and 2008, coinciding with the adoptions of the *Legge Turco-Napolitano*, the *Legge Bossi-Fini* and the 2008 Security Package, respectively. Also visible is a broadening of the spectrum of restrictiveness resulting from bilateral

policies, which is due to Italy taking increasingly different stances to different countries and being ever stricter towards irregular migrants and their origins. At the same time, policy changes regarding refugees and asylum seekers had a largely neutral restrictiveness effect.

Taken together, Figure 2 and 3 show that increasing policy restrictiveness did not prevent the spike in irregular arrivals over recent years via the Central Mediterranean Route. These stylized facts provide no evidence to make a credible case for tougher immigration policies as a way to reduce irregular migration.

Further, Figure 4 plots a linear regression between the (log) number of irregular entries and the bilateral policy restrictiveness index. A positive association is retrieved when one-year, three-year and five-year lags are employed to account for potential delays in policy response. In other words, a more restrictive bilateral entry policy is associated with an increased number of irregular migrants from a given origin country one, three and five years later.

Figure 4. Restrictiveness index and CMR border apprehensions



Simple bivariate analysis can only show that Italy's tougher policies have not succeeded in reducing irregular migrant flows. However, in-depth multivariate analysis is required to account for other relevant determinants of migration and investigate the *ceteris paribus* (all other things being equal) effect of restrictive policies. Following sections take these further steps.

4 Econometric Model

To quantify the partial effect of restrictive policies, I use an empirical model based on a basic gravity equation for migration (Vogler and Rotte, 2000). In addition to the policy index, relevant determinants of migration according to literature are included on the right-hand side. The resulting specification is:

$$\begin{aligned} \text{MIGRATION}_{it} = & \beta_1 \text{Policy}_{it-1} + \beta_2 \text{Stock}_{it-1} + \beta_3 \text{GDPpc}_{it-1} + \beta_4 \text{Unemploy}_{it-1} \\ & + \beta_5 \text{Pop}_{it-1} + \beta_6 \text{DepRatio}_{it-1} + \beta_7 \text{PolFree}_{it-1} + \beta_8 \text{Conflict}_{it-1} \\ & + \beta_9 \text{NatDis}_{it-1} + \pi_i + \mu_t + \alpha_{it} \end{aligned} \quad (1)$$

Where *Policy* is the Policy Restrictiveness Index; *Stock* is the (log) stock of im-migrants already residing in Italy from a specific country of origin; *GDPpc* and *Unemploy* are (log) GDP per capita, as a proxy for income, and unemployment rate at origin; *Pop* and *DepRatio* are (log) population and dependency ratio at origin; *PolFree* is an index for political rights and civil liberties in countries of origin; *Conflict* and *NatDis* control for the presence of deadly conflicts and natural calamities in the country of origin. Table A2 in appendix provides detailed descriptions and sources for all variables.

Subscripts *i* and *t* are for the country of origin and year respectively, with fixed effects denoted by π and μ . Given the focus on one destination only, year effects absorb any destination related variable while country effects absorb all gravity factors, such as distance, language, and colonial linkages. These fixed effects also reduce the risk of omitted variable bias.

Year fixed effects also absorb unobserved changes on alternative migration routes in any given year. This assuages concerns related to multilateral resistance (Bertoli and Moraga, 2013). Considering only dyadic variables would ignore the confounding influence that other destinations' attractiveness exerts on bilateral migration, thus leading to biased results (Hanson, 2010). In addition, I perform a specific robustness test including migration flows to other relevant destinations.

5. Results

Table 1 provides summary statistics. The underlying panel dataset covers 147 origin countries between 2003 and 2016. A list of included countries of origin is provided in Table A1 in appendix.

Table 1. Descriptive Statistics

	Obs.	Mean	SD	Min	Max
Ln(Regular)	2248	4.48	2.72	0.00	12.51
Ln(Asylum)	2365	1.75	2.34	0.00	10.19
Ln(Border)	1359	1.30	2.48	0.00	10.59
Immig. Policy Restrict.	2377	19.18	6.00	5.00	26.00
Ln(Immig. Stock)	2241	6.43	3.07	0.00	13.97
Ln(GDPpc Origin)	2271	8.10	1.32	5.27	11.89
Unemployment Origin	2128	9.28	6.83	0.10	37.60
Ln(Pop Origin)	2375	15.25	2.27	9.16	21.04
Dep. Ratio Origin	2210	64.07	19.72	16.33	112.97
Political Freedom Origin	2338	7.46	3.75	2.00	14.00
Nat Disaster Origin	2378	0.65	0.73	0.00	3.78
Conflict Origin	2378	0.24	0.43	0.00	1.00
Ln(Dist)	2379	8.47	0.86	5.44	9.78
Colony	2379	0.04	0.18	0.00	1.00
Language Prox	2365	0.13	0.15	0.00	1.00

Baseline results are reported in Table 2, estimating (1) in 6 ways. Chosen dependent variables (border apprehensions and asylum applications) are provided alongside estimates for regular migration, which is the most common measures adopted in earlier work. Each specification is estimated using fixed effects for both year and origin as the reference model. In addition, results adopting only year fixed effects are reported for comparison. As outlined in section 2, a positive coefficient for policy restrictiveness index is expected on both measures of irregular migration whereas a negative coefficient was hypothesized on regular flows.

Looking at the main variables of interest, the number of border crossings retrieves a non-significant association with the policy index. Keeping all other determinants constant, increasing the restrictiveness of bilateral policy does not significantly affect the number of migrants apprehended on the Central Mediterranean Route. To the contrary, the number of asylum applications has a positive relationship significant at the 1% level. Increasing bilateral restrictiveness by one unit (i.e., one legislative measure) is associated with a 69% growth in the number of asylum applications from that country of origin.

The most obvious explanation is that tougher laws on immigration that restrict access to legal paths may lead more migrants to attempt regularising their status through the asylum process. This would also explain results for regular migrants. While there is a significant (at the 10% level) deterring effect in pooled OLS, the effect turns positive once country fixed effects are included. The most likely explanation is that the number of legal permits includes those for asylum and international protection. As of 2016, international protection has become the second most common reason for obtaining a residence

permit, after family reunification (Istituto Nazionale di Statistica, 2016). Taking the results together, the main finding is that while the number of migrants apprehended at the border is not affected by tougher legislation, this tends to increase the number of asylum applications and related legal permits.

Table 2. Baseline regressions

	Ln(Border)		Ln(Asylum)		Ln(Regular)	
	OLS	FE	OLS	FE	OLS	FE
Immig. Policy Restrict.	0.23 (0.16)	-0.17 (0.21)	0.58*** (0.17)	0.69*** (0.19)	-0.079* (0.042)	0.14*** (0.042)
Ln(Immig. Stock)	0.39*** (0.072)	0.20 (0.12)	0.55*** (0.065)	0.20** (0.091)	0.83*** (0.022)	0.50*** (0.087)
Ln(GDPpc Origin)	-0.058 (0.14)	-0.13 (0.81)	-0.13 (0.13)	-0.92** (0.40)	-0.048 (0.045)	-0.34* (0.18)
Unemployment Origin	0.023 (0.019)	-0.0095 (0.021)	0.021* (0.013)	0.024 (0.021)	0.0034 (0.0051)	0.014 (0.012)
Ln(Pop Origin)	0.036 (0.11)	7.29*** (2.39)	-0.12 (0.093)	-0.40 (0.65)	0.10*** (0.034)	0.80* (0.43)
Dep. Ratio Origin	0.029*** (0.010)	-0.013 (0.041)	0.018** (0.0083)	0.022 (0.016)	-0.0076** (0.0030)	0.0017 (0.0072)
Political Freedom Origin	0.069* (0.040)	-0.021 (0.10)	0.10*** (0.032)	0.079 (0.056)	0.023** (0.011)	0.081*** (0.026)
Nat Disaster Origin	-0.49** (0.19)	-0.14* (0.082)	-0.17 (0.15)	-0.018 (0.056)	0.0089 (0.054)	0.018 (0.025)
Conflict Origin	0.94*** (0.32)	0.26 (0.20)	0.80*** (0.27)	0.38** (0.15)	-0.045 (0.072)	0.011 (0.058)
Ln(Dist)	-0.11 (0.23)		-0.31* (0.19)		-0.016 (0.081)	
Colony	-0.055 (0.87)		0.0035 (0.66)		-0.18 (0.18)	
Language Prox	-4.08*** (0.84)		-2.60*** (0.80)		0.23 (0.30)	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	No	Yes
Observations	1143	1143	1994	1994	1956	1956
R ²	0.46	0.24	0.57	0.20	0.94	0.19

Clustered standard errors in parentheses. OLS includes Year fixed effects, FE includes both Year and Country fixed effects. VIF: 1.97 for (1), 1.98 for (3), 1.98 for (5). Unless otherwise specified in the text, all regressors are one-year lagged. * p<0.10, ** p<0.05, *** p<0.010.

Previous migration has a similar pattern with significant coefficients on asylum applications and regular migration but not on border apprehensions. A 1% increase in the number of immigrants already residing in Italy is associated with a 0.20% growth of asylum applications from that country. The effect of the migrants' network is even larger for regular migrants, which hints at the changing importance of different countries in different kinds of immigration. The largest irregular flows over the period have been from Eritrea (114,211), Nigeria (96,871) and Syria (63,244) whereas the largest foreign-born communities residing in Italy in 2016 were from Romania (1.1 million), Albania

(467,000) and Morocco (437,000). This may explain why the coefficient on migration stocks is not significant for irregular migration once country fixed effects are included. Irregular migrants originate from countries that are not necessarily those of consolidated diasporas in Italy.

Turning to economic conditions at origin, a 1% increase in GDP per capita at home is associated with an almost equal (0.92%) reduction in asylum applications. The same sign is retrieved for border apprehensions, though the coefficient is smaller and not significant. The unemployment rate at origin is not a significant factor in explaining within-country differences.

Demographic variables play an important role. While the dependency ratio (i.e., the share of population of working age, defined as 15-64) only explains between country variation but it turns not significant once country fixed effects are included, population size at origin has a large effect: a 1% increase in population at home is associated with a 7.29% growth in border crossings. Given that median yearly population growth is 1.59%, so much of the increase in irregular migration numbers is explained by the model as a direct result of population growth. This does not apply to the number of asylum applications.

The political freedom in the country of origin is a significant factor in explaining differences between countries for all measures of migration, but fixed effects results show it is not a significant determinant of within-country differences of irregular flows. Thus, changes in political freedom are not significantly related to either measure of irregular migration in the short run. Nonetheless, a worsening of political freedom at origin is associated with higher number of regular migrants. This is likely linked to a higher number of approved permits for humanitarian and international protection reasons.

Confirming the importance of push factors, the presence of violent conflicts in the country of origin positively affects the number of asylum applications lodged in Italy. Conflict is associated with a 54% increase in the number of applicants from a given country. It also explains variance in the number of border apprehensions between countries, but not short-run fluctuations within countries. To the contrary, natural disasters do not seem to trigger more migration to Italy.

The counter-intuitive negative signs retrieved for colonial ties and language proximity can be explained by the limited colonial experience of Italy and by the fact that most irregular migrants originate from countries that do not share linguistic roots with Italy. As shown in Table 1, only 4% of the observations refers to countries that share colonial links with Italy while the median language index, that varies from 0 to 1, is 0.08. Language barriers and lack of shared history do not seem to work as a deterrent against irregular migration to Italy.

5.1 Robustness Checks

I now turn to a series of robustness checks, which are found in Table 3. First, I run an additional test against multilateral resistance. Results are potentially

biased if the attractiveness of Italy as a destination has changed, relative to other countries (Hanson, 2010). For instance, this could be the result of more (or less) restrictive policies in alternative destinations. The bias would be upward for the GDP at origin and downward for migration policies. Not accounting for multilateral resistance would underestimate the effect of more restrictive policies (Bertoli and Moraga, 2013).

Although multilateral resistance should be accounted for by origin and year fixed effects (Parsons, 2012), as additional control I introduce two variables (one per dependent variable) that capture contemporary flows to relevant alternative destinations. For border apprehensions, this is the number of migrants detected at all other ports of entry to Europe; for the number of asylum applications, this is the number of applications lodged in other EU countries.

As shown in column (1), the variables of interest remain largely unchanged. Restrictive policy is again positive and significant for asylum applications, while the negative effect on border apprehensions remains not significant. It should be noted that both additional controls are found positive and significant. This means that movements on other routes are complementary to flows on the Central Mediterranean Route, suggesting that drivers in the countries of origin have been dominating over pull factors in specific destinations.

Second, I expand the model to include additional factors that may affect migration flows to reduce the risks of omitted variable. Column (2) shows that adding Foreign Direct Investment and Remittances leave the variable of interest nearly unchanged. Column (3) also shows that including the trade openness of the country of origin (as a share of GDP) and bilateral trade (as a share of Italy's trade) have no significant impact on baseline results.

Table 3. Robustness checks

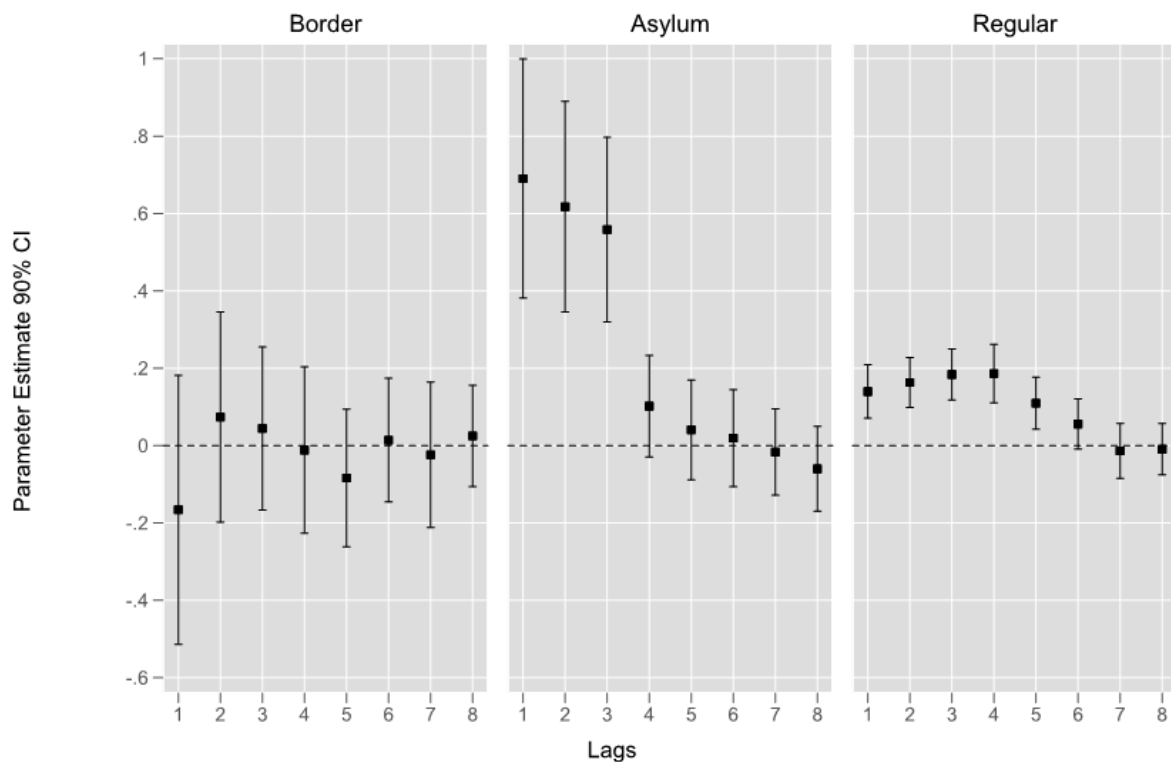
	Ln(Border)			Ln(Asylum)		
	(1)	(2)	(3)	(1)	(2)	(3)
Immig. Policy Restrict.	-0.22 (0.21)	-0.19 (0.21)	0.060 (0.26)	0.62*** (0.18)	0.62*** (0.20)	0.70*** (0.19)
Ln(Immig. Stock)	0.19 (0.12)	0.19 (0.12)	0.23 (0.14)	0.19** (0.084)	0.22** (0.10)	0.18* (0.10)
Ln(GDPpc Origin)	-0.0033 (0.80)	0.41 (1.10)	-0.32 (1.12)	-0.80** (0.39)	-1.39** (0.58)	-1.20** (0.57)
Unemployment Origin	-0.0096 (0.021)	0.015 (0.023)	-0.0051 (0.022)	0.015 (0.020)	0.024 (0.024)	0.037 (0.024)
Ln(Pop Origin)	7.00*** (2.34)	10.2*** (2.47)	6.01** (2.49)	-0.65 (0.63)	0.83 (1.15)	-0.40 (0.73)
Dep. Ratio Origin	-0.011 (0.040)	0.0059 (0.041)	-0.011 (0.044)	0.031** (0.015)	0.023 (0.015)	0.030 (0.019)
Political Freedom Origin	-0.044 (0.10)	-0.0085 (0.11)	-0.066 (0.11)	0.054 (0.053)	0.037 (0.054)	0.027 (0.060)
Nat Disaster Origin	-0.14 (0.082)	-0.078 (0.083)	-0.12 (0.091)	-0.013 (0.054)	-0.0042 (0.061)	0.0057 (0.065)
Conflict Origin	0.23 (0.20)	0.16 (0.23)	0.36 (0.26)	0.31** (0.14)	0.32** (0.15)	0.43** (0.19)

Total FDI		-0.080 (0.059)		0.028 (0.052)		
Total Remittances		0.024 (0.041)		-0.0088 (0.034)		
Bilateral trade (%)			0.044 (0.072)		0.074 (0.052)	
Trade Open. (GDP%)			0.0034 (0.0064)		-0.0010 (0.0029)	
Ln(Border) Other	0.14** (0.056)					
Ln(Asylum) Other				0.32*** (0.069)		
Observations	1143	988	901	1979	1685	1578
R ²	0.25	0.26	0.24	0.23	0.20	0.23

Clustered standard errors in parentheses. All model includes Year and Country Fixed Effects. Unless otherwise specified in the text, all regressors are one-year lagged. * p<0.10, ** p<0.05, *** p<0.010

A further concern is that policies may take time to exert an effect on migration flows. Therefore, in a further robustness check I test for effects beyond one year. Figure 5 plots coefficients, with 90% Confidence Intervals, from 24 regressions. Baseline equations for all measures of migration have been replicated lagging the policy index from one to eight year, keeping other controls unchanged. This produces eight sets of estimates per each migration variable. The choice of eight years is dictated by data on border apprehensions being only available since 2009.

Figure 5. Effect of policy restrictiveness beyond one year

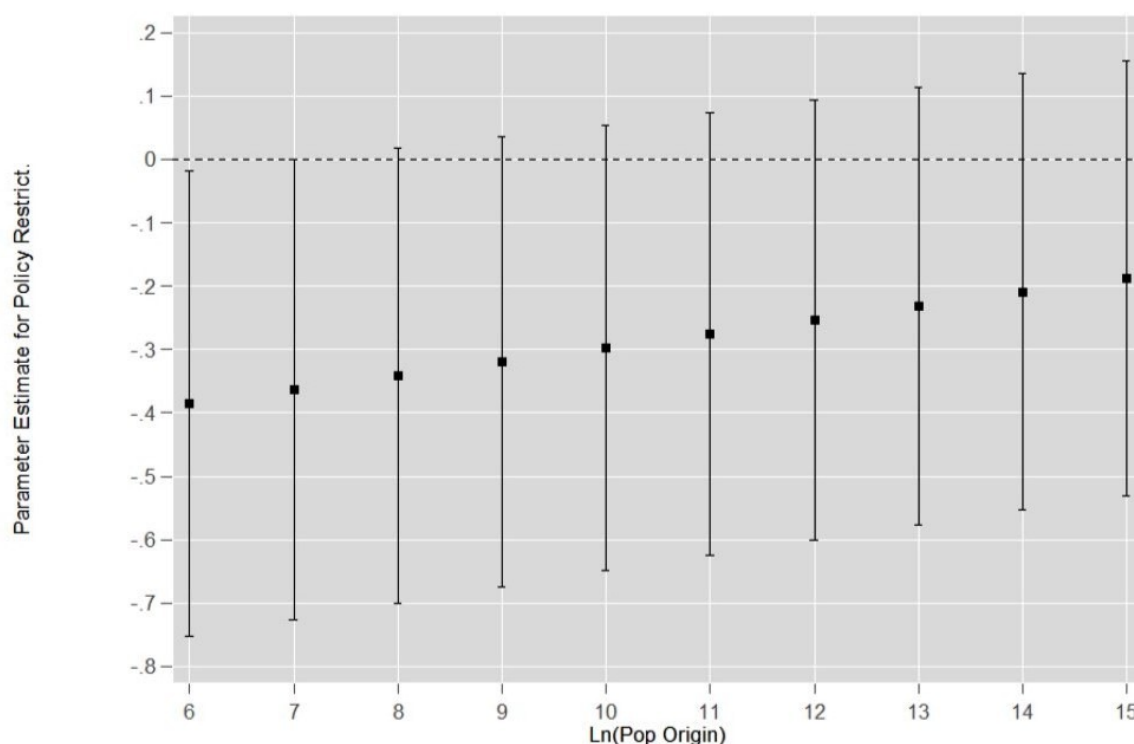


Note: The figure summarises the results of 24 regressions. Dependent variables are Ln(Border), Ln(Asylum) and Ln(Regular). Estimates are from models with all controls in the baseline specification as well as both year and country fixed effect

The effect of restrictive policies has no significant effect on the number of apprehended migrants at any considered lag. To the contrary, the positive effects on the number of asylum applicants and regular migrants are confirmed until the third and fifth lag, respectively. Beyond that, also these effects progressively reduce to become not significant at standard levels.

More specifically, policies would yield a significant (at the 10% level) deterring effect on border apprehensions only for hypothetical countries of origin with population below 1,097 habitants. The smallest observation in the sample is around 9,600 and the median value around 6 million.

Figure 6. Effect of policy restrictiveness on border apprehensions at different levels of population at origin



Note: The figure shows the estimated parameter (90% Confidence Intervals) of policy restrictiveness at chosen levels of Population at Origin. The underlying model (see Table A4) includes all controls in the baseline specification, both year and country fixed effects as well as interaction term between policy and population.

Discussion and Conclusion

A lot has been written on the effects of policies on migration. I add to this literature by using new data on irregular migration, asking whether restrictive policies are effective deterrents of border apprehensions and asylum applications in Italy, the end point of the Central Mediterranean Route.

Results presented in this paper show that, while not having a significant effect on the number of migrants apprehended at the border, restrictive policies tend to increase the number of those applying for asylum once in Italy.

These results only partially confirm the initial hypothesis [H2] of a deflection effect, as argued by (Czaika and Hobolth, 2016) and earlier qualitative studies (Koser, 2000; Castles, 2004; Schuster, 2011). Rather than finding that restrictive policies may have pushed more migrants into irregularity, I find that restrictive policies may push new immigrants to seek regularization of their position through the asylum system as access to other legal channels is restricted. These restrictions do not yield significant effect on the volume of new irregular migration, as measured by border apprehensions. This is despite policy efforts have specifically focused on this group as shown in Figure 3. The reason for the absence of deterring effects on asylum applications may be linked to the largely neutral trend that the policy index records for the specific category of asylum seekers and refugees.

In contrast with hypothesis [H1] and much of quantitative literature (Mayda, 2010; Ortega and Peri, 2013), I do not find evidence that more restrictive policies tend to result in a lower number of permits issued. This is probably because in recent years the decrease in the number of work permits has been more than compensated by increases of humanitarian and international protection permits. The Italian National Institute of Statistics (ISTAT) has reported that international protection and asylum has become the second most common reason to obtain a legal permit, after family reunification. (ISTAT, 2016)

While this study contributes new data to the debate on migration policy effectiveness, it is also subject to some limitations shared with previous work. First, measuring irregular migration, an unknown population of interest, is a challenging task. This study adopts new data that more accurately measure inflows. However, there is a trade off between adopting appropriate measures of migration flows and data coverage. Here it has been opted for new data which is both more accurate and relevant but face lower coverage of destination countries and time. Second, the effects of different types of legislation have not been explored. It may be that a specific subset of restrictions is effective at deterring migration. Nonetheless, separating this from fragile sub-group analysis will be particularly difficult, as a search for this type of "effective legislation" could be seen as p-hacking. Third, there is a certain degree of subjectivity in coding complex legislation into simple binary options of "more restrictive" and "less restrictive". It is possible that the policy index does not wholly account for the complexity of legal systems.

On the basis of the results presented here, some considerations for policy implications can be drawn. First, contemporary immigration should be viewed within a broader understanding of migration as a social process influenced by a wide range of conditions in countries of both origin and destination. A simplistic approach to migration management cannot lead to effective policies.

While raw data suggest that border externalization may lead to short-term temporary reductions in irregular arrivals, there is no evidence that restrictive regulations effectively contribute to reducing irregular inflows.

Second, in the presence of other dominating factors at origin, such as low GDP per capita, conflict and population size, restrictive policies may not yield the intended effect on irregular flows. Migration policy should be considered in coherence with other policy areas that are found to exert a more robust effect on migration determinants.

Third, migration is a complex process and there is no easy solution to its effective management. Efforts prioritizing deterrence are found to have limited success at achieving intended goals, while having proven detrimental effects on fundamental rights, including deaths at the border (Hamood, 2006; Sunderland and Salah, 2019). Therefore, policy efforts should be focused on maximizing potential benefits of immigration for both destination and origin countries.

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Appendices

Table A1: List of included countries

Recipient			
Afghanistan	Cuba	Lesotho	Sao Tome and Principe
Albania	Cyprus	Liberia	Saudi Arabia
Algeria	Djibouti	Libya	Senegal
Angola	Dominican Republic	Lithuania	Serbia
Argentina	Ecuador	Macedonia, FYR	Sierra Leone
Armenia	Egypt, Arab Rep.	Madagascar	Singapore
Azerbaijan	El Salvador	Malawi	Solomon Islands
Bahamas	Equatorial Guinea	Malaysia	South Africa
Bahrain	Eritrea	Maldives	Sri Lanka
Bangladesh	Estonia	Mali	St. Lucia
Barbados	Ethiopia	Malta	St. Vincent and the Grenadines
Belarus	Fiji	Mauritania	Sudan
Belize	Gabon	Mauritius	Suriname
Benin	Gambia, The	Mexico	Swaziland
Bhutan	Georgia	Moldova	Tajikistan
Bolivia	Ghana	Mongolia	Tanzania
Bosnia and Herzegovina	Guatemala	Montenegro	Thailand
Botswana	Guinea	Morocco	Timor-Leste
Brazil	Guinea-Bissau	Mozambique	Togo
Brunei Darussalam	Guyana	Myanmar	Tonga
Bulgaria	Haiti	Namibia	Trinidad and Tobago
Burkina Faso	Honduras	Nepal	Tunisia
Burundi	Hong Kong SAR, China	Nicaragua	Turkey
Cabo Verde	India	Niger	Turkmenistan
Cambodia	Indonesia	Nigeria	Uganda
Cameroon	Iran, Islamic Rep.	Oman	Ukraine
Central African Republic	Iraq	Pakistan	United Arab Emirates
Chad	Israel	Panama	Uruguay
Chile	Jamaica	Papua New Guinea	Uzbekistan
China	Jordan	Paraguay	Vanuatu
Colombia	Kazakhstan	Peru	Venezuela, RB
Comoros	Kenya	Philippines	Vietnam
Congo, Dem. Rep.	Kuwait	Qatar	West Bank and Gaza
Congo, Rep.	Kyrgyz Republic	Romania	Yemen, Rep.
Costa Rica	Lao PDR	Russian Federation	Zambia
Cote d'Ivoire	Latvia	Rwanda	Zimbabwe
Croatia	Lebanon	Samoa	

Table A2: Variables description and sources

Name	Description	Source	Unit
Border	Number of illegal border crossing detected per origin country (2009-16)	Frontex	Detection
Asylum	Number of Asylum applications led in Italy per origin country	UNHCR	Applicant
Regular	Number of migrants obtaining a residence permit in Italy	OECD	Individual
Immig. Policy Restrict.	Each legislative measure is coded (+1 = more restrictive; -1 = less restrictive) and summed to obtain a yearly cumulative index per origin country	Own based on DEMIG	Index
Immigrant stock	Number of foreign nationals residing in Italy	OECD and ISTAT	Individual
Pop Origin	Total population in origin country	WDI	Individual
Dependency Ratio Origin	Share of population below 15 and above 64 years of age	WDI	Rate
Unemployment Origin	Unemployment rate in origin country, ILO modelled	WDI	Rate
GDPpc Origin	per capita GDP in origin country at 2010 constant USD	WDI	USD 2010
Political Freedom Origin	Political Rights and Civil Liberties. are measured on a one-to-seven scale, with 1 representing the highest degree of freedom, and then summed so that the total index varies from 2 to 14	Freedom House	Index
Conflict Origin	Dummy for violent conflict registered each year in origin country (0 = no conflict)	UCDP-PRIO	Dummy
Nat Disaster Origin	Number of natural hazardous events with more than 100 people affected registered	EM-DAT	Event
Distance	GPS distance between Italy and Origin country (capital cities)	CEPII	Km
Language Prox	Unadjusted Value of Linguistic proximity (ASJP), from 0 to 1 (1 = same language)	CEPII	Index
Colony	Dummy for colonial linkages and common history (0 = No)	Own	Dummy
FDI inflows	Gross FDI inflows into origin countries at 2010 constant USD	WDI	USD 2010
Total remittances	Total flows of remittances into origin countries at current prices	World Bank	USD current
Bilateral Trade	Share of trade between Italy and origin countries (as share of total trade of country of origin)	Own based on UNCOMTRADE	Rate
Total import	Total imports of origin countries (as share of origin country GDP)	WDI	Rate
Trade Openness	Total exports and imports of origin countries (as share of origin country GDP)	Based on WDI	Rate

Table A3: Legislative measures included in the policy index 2002-2015

Year	Description	Coding
2002	Stricter criteria for allowing entry of foreign workers	1
2002	Job searches after unemployment reduced	1
2002	Job search visa abolished	1
2002	Increased border control at sea	1
2002	Family reunification restricted	1
2002	More surveillance on migrants through fingerprinting	1
2002	Access to permanent residency stricter	1
2002	Abolished refund of social security payments for returnees	1
2002	Higher employer sanctions	1
2002	Increased sanctions for re-entry of detected irregular migrants	1
2002	Increased detention time for irregular migrants and potential asylum seekers	1
2002	Return programme formalized	-1
2002	Regularisation of irregular workers	-1
2002	2002 quota lower, more for seasonal work	1
2004	2004 enlargement restricted labour market access	1
2004	New office to deal with anti-discrimination legislation	-1
2004	Readmission agreement with Sri Lanka	1
2004	Readmission agreement with Moldavia	1
2005	Readmission agreement with Serbia	1
2005	Readmission agreement with Philippines	1
2005	2005 quota for EU8	-1
2006	2004 enlargement labour restrictions lifted	-1
2006	2006 quota doubled	-1
2006	Readmission agreement with Algeria	1
2007	Readmission agreement with Bosnia Herzegovina	1
2007	Readmission agreement with Egypt	1
2007	EU 2007 enlargement labour market restrictions	-1
2007	EU 2007 enlargement labour market restrictions	-1
2007	Expulsion of terrorists facilitated	1
2007	First ad-hoc resettlement programme	-1
2008	Sanctions for renting to irregular migrants	1
2008	Tougher employer sanctions	1
2008	2008 quota lowered	1
2008	Stricter family reunification conditions	1
2009	Introduced sanctions for illegal entry and stay	1
2009	Detention period extended	1
2009	Longer period of naturalisation through marriage	1
2009	Stricter family reunification conditions	1
2009	Eased access to labour market for IT graduates	-1
2009	High-skilled can be exempted from labour market test	-1
2009	Second resettlement operation	-1
2009	Border control agreement with Libya	1
2009	Regularisation of irregular workers	-1
2010	Max 30% foreign-born non-Italian students in a single classroom	1
2010	Lower quota for 2010	1
2011	Funding for integration measures	-1
2011	Third resettlement operation	-1
2011	Temporary permit for migration due to Arab spring	-1
2011	Agreements with Libya and Tunisia on irregular migration management	1
2011	New generation migration agreements with Egypt, Moldova, Albania, and Sri Lanka	-1
2011	Readmission agreement with Tunisia	1
2011	Integration agreement created for non-EU citizens staying more than one year	1
2011	Expulsion of certain EU citizens possible	1
2011	Detention period extended	1
2011	Renewal of residence permit linked to integration	1
2012	EU 2007 enlargement restrictions lifted	-1
2012	Conditional regularisation	-1
2012	Eased entry for seasonal workers	-1
2012	EU Blue card introduced in Italy	-1
2012	Extension of job search visa for unemployed work permit holders	-1
2012	Tougher employer sanctions	1
2013	Eased access to citizenship for second generation born in Italy	-1
2013	Granting residence permits to victims of domestic violence	-1
2014	Start-up online free visa application for non-EU self-employed	-1
2014	Quotas for work permit decreased compared to 2013 because of increased unemployment	1
2014	Law 9/2014 liberalised the entry of students to access university education suppressing the quota system	-1
2015	Introduced the hotspot approach (fingerprints)	1
2015	Resettlement programme from Sudan and Lebanon	-1

2015	Admission for seasonal workers decreased by 2000 and restricted in sectors and nationalities	1
2015	Additional funding schemes for reception of asylum seekers	-1
2015	Baby bonus extended to foreign born	-1

Table A4: Estimates for Ln(Border) including interaction terms between Policy Restrictiveness and Population Size

	Ln(Border)
Policy # Population	0.022*** (0.0084)
Immig. Policy Rest.	-0.52** (0.25)
Ln(Immig. Stock)	0.19 (0.12)
Ln(GDPpc Origin)	-0.22 (0.80)
Unemployment Origin	-0.011 (0.021)
Ln(Pop Origin)	6.68*** (2.40)
Dep. Ratio Origin	-0.014 (0.041)
Political Freedom Origin	-0.025 (0.10)
Nat Disaster Origin	-0.14* (0.082)
Conflict Origin	0.25 (0.20)
Observations	1143
R2	0.24

Clustered standard errors in parentheses. All model includes Year and Country Fixed Effects. Unless otherwise specified in the text, all regressors are one-year lagged. * p<0.10, ** p<0.05, *** p<0.010