



# **Applications for Asylum in the Developed World: Modelling Asylum Claims by Origin and Destination**

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## **ABSTRACT**

This paper outlines trends in asylum applications to 38 industrialized countries since 1989. Applications to Australia of onshore arrivals are just two percent of the total. While Australian applications are subject to many of the same influences, the source country composition is distinct and the time profile is somewhat different from that of the other countries. We also provide a survey of existing quantitative research on refugee displacement and asylum applications. In the light of existing studies we specify and estimate a model to explain asylum applications in 19 major destination countries from 48 source countries over the period from 1997 to 2012. Finally, we develop a quantitative index of asylum policies, which covers 15 components of asylum policy for 1997 to 2012. This shows that on average policies became tougher, especially between 2000 and 2006. Australian policy shifted more than average. It turned sharply restrictive in 2001 followed by a distinct easing from 2008 that was reversed after 2012.

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## 1. INTRODUCTION

Every year hundreds of thousands of people apply for political asylum, seeking sanctuary in the stable safe and secure countries of the developed world. Most of them come from poor and middle income countries that are in the grip of civil wars or international conflicts, countries that systematically persecute minorities, or in which human rights abuses are commonplace. But those who, one way or another, manage to reach OECD countries are a small minority of all who flee from persecution across international borders or who seek refuge elsewhere within their own country. According to the UNHCR only 17 percent of refugees and asylum seekers are located in the developed world. So while it is only the tip of the iceberg of human misery, the asylum system has become a major source of controversy in the receiving countries that are the focus of this paper.

Over the last 30 years the number of asylum applications in industrialised countries has soared and this has led to intense political controversy and what might be described as a policy backlash. Against this background there have been claims and counter claims about the motivations of asylum seekers and the effects of both economic incentives and asylum policies on the numbers that apply. Sometimes they have been based on specific examples or on broad interpretations rather than on quantitative research. This paper provides an analysis that is grounded in the quantitative data and is, in that sense, objective. It examines how trends and variations in the number applying for asylum in industrialised countries can be understood in terms of the economic and political conditions in source and destination countries.

In Australia, as elsewhere, the issues concerning asylum seekers have been widely debated. Yet there is little quantitative evidence that places the Australian experience in a comparative context. This paper provides an econometric analysis of the ebb and flow of asylum applications to Australia together with 18 other developed countries. Besides helping to identify the common factors that drive the numbers, this approach allows us to assess in what respects and to what degree the Australian experience differs from that of other countries. One of the key issues is the deterrent effects of asylum policies, in particular the differences between countries in policy stance and in the effects of policy. In order to assess these effects we derive a quantitative index of different dimensions of policy and use this in our empirical analysis.

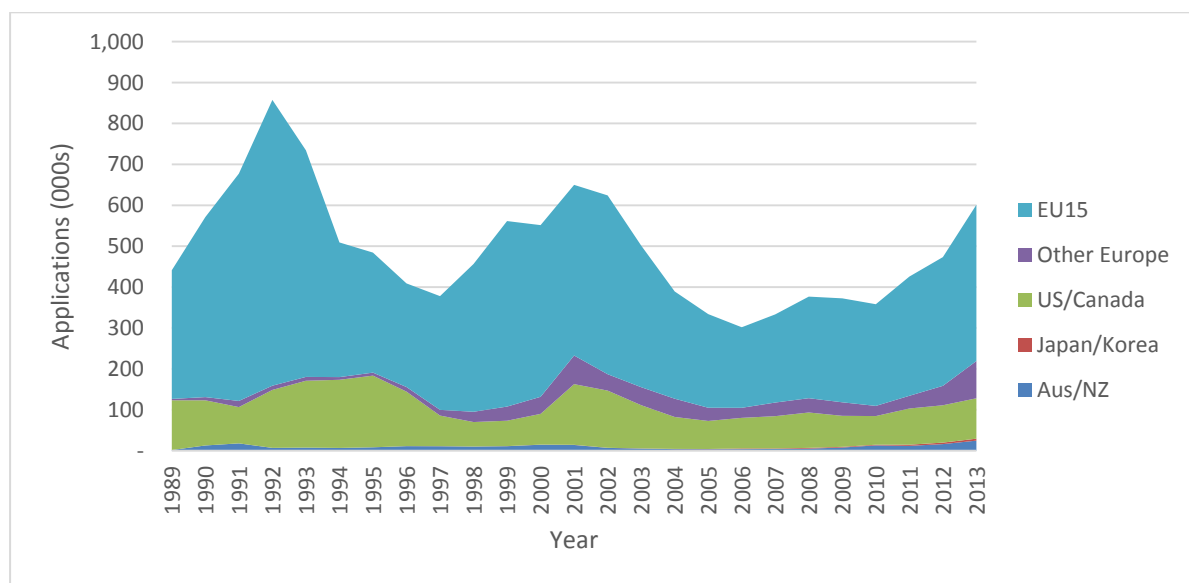
The approach followed here draws heavily on previous analysis by Hatton (2009, 2011) in terms of methodology and research design. But it also draws on a wider literature on the determinants of international migration and a smaller literature that focuses specifically on modelling asylum applications. While this approach has its limitations, analysing panel data – that is, focusing on changes over time by destination country *and* by source country – provides a more reliable basis for inference than looking only at variations between source countries or between destinations.

The remainder of the paper is set out as follows. In the next section we outline the trends in asylum applications to Australia in comparison with other developed countries. This is followed by a short survey of quantitative analysis of refugee movements and asylum applications. We then present a brief outline of the development of asylum policies in Australia and elsewhere, particularly in Europe. A revised and updated index of asylum policies in 19 OECD countries, including Australia, is explained and examined. After outlining other data sources we present fixed effects regression estimates of annual data on asylum applications by source and destination. We then estimate the effects of asylum policies and explore differences between Australia and the other 18 destinations. Finally we evaluate the effects of a few key variables and sum up with a brief discussion.

## 2. COMPARATIVE TRENDS IN ASYLUM APPLICATIONS

The total number of asylum claims has undergone wide fluctuations over the last two decades. Figure 1 shows total annual applications to what the UNHCR defines as ‘industrialized countries’. The 38 countries are largely the OECD club of developed countries plus a few others, chiefly in Europe.<sup>1</sup> These are first instance claims by applicants who arrived spontaneously, rather than having been transferred as part of resettlement programmes through the agency of governments in conjunction with organisations such as the UNHCR. They are almost always submitted within the destination country or at its border by any mode of arrival (boat, air or by land). The total number of applications to these countries peaked at over 850,000 in 1992; after some decline it reached a second peak of more than 600,000 between 2000 and 2002. Total applications declined to their lowest point of 300,000 in 2006 before rising again to 600,000 in 2013.

**Figure 1: Asylum Applications to 38 Countries by Region of Asylum, 1989 –2013**



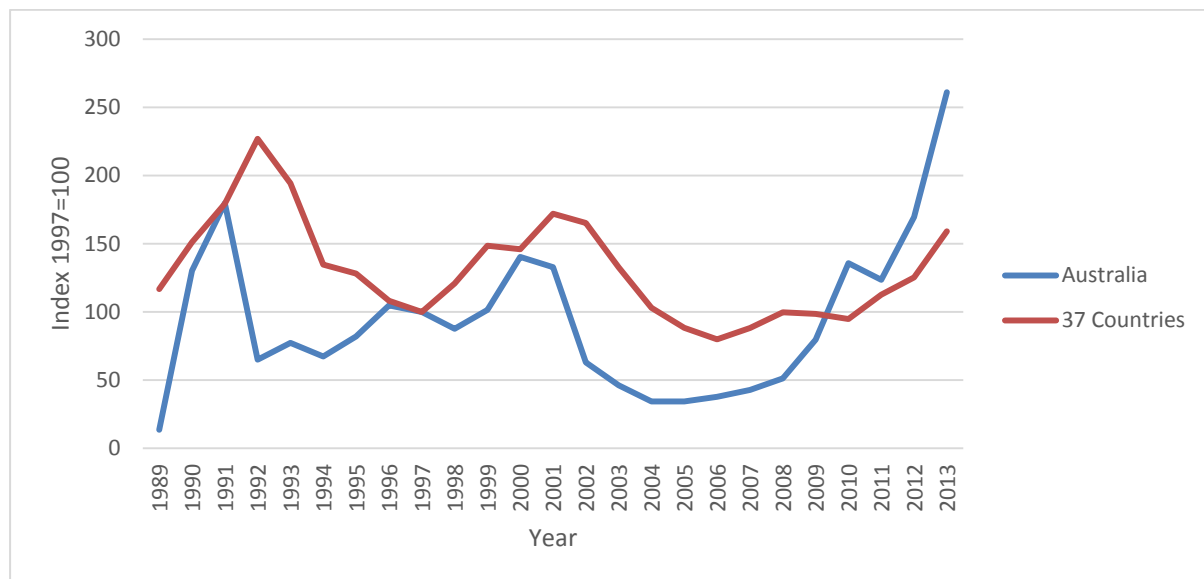
Sources: 1989-2000 from UNHCR *Statistical Yearbook*, 2001, Table C1; 2001-13 from UNHCR *Asylum Levels and Trends in Industrialized Countries*, 2005, 2009, 2013, Table 1. The EU-15 is the pre-2004 membership: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

Figure 1 also shows that the overwhelming majority claimed asylum in Europe. More than half of all applications in Europe were received by Germany (28%), the UK (12%) and France (11%). The surge of the early 1990s was largely the result of the turmoil in Eastern Europe following the fall of the Berlin Wall and the dissolution of the Soviet Union. It is also worth noting that countries such as Hungary, Poland and the Czech Republic that were sources of asylum seekers have since become destinations. This was shortly followed by the breakup of Yugoslavia and the Kosovo crisis. The reshaping of Europe in the 1990s also opened up new transit routes through Eastern Europe for asylum seekers from the Middle East and the Far East. Similarly, from 2011, the Arab Spring opened up new routes across North Africa and the Mediterranean.

<sup>1</sup> These data are collected by the UNCR from national governments. Because they are generated by asylum systems that differ between countries they are not always fully comparable in terms of coverage and timing. The UNHCR reports now include 44 countries of asylum however a consistent data series from 1989 was only available for 38 countries.

It is difficult to see in Figure 1, how fluctuations in asylum applications to Oceania compare with Europe and North America. This is due to the relatively small number of applications received in Australia and New Zealand in comparison to the other regions. Over the whole period the number of spontaneous applications (or onshore applications) in Australia amounted to just two percent of the 38-country total. Figure 2 displays an index of asylum applications to Australia, where 1997 = 100, comparing this with the total for the other 37 countries. Over much of the time period, fluctuations in asylum applications to Australia are largely mirrored in the number of applications received elsewhere. However, applications to Australia gradually increase after 1992 while the total for the 37 other countries fell. And after 2001, Australian applications fell faster to the middle of the decade and then increased more steeply to 2013.

**Figure 2: Asylum Applications to Australia and 37 Industrialized Countries (1997 = 100)**



Sources: As Figure 1.

Part of the difference in the trends may be due to asylum policies and economic performance in Australia as compared to other destinations, but it may also be due to location. To examine the source country composition of applications we focus on 19 major destination countries. These are countries that are included in the empirical analysis below. Table 1 shows the source country composition of total applications in the years 2004 to 2012 for Australia and for the aggregate of 18 other destination countries. Over this period total applications to Australia numbered 87,000 as compared with 3.4 million for the other 18 destination countries. Thus Australia accounts for just 2.5 per cent, or one fortieth, of the 19 country total. Five of the top ten source countries are the same for Australia as for the 18-country total, and this is likely to account for some of the similarity in the year-to-year movements. But, not surprisingly, source countries in the Asia-Pacific region are much more prominent in applications to Australia than for the other countries.

**Table 1: Asylum Applications to Australia and 18 other Destination Countries (Total): 2004-12**

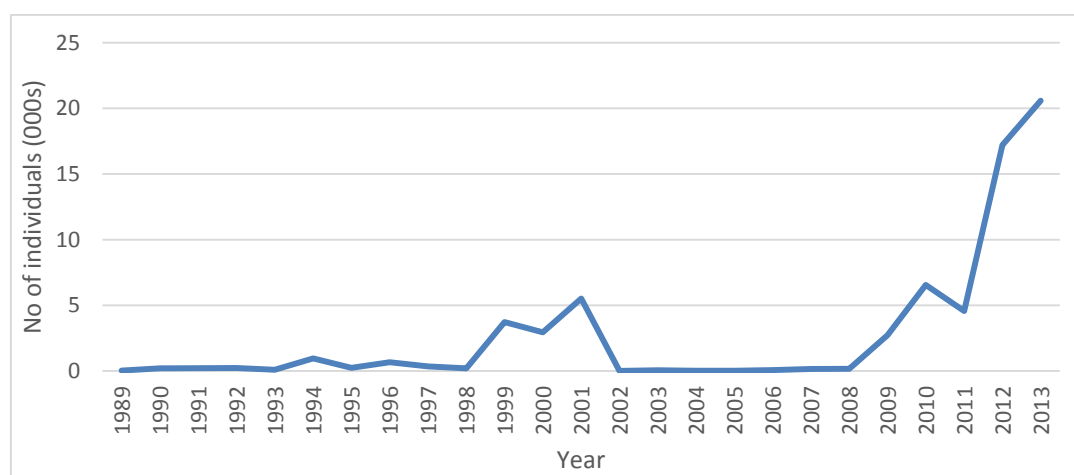
Applications to Australia, 2004-12				Applications to 18 other countries, 2004-12			
Top 40 source countries				Top 40 source countries			
China	18157	Nigeria	524	Serbia	277554	Algeria	47590
Afghanistan	8046	Thailand	455	Russia	222424	India	47056
India	6539	P N Guinea	448	Iraq	193980	Colombia	41550
Sri Lanka	6263	Libya	442	China	183977	C. d'Ivoire	33973
Iran	5701	Syria	409	Afghanistan	159695	Zimbabwe	32247
Pakistan	4664	Palestinian	402	Somalia	126462	Ethiopia	31389

Iraq	3395	Serbia	392	Turkey	112404	Bosnia	30415
Malaysia	2940	Ethiopia	384	Nigeria	108295	El Salvador	30193
Indonesia	2867	Colombia	376	Iran	101003	Sudan	29491
Fiji	2574	Tonga	350	Sri Lanka	89311	Azerbaijan	28666
Egypt	2185	Jordan	325	Pakistan	87964	Albania	28557
Bangladesh	2014	Mongolia	322	D.R. Congo	85277	Cameroon	26245
Lebanon	1906	Kenya	305	Eritrea	84487	Mauritania	24314
Zimbabwe	1745	Albania	252	Mexico	74434	Guatemala	22677
Nepal	1637	Russia	240	Haiti	72917	Viet Nam	22469
Korea	1231	El Salvador	236	Armenia	61122	Mongolia	21903
Philippines	894	Ghana	235	Syria	60174	Moldova	21776
Turkey	873	S. Africa	198	Georgia	58898	Ukraine	20656
Viet Nam	816	Israel	174	Bangladesh	53465	Congo	20152
Myanmar	684	Ukraine	152	Guinea	48914	Angola	20104
% of total	86.3	% of total	7.6	% of total	66.7	% of total	17.1

Source: UNHCR Statistical online population database, accessed 16/10/2014. Serbia includes Montenegro, Kosovo and Macedonia, Sudan includes South Sudan; stateless and unknown citizenships are included in total but not listed.

One of the distinctive features of applications to Australia is the periodic surges in irregular migrant arrivals by boat, almost all of whom claim asylum. Figure 3 shows the total number of people arriving by boat for the years since 1989. Boat arrivals are concentrated in the periods 1999-2001 and 2009-13, after which boat arrivals stopped. It is not meaningful to compare boat arrivals directly with asylum applications because of irreconcilable differences in caseload characteristics, timing and measurement.<sup>2</sup> The earliest boat arrivals were chiefly from China, Laos, Cambodia and Vietnam. From 1999 the composition shifted towards the Middle East and Afghanistan, and the recent surge in boat arrivals has been dominated by Iranians, Sri Lankans, as well as Afghans.

**Figure 3: Irregular Boat Arrivals to Australia, 1989-2013**



Source: Phillips (2014), Table 1. These figures are for calendar years and exclude crew members.

<sup>2</sup> Asylum applications include those made by persons who arrive by boat and by those who travel to Australia by air and then subsequently apply for asylum. The differences between these two groups makes viable comparisons difficult.

### 3. ANALYSING REFUGEE AND ASYLUM SEEKER MOVEMENTS

Scholars who are interested in the determinants of asylum applications have approached the issue in a variety of ways. Here we follow the econometric approach, which involves the statistical analysis of aggregate data, and which has been used increasingly in the last decade. Among the key issues are identifying the source country conditions that give rise to asylum migration, the intervening factors that influence the ability to migrate, the barriers imposed by asylum policies and the effect of conditions in destination countries on the choice of where to migrate. What follows is a selective overview of the studies that are most relevant to our approach.

A number of studies have used econometric analysis to explain the number of refugees emanating from source countries, focusing on the source-country causes of displacement. In a pioneering paper Schmeidl (1997) analysed the stock of refugees in over 100 countries in the 1970s. She found that the most significant variables were those representing armed conflict, especially genocide and politicide. These variables overshadowed others such as political rights, civil liberties and ethnic tensions. Intervening factors (those that facilitate or impede flight) appeared less important than was sometimes suggested. Analysing changes over time in the stock of refugees Davenport *et al.* (2003) and Moore and Shellman (2004) largely confirmed these findings. Subsequent research has elaborated on these themes. Moore and Shellman (2007) focus on the direction of refugee flights, finding that refugees move to places that are free of conflict, where incomes are higher and where the costs of transit are lower. Melander and Öberg (2006) analyse the persistence in displacements, arguing that the flows tend to decrease when those most able or willing to move have left. They also found that outflows are reduced by regime transition in the source country but increased by regime collapse.

A major theme emerging from these studies is that refugee flights can be understood as depending on the balance between the costs and benefits of leaving as compared with those of staying. This also helps to explain the distinction between cross-border flight and internal displacement. Moore and Shellman (2006) find that civil war, dissident terror and government violence increases the number of refugees relative to the number of internally displaced. And it is consistent with the finding that the wider the spread of violence the more likely it will generate refugees (Melander and Öberg, 2007). A second generation of studies analyses displacement at the local level. Adhikiri (2012) finds that migration from districts in Nepal depends positively on violence and opportunity but negatively on the solidarity of local networks. Studies of Columbia also highlight the individual- and community-level complexities in the choice of whether to leave and where to go (Engel and Ibáñez, 2007; Steele, 2009). Analysing individual-level data for four other Latin American countries Alvarado and Massey (2010) find that emigration was less likely for those with higher wealth and education but more likely for those with family in the United States. These studies serve as a reminder that (a) conditions in source countries are heterogeneous and may not be well captured by country-wide aggregates, and (b) that some variables may influence both the costs and the benefits of flight.

Several studies have analysed panel data on asylum applications to countries in the developed world. Neumayer (2004) took shares for each destination of applicants from each source country as the dependent variable over the years 1982–99. This method nets out common source country effects. He found significant positive effects for the level and growth rate of GDP per capita in the destination, but a negative influence for the presence of right-wing populist governments. Bilateral links were also found to be highly significant, in the form either of the stock of migrants from the source country, or deeper drivers such as colonial links, common language and distance. The only policy variable used was the overall recognition rate for the destination. The effect was positive, as expected, but small.<sup>3</sup>

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<sup>3</sup> A ten-percentage point reduction in the recognition rate reduces a country's share of applications by only 0.2 percentage points.

Using a similar estimating framework, Thielemann (2006) analysed asylum applications to 20 destination countries for 1985–99. He found that a country's unemployment rate negatively influenced its share of asylum applications, while its foreign-born stock had a positive effect. He also used an index of policy made up of five components, which overall had a negative effect. Examining the individual components of policy he found that the impact of refugee integration policies was weak compared with the effects of variables representing refugee status determination procedures.<sup>4</sup>

Using panel data for 14 destinations for the years 1981-99 and disaggregating applications by source continent, Hatton (2004) found that relative income, destination unemployment and the cumulative stock of applications were important influences. A composite index of asylum policy toughness based on 11 components gave a significant negative coefficient. This implies that the tightening of policy that occurred over the two decades to 1999 reduced asylum claims in the EU by about 150,000, or about 1 percent of its mean level.<sup>5</sup> Hatton (2009) examined the effects of policy on asylum flows from 56 source countries to 19 destination countries from 1997 to 2009. The 15-component policy index for each destination country was disaggregated into three groups: those relating to access to the territory; those relating to the processing of asylum claims; and those relating to the living conditions of asylum seekers. The results indicated that only the first two of these had significant deterrent effects. The overall effect of the round of policy tightening between 2001 and 2006 was to reduce annual asylum applications to these 19 countries by 108,000, or about one third of the total decrease. Once those policy effects are taken into account there is no evidence of a disproportionate fall in applications from Muslim countries following the 9/11 attacks.

Focusing on Australia, Hatton and Lim (2005) made an econometric assessment of asylum applications to Australia together with six other comparator countries: New Zealand, Canada, the United States, the United Kingdom, France and Germany. Using quarterly data on total applications from 2000q1 to 2004q3 with country and period fixed effects they found that the destination country unemployment rate had no significant effect. A similar result was obtained using annual data for 1997-2003 but distinguishing 17 source countries. Changes in asylum policies were represented by dummy variables for major reforms. For Australia the dummy variable starting in 2002q1 had a large negative effect which reduced asylum applications by more than half. This is a larger effect than was found for major policy packages in other countries (such as the UK in 2003 and Germany in 2002). Hatton and Lim argued that Australian policies had a larger effect than those of other countries, partly because the policy package itself was tougher both in terms of the scope of the changes and their enforcement. But it was also partly due to the publicity that was generated, both nationally and internationally, by the *Tampa* incident (and to a lesser degree the 'children overboard' affair). This may have produced a reputation effect that was not seriously reversed by the subsequent easing of policy until 2008 (Crock and Ghezelbash, 2010; Hatton, 2011, Ch. 9).

A number of other studies have focused on individual countries and on specific policies. Controlling for a variety of source country variables, Rotte *et al.* (1997) found that German policy reform of 1987 and the revision of the Basic Law in 1993 both had large negative effects (see also Vogler and Rotte, 2000). For Switzerland, Holzer *et al.* (2000a, 2000b) also found that policy reform in 1990 had a significant negative effect on applications. While the studies of European countries have focused on changes in the criteria for asylum and the refugee status determination procedures, another line of enquiry examines the effects of border controls on irregular migration, particularly along the United States border with Mexico. A range of studies have typically found that greater effort and expenditure

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<sup>4</sup> See also Thielemann (2004) and Neumayer (2005).

<sup>5</sup> A more detailed analysis of EU country shares of applications by country of origin in the 1990s also supported the negative effect of policy but it provided little evidence that tougher policies deflected asylum seekers from one destination country to another.



on border control had discernible but fairly modest effects on the number of apprehensions and by inference the number of crossings (see for example Hanson and Spilimbergo, 2001; Orrenius, 2006; Cornelius and Salehyan, 2007; Bohn and Pugatch, 2013). Other studies have assessed the impact of visa policies. Cziaka and Hobolth (2013) found that imposing visa requirements reduced asylum applications from a source to a destination by around half—a similar effect to that found by Neumayer (2010) for all migration. These studies suggest that policy effects are likely to differ both across countries and between types of policy.

#### 4. ASYLUM POLICY IN AUSTRALIA AND OTHER DEVELOPED COUNTRIES

Asylum policy in Australia is governed internationally by the 1951 Refugee Convention and in domestic legislation by the 1958 Migration Act and subsequent acts and amendments. Australia has long operated a refugee settlement programme under which refugees are resettled from refugee populations in the Middle East, Asia and Africa. From 1991 the quota for the Humanitarian Programme has fluctuated between 12,000 and 16,000 per annum. Spontaneous asylum seekers arriving by sea and by air (the onshore programme) were few in number until the 1980s. The policy of mandatory detention for unauthorised boat arrivals (included in the 1958 Migration Act) was increasingly enforced and extended to all unlawful arrivals in the Migration Reform Act of 1992. From 1996-7 onwards onshore grants of asylum were included in the overall target so that they would effectively reduce the number accepted through the offshore programme. A surge of arrivals led to the creation in 1999 of three-year Temporary Protection Visas, with much reduced rights for unauthorised arrivals who qualified for protection.<sup>6</sup> The introduction of TPVs was followed by legislation that imposed sanctions on people smugglers and provided for the boarding, search and detention of ships suspected of carrying unauthorised asylum seekers.<sup>7</sup>

Dramatic events followed in September 2001 with the arrival off Christmas Island of a Norwegian freighter the *MV Tampa*, which had taken on board 433 asylum seekers when their vessel the *KM Palapa 1* had got into distress in the open seas. The *Tampa* was initially refused permission to land the asylum seekers and there followed a week long standoff until an agreement was reached by which a third of the passengers was taken to New Zealand and the remainder to Nauru, the latter in exchange for financial support from the Australian government. Just a month later the Australian government passed six new bills into law. The first two involved the excision of Christmas Island, Ashmore Reef and some other small islands from Australian territory for the purposes of establishing claims to asylum in Australia, and they provided for such arrivals to be processed elsewhere. Applicants who had spent at least seven days in a 'safe' country while in transit were denied eligibility for a permanent protection visa. Another act significantly narrowed the definition of a refugee used in the status determination procedure.<sup>8</sup> Further measures included harsher penalties for people-smuggling offences and limitation of the grounds for judicial review of status determination decisions.

The events of 2001 represent a severe tightening of asylum policy in a number of different dimensions, and with offshore processing as the centrepiece, it became known as the "Pacific Strategy". Some of the elements were later relaxed. In 2004 TPV holders were allowed to apply for permanent visas and in 2005 time limits were introduced on the processing of asylum claims. In 2007 offshore processing on Nauru and Manus Island was terminated by the incoming government. The detention regime was partially and gradually relaxed, and from 2009 it was used only as a last resort. As a result the number

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<sup>6</sup> TPVs provided the right to work and to certain benefits, including Medicare, but they did not confer the right to re-enter Australia once having left, or the right to family reunification. TPV holders were eligible to apply for permanent protection after 30 months, a status that could only be granted if the need for protection was ongoing.

<sup>7</sup> Summaries of policy development and timelines are provided by York (2003), Karlsen et al. (2010) and Phillips and Spinks (2013).

<sup>8</sup> In particular by restricting the interpretation of 'persecution' and of 'particular social groups' membership of which could give rise to a claim for protection.

in detention halved between 2002 and 2010. A further important step came in 2008 with the complete abolition of TPVs so that all those granted protection received permanent visas. Taken together these measures represent a substantial reversal of the key elements of the policy stance of 2001.<sup>9</sup>

As we saw earlier, boat arrivals resumed in 2009 and rose steeply thereafter, leading to a clamour for tougher policies. In 2010 processing was suspended for boat arrivals from Afghanistan and Sri Lanka, who had formed a majority of arrivals at Christmas Island. In 2011 some of the unauthorised arrivals were issued with bridging visas and released into community centres. In response to the mounting numbers the government appointed an Expert Panel on Asylum Seekers which reported in August 2012. It put forward the principle that unauthorised arrivals should gain 'no advantage' over those applying to the offshore program. But the recommendation to transfer asylum seekers for processing in Malaysia was rejected by the High Court. Instead the offshore processing centres on Nauru and Manus Island were reopened. The new government of 2013 pledged to toughen border controls and to 'push back the boats', to reintroduce temporary protection visas along the lines of the 1999 model, and to introduce a fast track status determination procedure. As of 2014 the policy stance has largely reverted to that of 2001, although some aspects of it are still being implemented.<sup>10</sup>

Since the late 1990s asylum policies in Europe and North America have been dominated by two developments. The first is the international political backlash from the 9/11 attacks. The USA PATRIOT Act introduced tougher measures against those with suspected links to terrorist organisations as well as dramatically increasing the number of border control agents. An Act of May 2002 further strengthened border controls by establishing an integrated database system for arrivals and departures linked to fingerprinting and biometric monitoring. Canada also tightened its border security and an Act of 2001 introduced reforms that included detention of asylum seekers without documents. The enhanced security measures were followed to varying degrees by other countries as a result of heightened concerns about terrorist threats and in the aftermath of bombings in Britain and Spain.

The second development related to asylum policies in the European Union stemming from the Treaty of Amsterdam (effective 1999) which shifted asylum policies from the level of intergovernmental cooperation to that of community integration.<sup>11</sup> It marked the beginning of the establishment by stages of a Common European Asylum System (CEAS). The first stage, up to 2004, was the harmonisation of certain key elements for which minimum standards were laid down in a series of directives. The Reception Conditions Directive laid down standards for access to employment and training, housing and subsistence, and health and education services for asylum seekers while their claims were being assessed. The so-called Dublin II Regulation embodied a new mechanism for determining the state responsible for an asylum claim and providing for transfers. The Qualification Directive established a common set of criteria to be used in the refugee status determination procedure. And the Asylum Procedures Directive covered issues such as the designation of manifestly unfounded claims, rights to interviews, to legal assistance and to appeals as well as common rules for granting subsidiary protection.

While the first stage of the CEAS fell far short of complete harmonisation, it did create some convergence in policy and practice (Thielemann and El-Enany, 2009). The second stage of the CEAS involved deeper cooperation in several areas. These included the upgrading of existing directives on procedures and reception standards as well as fostering integration programmes for recognised

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<sup>9</sup> Asylum seekers arriving in Christmas Island or other excised places were only permitted to enter the status determination procedure at the discretion of the Minister and they faced restricted rights of review or appeal.

<sup>10</sup> In some respects, such as offshore processing, recent policies go further than 2001. For example those on Nauru and Manus Island have no right to resettlement in Australia, even if they are recognized as refugees (see Warbrooke, 2014). On the other hand, families with children who would otherwise be in detention in Australia are to be released on bridging visas.

<sup>11</sup> Further details on policy developments in Europe are provided in Hatton (2012, Ch. 6; 2012).

refugees with support from the European Refugee Fund (originally set up in the aftermath of the Kosovo crisis). But the most important area was border control, where the EURODAC fingerprint database established in 2003 and the FRONTEX agency established in 2005 were integrated into a standardised border procedure. These initiatives were carried forward under the third stage of the CEAS from 2009. This saw, among other things the establishment of the European Asylum Support Office (EASO) to support and promote further harmonisation and policy integration.

Despite the increasing reach of EU legislation the trends in policy differed widely among individual EU countries. One reason is that most EU regulation set minimum standards that were, initially at least, not binding on individual countries. This left room for a considerable tightening of policy from the early 2000s, the extent of which varied according to the original policy stance. One example is the Netherlands where a range of new border controls were introduced in 1998 and an Act of 2001 restricted the scope of subsidiary protection and limited the right to appeal. This was followed by a reorganisation of the administration of asylum applications under a new ministry with a commitment to speeding up processing and enforcing deportation procedures. A number of EU countries further toughened the processing of manifestly unfounded claims. One example is Austria, which in 2004 reduced processing times to three days, making appeals non-suspensive of deportation and restricting the right to apply at the border. But not all policies have been restrictive; for example a number of countries introduced proactive integration policies, and some, such as Finland in 2006 and Germany in 2007, expanded eligibility for employment.

### 5. A QUANTITATIVE INDEX OF ASYLUM POLICIES

Descriptive accounts of policy developments are useful for illustrating how the balance was struck, at different times and in different countries, between upholding humanitarian interests and concerns and the imperatives to manage and control the number of applications. But they do not provide quantitative measures that are an essential ingredient to any econometric study of the flow of asylum applications. What they do emphasise is the multidimensional nature of asylum policy. As with immigration policy more generally, asylum policy is essentially a screening process that combines incentives and rationing. It stands in sharp contrast to, for example, international trade which is driven by relative prices and where the most obvious policy instrument, a tariff, has a directly measurable value. Students of migration are forced to use instead crude proxies to characterise multidimensional, and often subtle, policy changes.

A number of attempts have been made to characterise asylum policy in one or more quantitative indicators or in the form of a composite index (for a review, see Czaika and de Haas, 2013). Here we develop a policy index patterned on that used previously by Hatton (2009, 2011). The index developed here is a substantially revised and updated version of that index. It includes fifteen indicators of asylum policy divided into three groups. The first relates to policies that limit access to the receiving country's asylum procedures, mainly by preventing potential asylum seekers from reaching the territory. The second relates to the status determination procedure and is intended to capture the likelihood that an applicant gains some form of residency status. The third is a selection of policies that relate to welfare conditions during and immediately after processing.

<i>Access policies</i>	<i>Processing policies</i>	<i>Welfare policies</i>
Visa requirements	Definition of a refugee	Permission to work
Border control/security	Humanitarian category	Access to welfare benefits
Trafficking regulations	Manifestly unfounded claims	Detention policy
Carrier sanctions	Expedited procedures	Deportation policy
Application outside country	Scope for appeals	Family reunification

The idea is to capture changes in a country's laws, regulations or practice under each of the fifteen categories. These are intended to reflect 'major' changes in policy i.e. those that amount to significant changes in the conditions facing a substantial share of asylum seekers. Such judgements are inevitably somewhat subjective but they are based on secondary reports by country experts.

In each of the 15 categories the index increases by one unit when policy becomes significantly tougher, i.e. less advantageous to asylum seekers. If policy becomes significantly more favourable towards asylum seekers, then the index decreases by one unit. As far as can be ascertained the change is dated as the quarter that it took effect rather than when it was announced or when the legislation was first passed. This fifteen component quarterly index starts at zero for each component in the first quarter of 1997 and runs to the last quarter of 2012.

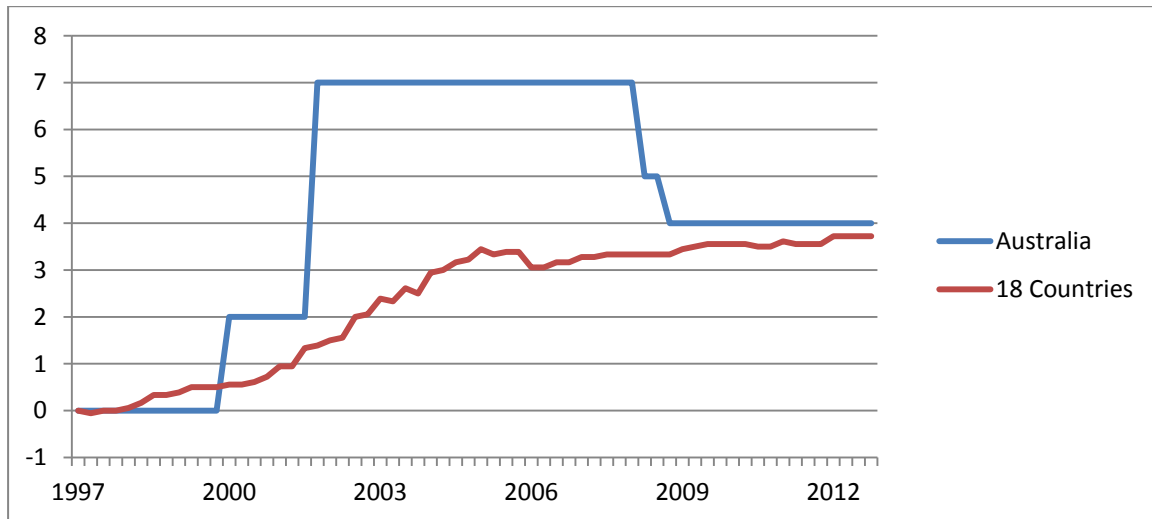
Our index includes nineteen countries over a period of fifteen years. Table 2 presents the values of the policy index at different dates, starting from zero at the beginning of 1997. It shows that for most countries the trend has been towards more restrictive policy. It also demonstrates that the degree of policy tightening has differed widely between countries. The index for Australia exhibits a substantial toughening of policy up to 2004 in the aftermath of the 'Pacific Strategy' with a subsequent easing of policy to the end of 2012. This can be compared with dramatic overall tightening in the UK and Denmark and to a lesser extent Norway, Ireland, Switzerland and the Netherlands. By contrast policy eased over the period as a whole in Sweden and the Czech Republic and was little changed in Poland, Spain, Canada and Germany.

**Table 2: Asylum Policy, Composite Index**

Destination country	1997q1	2000q4	2004q4	2008q4	2012q4
Australia	0	2	7	4	4
Austria	0	3	5	6	5
Belgium	0	1	2	4	3
Canada	0	-1	-1	0	1
Czech Republic	0	-3	-1	-1	-1
Denmark	0	2	0	10	10
France	0	0	2	1	3
Germany	0	1	1	1	1
Hungary	0	-1	1	1	3
Ireland	0	3	6	6	7
Italy	0	1	3	3	3
Netherlands	0	1	6	6	7
Norway	0	1	5	5	8
Poland	0	1	0	0	0
Spain	0	2	4	2	0
Sweden	0	0	0	-3	-4
Switzerland	0	2	4	6	7
UK	0	1	8	10	11
US	0	0	2	3	3

Source: Authors' calculations, the index starts at zero in 1997q1.

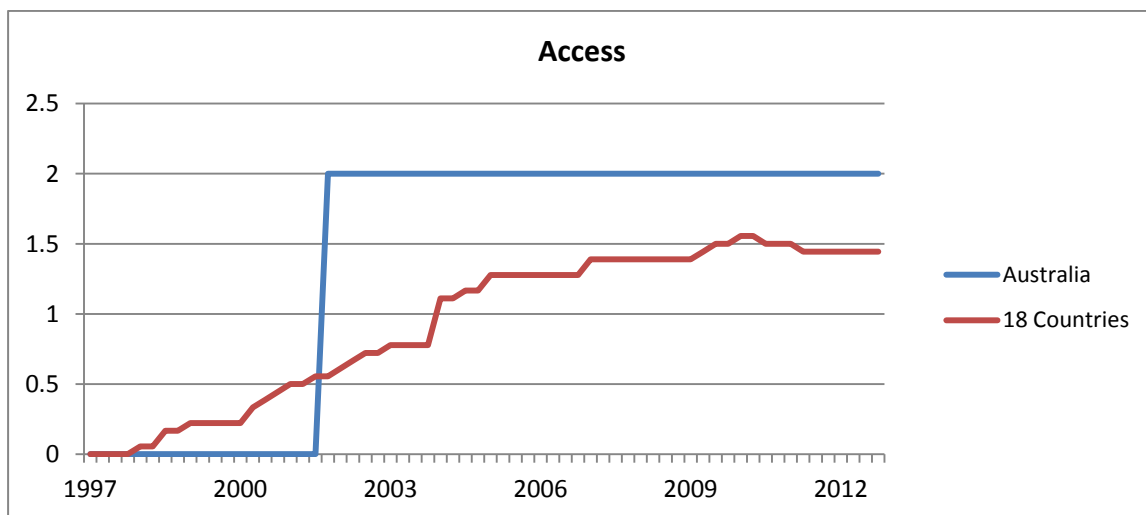
**Figure 4: Composite policy index, Australia and 18-country average**

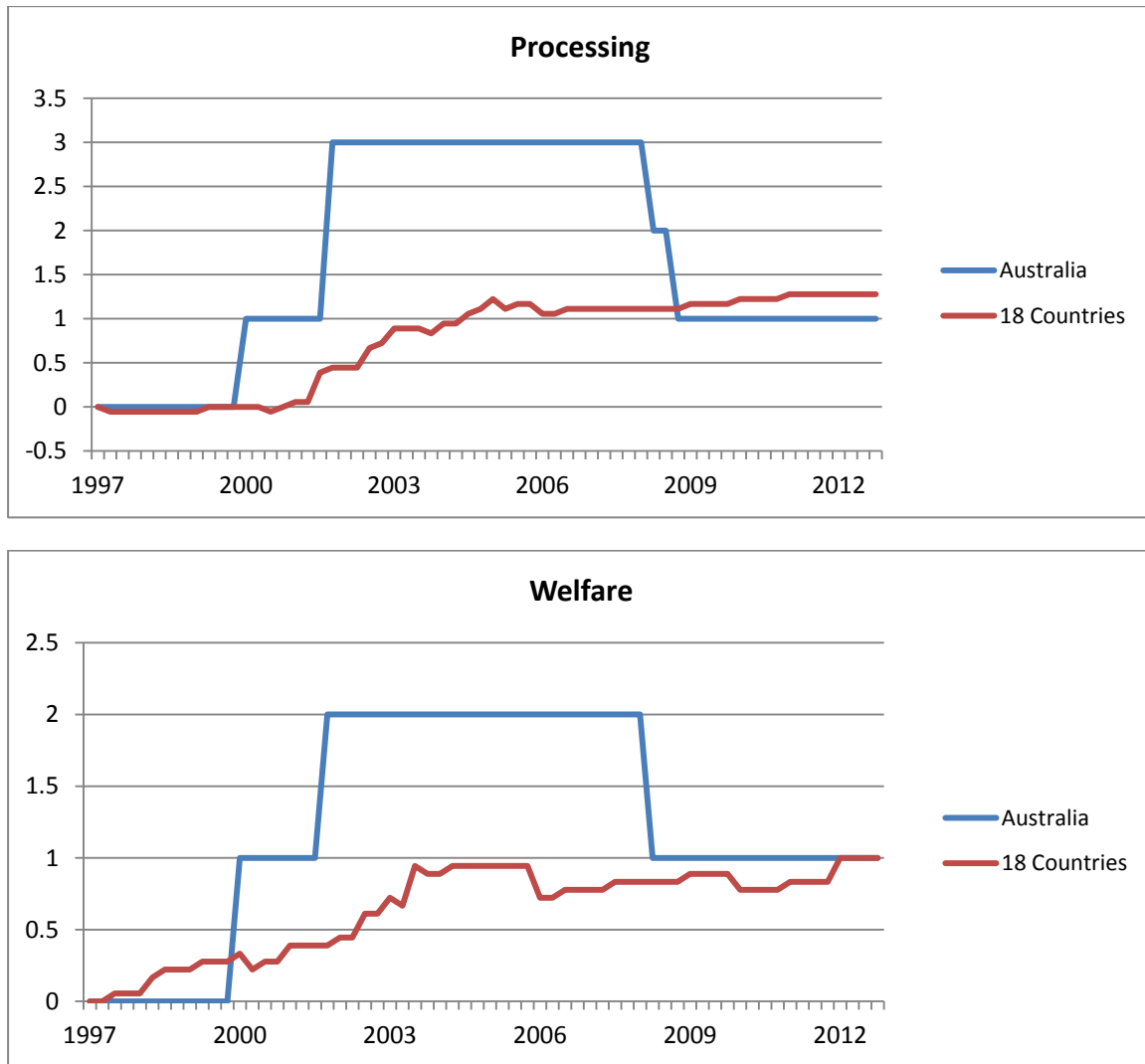


Source: Authors' calculations, details in a separate appendix.

Figure 4 shows the composite index for Australia compared with the unweighted average for the 18 other countries in the dataset. In keeping with the qualitative account of policy it shows the steep increase in policy toughness from 1999 to 2001 followed by a partial reversal in 2008-9. The average index for 18 countries shows a fairly steep increase between 2000 and 2006 followed by a levelling off. It should be stressed however that this is an average of very diverse trajectories across different countries.

**Figure 5: Three index components: Australia and 18 country average**





Source: Authors' calculations, details in a separate appendix.

Figure 5 shows the same comparison for the three main branches of policy, each comprising five components that make up the composite index. The upper panel represents policies on access to the territory. The only feature for Australia included in the index is the measures introduced late in 2001, as part of the 'Pacific Strategy'. In the 18-country average there is an intensification of border protection in the 18 countries, which levels off after 2006. In the middle panel the index for processing shows that Australian policy became much tougher and then fell back so that over the whole period the change was slightly less than the average. One reason is that, as noted above, there was a significant toughening of processing policies in a number of European countries during the mid-1990s, which is not captured in the index beginning in 1997. The lower panel shows again a dramatic toughening of Australian policy in 2001-2 followed by some decline, such that the overall change between 1997 and 2012 is about as the average for other countries.

It must be stressed that the policy index developed here is inevitably a crude representation of policy developments in Australia and overseas. It takes no account of the differences in the scope and restrictiveness of specific Australian policies in comparison with those of other countries. But the overall pattern does accord with more qualitative evaluations of policy. It suggests that policy in Australia was tightened more dramatically than elsewhere in 1999-2001 and that the subsequent loosening brought the net change over the whole period from 1997 to 2012 back to the average for the comparator countries.

**Figure 6: Refugee Recognition Rates, Australia and 18-country average**



Source: 1997 to 2000 or 2004 from UNHCR Statistical Yearbook; 2000 or 2004 onwards from UNHCR Population Statistics Reference Database.

It is worth comparing the policy indices derived here with the one that has been most widely used in previous studies, the recognition rate. This is the recognition rate for first instance applications including either full convention status or complementary protection status. These are expressed as a proportion of all decisions made in the year, excluding decisions on review or appeal and cases that were 'otherwise closed'. Figure 6 shows the recognition rate for Australia and the (unweighted) average of the other 18 countries in the dataset. For the latter the average is around one third and the time profile reveals some reduction from 1999 to 2004 followed by a return to the 1999 level of 40% in 2008, with no distinct trend subsequently. For Australia there is a much sharper reduction in the recognition rate from 2000 to 2003, and then a strong increase to 2009. If these recognition rates are considered as an inverse index of policy they confirm the impression from the processing index, shown in Figure 4, that between 2002 and 2009 Australia's policy was more restrictive relative to other countries than subsequently. However the correspondence between recognition rates and the processing policy index is low; the correlation coefficient for all countries and years is only 0.11.

## 6. ECONOMETRIC ANALYSIS OF ASYLUM APPLICATIONS BY SOURCE AND DESTINATION

We create an annual dataset of asylum applications from 48 source countries to 19 OECD destinations. The source countries are those that feature in the top 40 of asylum applications to the 18 destination countries over the period 2004-12, as listed in Table 1 (right hand panel). In addition we include any others that appear in the top 20 source countries for applications to Australia (left hand column of Table 1) over the same period (excluding Myanmar which we are forced to drop for lack of key explanatory variables). The data on the number of first instance asylum applications from each source to each destination are taken from the UNHCR's online database. These are supplemented from the annual report on *Asylum Levels and Trends in Industrialized Countries*, in order to extend the series back to 1997. The source and destination countries included in the analysis are listed in the Appendix. The particular source-destination dyads that are included for analysis are those that involve at least 300 applications over the 16 years included in our analysis, 1997-2012. This avoids cases in which there are a large number of dyad-years where the number of applications is zero. This leaves us with 626 source-destination country pairs out of a possible  $48 \times 19 = 912$ . We also lose some

observations in cases where we are unable to obtain the data for the full period, notably for the years 1997-9, so that the average number of observations per dyad is 15.4.

Apart from the policy index, explanatory variables are those that have been widely used in other studies. To capture terror and human rights abuses in source countries we use the Political Terror Scale, an index ranging from 1 (no terror) to 5 (high terror). We also use the indexes provided by Freedom House, one for civil liberties and one for political rights. These are on a scale of 1 (complete freedom) to 7 (freedom highly restricted). We also include a variable to capture the wars (usually civil wars) that are a prominent feature of many source countries. Here we use the UCDP index of battle deaths (best estimate) in thousands. For both source and destination countries we capture overall living standards with real GDP per capita from the Penn World Tables. The employment situation in destination countries is represented by the OECD harmonised unemployment rate. The sources are listed in the data appendix below.

We include a measure of the stock of immigrants from each source country living at each destination. This is the bilateral migrant stock in 2000/1 taken from the most recent version of the dataset assembled by Docquier and Marfouk (2006) and it counts only adults aged 25 and over. This is aimed at capturing the 'friends and relatives effect', that is well known in the migration literature. And in order to reflect previously established communities we use observations from near the beginning of the period of analysis. While this may reflect the assistance and encouragement of relatives, often working through family reunification systems and deepening migration corridors, it also reflects deeper fundamentals such as colonial and historic links, and language and cultural affinities. Finally, we also include the distance between the capitals of each source and destination country. The definitions and sources of data are summarised in the appendix.

Table 3 shows the results of regressions with fixed effects by source country. The dependent variable is the log of the number of applications from a source to a destination (plus one to account for zeros). The first column of Table 3 includes a dummy variable for each year but no destination country dummies. Not surprisingly the friends and relatives effect is highly significant. Given that source country fixed effects are included, this reflects differences in the migrant stock across destinations. As both the dependent variable and the migrant stock are in logs, the result implies that a ten percent increase in the stock would increase the flow of asylum applications by 2.7 percent. The effect of log distance between country capitals is negative and significant, even in the presence of the migrant stock. The result is as would be expected if the cost and difficulty of reaching a destination increases with distance, and it may also reflect the existence of alternatives nearer to the source country. Every ten percent increase in distance reduces applications by more than five percent.

**Table 3: Asylum Applications, Source and Destination Effects, 1997-2012**  
(Dependent variable: log asylum applications from source to destination)

	(1)	(2)	(3)	(4)
Political terror scale	0.214** (4.44)	0.214** (4.48)	0.221** (4.55)	0.200* (1.98)
Civil liberties (Freedom House index)	0.285** (4.81)	0.285** (4.93)	0.290** (4.76)	0.291** (4.70)
Political rights (Freedom House index)	-0.044 (1.07)	-0.044 (1.06)	-0.049 (1.18)	-0.049 (1.18)
Civil war battle deaths (000s)	0.011 (0.64)	0.012 (0.76)	0.010 (0.62)	0.010 (0.60)
Log source country real GDP per capita	-0.486** (2.19)	-0.517** (2.35)	-0.526** (2.26)	-0.524** (2.25)
Log migrant stock in 2000/1 from source at destination	0.270** (13.74)	0.226** (8.54)		
Log distance from source to destination	-0.582** (4.41)	-0.777** (4.07)		
Log destination country GDP per capita	-0.404* (1.82)	0.178 (0.35)	0.082 (0.16)	0.082 (0.16)



Unemployment rate at destination	-0.043** (3.80)	-0.025** (2.22)	-0.025** (2.29)	-0.028* (1.85)
Political terror scale * distance from source to destination				0.015 (0.26)
Unemployment rate at destination * distance				0.002 (0.19)
Fixed effects (number of FE)	Source (48)	Source (48)	Source*Dest (626)	Source*Dest (626)
Destination dummies	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes
R <sup>2</sup> Within	0.28	0.40	0.11	0.12
No of Obs.	9610	9610	9610	9610

*Note:* 'z' statistics are in parentheses; significance at 5 and 10 percent denoted by \*\* and \* respectively. Constant terms and coefficients on destination dummies and year dummies are not reported.

The coefficients on the migrant stock and distance change very little when destination dummies are added in column (2). But one effect of this is to change the coefficient on log destination GDP from negative to positive although it remains insignificant. The destination dummies are not shown but it is worth noting that, conditional on the other variables, applications to Australia are about half the average for the other 18 countries. The third column includes source-by-destination fixed effects and so the migrant stock and distance, which take only one value for each dyad, drop out. The source-by-destination fixed effects absorb all the time invariant effects for each country pair. Not surprisingly, a large share of these dyad-specific effects is captured in columns (1) and (2) by the migrant stock and distance, and this accounts for the lower R-squared in column (3). It is also reflected by the fact that there is very little change in the other coefficients between columns (1) and (3).

One of the most important source-country effects is the political terror scale, where an increase of one point on the five-point scale increases asylum applications by about 20 percent. Of the two Freedom House indexes, only that for civil liberties is significant, in contrast to some previous findings. An increase of one point on the scale (a deterioration in civil liberties) increases asylum applications by nearly thirty percent. The lack of significance of political rights may reflect the fact that this can potentially cut in both directions: political repression may increase the incentive to leave but at the same time reduce the ability to do so. War deaths provide little additional explanatory power, which may seem surprising in light of large numbers fleeing from civil wars. But these effects are accounted for by the variables that represent human rights abuses and lack of civil liberties. Interestingly the log of source country GDP per capita gives a significant negative coefficient, indicating that the richer (or the less poor) the country, the lower are asylum applications. This too could have conflicting effects as higher income increases the means to leave but reduces the incentive to do so. But the coefficient is large and it implies that a ten percent increase in source country GDP per capita reduces asylum applications by around 5 percent.

As noted, the effect of destination GDP per capita is weak but the destination unemployment rate has a negative effect, as expected. As Australia largely avoided the recession that began with the global financial crisis, this could account for the relative rise in applications from 2008. An increase in the unemployment rate in a destination country from, say, 5 to 10 percent would reduce asylum applications to that country by 12.5 percent. Although the unemployment rate rose more in other countries than in Australia from 2008 to 2010, this divergence in unemployment rates would account for at most a five percent relative increase in asylum applications to Australia.

It is possible that the effects of 'push' and 'pull' on the number of applications would be attenuated by the cost and difficulty of reaching a destination. One way to test this is to interact some of the key variables with the log of distance. For example, an eruption of human rights abuses could induce refugees to seek the nearest destination. Column (4) in Table 3 adds an interaction between the log of distance and the political terror scale. The coefficient is not negative or significant as the hypothesis

would suggest, although the main effect is weakened. A similar argument might be made for destination country effects: the more remote from the source country the weaker the ‘pull’ effects would be. But although the interaction between distance and the unemployment rate at destination country is positive, as expected, it is small and insignificant. Other interactions, not reported here, produced similarly insignificant results. It is important to enter the caveat that distance is a crude measure; it does not capture the complexities of transit by land, sea and air, nor does it account for the efficiency or ‘depth’ of different migration corridors.

### 7. THE EFFECTS OF POLICY

We add to the basic model the policy indexes discussed earlier. It should be recalled that there is no dyadic dimension to this: for a given destination, our index of policy is the same towards applicants from all source countries. The first column of Table 3 shows that the asylum policy index has a strong negative effect. This is consistent with the results of other studies, which typically found that tougher policies have deterrent effects on the flow of applications that are significantly negative but often modest in magnitude. The coefficient implies that a one point increase in the overall index reduces asylum applications by around five percent. Column (2) of Table 4 includes each of the three components of the index separately. Two of the three have strong negative effects. These are policies towards access to territory and more restrictive processing of applications. An increase of one point on one of these indices reduces asylum claims by around ten percent. By contrast the index for ‘welfare’ which is a rather heterogeneous collection of reception conditions and rights, seems to have no negative effect and perhaps a slightly positive effect. In this respect the results are consistent those reported previously in Hatton (2009).

A widely used measure of the stance of asylum policy is the recognition rate. As noted above the measure used here is the share of all first instance claims that resulted in a positive outcome, either full convention status or acceptance on humanitarian grounds. This is the overall rate for the destination country, so it is not a dyadic variable. To avoid double counting it excludes appeals and repeat applications. One of the pitfalls of using the recognition rate is that it is an outcome variable: it depends not only on policy but also on the merits of the applications considered.<sup>12</sup> In order to avoid the implied endogeneity, column (3) of Table 4 includes the recognition rate lagged one year. As this represents the refugee status determination procedure, the policy index for processing is omitted. The coefficient is only significant at the 10 percent level and it suggests a modest effect on applications--an increase of 10 percentage points in the recognition rate raises applications by 1.4 percent. When the processing index is also included, the latter remains strongly significant, suggesting that the index is a better representation of policy than the recognition rate.<sup>13</sup>

**Table 4: Asylum Applications and Policy Effects, 1997-2012**  
(Dependent variable: log asylum applications from source to destination)

	(1)	(2)	(3)	(4)
Political terror scale	0.221** (4.53)	0.221** (4.57)	0.220** (4.55)	0.159** (2.64)
Civil liberties (Freedom	0.289**	0.292**	0.290**	0.206**

<sup>12</sup> The specific point is that tougher processing rules may deter those with weaker claims, so that the effect on the recognition rate could go either way.

<sup>13</sup> Using the current year recognition rate resulted in a negative but insignificant coefficient. An attempt was made to treat the endogeneity of the recognition rate with instrumental variables, using as instruments two components of the processing policy index relating to manifestly unfounded applications and speeding up the process. This resulted in a positive but insignificant coefficient. One weakness is that that recognition rates differ widely across origin countries and so the overall rate may be a poor proxy. Although the UNHCR reports recognition rates by source and by destination country, the series do not go back far enough to be used here.

House index)	(4.74)	(4.80)	(4.80)	(2.09)
Political rights (Freedom House index)	-0.050 (1.21)	-0.049 (1.19)	-0.050 (1.20)	0.019 (0.40)
Civil war battle deaths (000s)	0.010 (0.62)	0.010 (0.64)	0.010 (0.63)	0.009** (3.21)
Log source country real GDP per capita	-0.533** (2.26)	-0.542** (2.32)	-0.540** (2.32)	-0.941** (3.87)
Log destination country GDP per capita	0.066 (0.12)	-0.122 (0.23)	-0.130 (0.25)	0.421 (0.93)
Unemployment rate at destination	-0.024** (2.14)	-0.024** (2.19)	-0.021* (1.90)	-0.024* (1.79)
Asylum policy index overall	-0.046** (4.03)			
Policy on access		-0.115** (4.12)	-0.130** (3.54)	-0.142** (4.34)
Policy on processing		-0.100** (6.45)		
Policy on welfare		0.049* (1.76)	-0.002 (0.24)	-0.011 (0.46)
Recognition rate (lagged)			0.143* (1.74)	0.099 (0.95)
Visitor visa required				-0.193 (1.63)
Fixed effects (number of FE)	Source*Dest (626)	Source*Dest (626)	Source*Dest (626)	Source*Dest (626)
Year dummies	Yes	Yes	Yes	Yes
R <sup>2</sup> Within	0.12	0.13	0.12	0.15
No of Obs	9610	9610	9610	5662

Note: 'z' statistics are in parentheses; significance at 5 and 10 percent denoted by \*\* and \* respectively. Constant terms and coefficients on year dummies are not reported.

One important issue raised in the literature is the effect of visa requirements, as noted above. The requirement for a visitor visa can be used as a screening device to reduce the number of claims from those entering the destination country from source countries that are likely to produce asylum applications. The data on visa policy is limited but Hobolth provides a dataset on visa requirements from each source country to each destination (see appendix). Unfortunately the dataset starts only in 2001 (later for some destinations) and it omits Australia, Canada and Ireland. This reduces the number of available observations by more than 40 percent. But an even greater limitation is that for 98 percent of available observations a visa is required and there are very few within-dyad changes (only 36). The result of adding the dummy variable for visa required is shown in column (4) of Table 4 and it gives a negative but insignificant coefficient. The order of magnitude—a reduction of about 20 percent when a visa is required, is rather smaller than that obtained in other studies (Hatton, 2004; Czaika and Hobolth 2013). Despite the reduced number of observations the other coefficients are mainly similar to those for the full dataset, although the number of battle deaths becomes significant.

Of course the policy effects in Table 4 are an average across all destination countries, where a one point tightening in policy could mean different things. It is worth asking if the policy effects observed here adequately capture the effects of the sharp changes in Australian asylum policies that were illustrated in Figures 4 and 5. On one hand the policy shifts in Australia were more dramatic than elsewhere and therefore might be expected to have larger effects. But on the other hand asylum seekers heading for Australia have fewer alternative destinations than those heading for Europe and as a result the deterrent effect of policies for Australia would be weaker.

**Table 5: Asylum Applications and Policy Effects, 1997-2012**  
(Dependent variable: log asylum applications from source to destination)

## Determinants of applications for asylum

	(1)	(2)	(3)	(4)
Political terror scale	0.222** (4.56)	0.222** (4.59)	0.223** (4.55)	0.222** (4.58)
Civil liberties (Freedom House index)	0.287** (4.70)	0.292** (4.75)	0.287** (4.70)	0.289** (4.76)
Political rights (Freedom House index)	-0.049 (1.18)	-0.048 (0.64)	-0.049 (0.63)	-0.049 (1.16)
Civil war battle deaths (000s)	0.010 (0.63)	0.010 (0.64)	0.010 (0.63)	0.010 (0.64)
Log source country real GDP per capita	-0.537** (2.32)	-0.545** (2.33)	-0.537** (2.27)	-0.545** (2.33)
Log destination country GDP per capita	0.020 (0.04)	-0.145 (0.28)	0.028 (0.05)	-0.141 (0.27)
Unemployment rate at destination	-0.026** (2.25)	-0.026** (2.30)	-0.026** (2.35)	-0.026** (2.35)
Asylum policy index overall	-0.039** (3.24)		-0.040** (3.54)	
Policy on access		-0.099** (2.76)		-0.100** (2.80)
Policy on processing		-0.094** (5.79)		-0.095** (5.92)
Policy on welfare		0.054* (1.88)		0.053* (1.89)
Dummy: Australia from 2002	-0.513** (3.84)	-0.457** (2.99)		
Dummy: Australia from 2008	0.384** (2.03)	0.300* (1.76)		
Policy index overall* Australia dummy			-0.075** (3.40)	
Policy on access* Australia dummy				-0.097 (0.83)
Policy on processing * Australia dummy				-0.095 (1.25)
Fixed effects (number of FE)	Source*Dest (626)	Source*Dest (626)	Source*Dest (626)	Source*Dest (626)
Year dummies	Yes	Yes	Yes	Yes
R <sup>2</sup> Within	0.12	0.13	0.13	0.13
No of Obs.	9610	9610	9610	9610

Note: 'z' statistics are in parentheses; significance at 5 and 10 percent denoted by \*\* and \* respectively. Constant terms and coefficients on year dummies are not reported.

In the first column of Table 5 we include two dummies for key periods in asylum policy, one for 2002 onwards and another for 2008 onwards. Not surprisingly the 2002 dummy is large and negative. This is on top of the average policy effect: so the restrictive policies introduced in late 2001 had larger effects than would have been expected based on the experience of other countries. The easing of policy from 2008 had the opposite effect, but its magnitude is not fully offsetting. It should be remembered, however, that our data stops in 2012 and so it does not include the surge of applications in 2013. It is worth noting, however, that these are large effects: a cut of around half in the numbers after 2001 and an increase of around a third from 2008. Column (2) of Table 5 shows that the results are similar when the three components of the policy index are entered separately although the 2008 dummy is no longer significant.

Columns (3) and (4) investigate the issue of whether these shifts reflect stronger policy effects in Australia than in other destination countries. In column (3) the overall policy index is interacted with a dummy variable for Australia. The significant negative coefficient supports the idea that Australian policies had stronger effects than the average of other countries. Column (4) adds interactions for the two most important policy components: access and processing. Here both interactions are negative

implying effects that are twice as large as the average for the other countries, but neither is significant, probably due to multicollinearity.

### 8. COUNTERFACTUAL ANALYSIS

It is worth briefly illustrating what the regression results imply for individual countries in the dataset. We first look at the effects of changes in terror and civil liberties on the number of applications from certain source countries. The method is to predict the change in applications to all destination countries over a period that is due to changes in the source country value of the political terror scale and the Freedom House index of civil liberties. The coefficients used in the prediction are from column (2) of Table 5. The predicted percentage changes in applications from 2000 to 2006 and from 2006 to 2012 are given in Table 6. The countries listed are the top 20 sources of asylum applications to Australia (listed in the left hand column of Table 1) with the addition of Syria and exception of Myanmar. However the prediction is for the change in applications to all 19 destination countries, not just Australia.

**Table 6: Predicted change in asylum applications due to political terror and civil liberties (%)**

Country	2000-6	2006-12	Country	2000-6	2006-12
China	-9.2	0.6	Egypt	31.2	-16.8
Afghanistan	43.4	10.0	Bangladesh	29.5	-8.1
India	-7.9	13.2	Lebanon	-24.3	1.2
Sri Lanka	12.9	-17.2	Zimbabwe	78.2	-9.1
Iran	12.2	1.0	Nepal	27.3	-26.6
Pakistan	12.4	26.2	Korea	-8.0	1.4
Iraq	-24.8	-19.2	Philippines	0.2	0.8
Malaysia	-14.4	3.2	Turkey	-43.6	21.0
Indonesia	-39.9	0.6	Viet Nam	-18.9	15.5
Fiji	-13.3	2.5	Syria	-23.9	112.3

*Source:* Authors' calculations, based on column (2) of Table 5.

Not surprisingly, the patterns are very different across source countries. From 2000 to 2006 the number of applications from Afghanistan is predicted to increase by 43.4 percent, and those from Zimbabwe by 78.2 percent, solely due to the rise in terror and the decrease in civil liberties. On the other hand these two variables predict substantial decreases in applications from Indonesia and Turkey. Over the period 2006 to 2012 there are again some negative and some positive predictions, notably the dramatic increase in predicted applications from Syria. As might have been expected from the regressions, these variables have large effects and often predict substantial changes in asylum applications. But the scale and timing differs widely. As a result, their effects on total applications to any given destination are to some degree offsetting and the overall impact is muted. For applications to Australia from the countries in our database the overall effects of changes in terror and civil liberties in source countries is to decrease asylum applications by 9.1 percent from 2000 to 2006 and to increase them by 6.5 percent from 2006 to 2012.

The effects of asylum policies can be assessed by applying the same method to destination countries. The predictions in Table 7 are based on changes in policy on access and policy on the processing of asylum claims. This is for applications from all the source countries used in the estimation to a given destination. For Australia, prediction (1) is based on the two policy indexes only. Based on those coefficients, the tightening of policy in the early 2000s is predicted to have reduced asylum claims by 28.7 percent between 2000 and 2006 while the easing of policy at the end of the decade increased applications by an estimated 19.4 percent. If, in addition, we include the effects of the dummy variables for 2002 onwards and 2008 onwards (prediction 2), the effects are greater than 50 percent in

both directions. It should be noted, however, that the percentage change from 2006 to 2012 is from a lower base (that of 2006) than is the change for the first period (that of 2000).

**Table 7: Predicted change in asylum applications due policy on access and processing (%)**

Country	2000-6	2006-12	Country	2000-6	2006-12
Australia (1)	-28.7	19.4	Ireland	-14.1	1.8
Australia (2)	-53.6	59.6	Italy	-11.5	2.9
Austria	-27.7	-2.0	Netherlands	-27.1	1.4
Belgium	-8.7	0.9	Norway	-9.1	-12.2
Canada	-13.5	-8.1	Poland	3.5	-4.9
Czech Rep	-5.1	1.8	Spain	-9.5	3.0
Denmark	-26.5	5.8	Sweden	33.3	4.0
France	-16.8	11.2	Switzerland	-9.0	-18.0
Germany	-1.5	0.7	UK	-43.4	-8.5
Hungary	-6.1	-0.9	US	-8.5	-11.5

Source: Authors' calculations, based on column (2) of Table 5.

There is also considerable diversity in the effects of policy in other countries. As Table 7 shows that the severe tightening of policy in the UK between 2000 and 2006 predicts a reduction in applications of 43.4 percent while the tightening in Austria, Denmark and the Netherlands predict reductions of more than 20 percent. By contrast the easing of policy in Sweden is predicted to increase applications by a third. In 2006-12 applications in France are predicted to increase by 11.2 percent while declines of more than ten percent are predicted for Norway, Switzerland and the US. But the magnitude and variation in policy effects is less than for 2000-6. For the 18 countries excluding Australia the predicted policy effect was to reduce applications overall by 11.5 percent in 2000-6 and by 2.2 percent in 2006-12.

## 9. DISCUSSION

Broadly speaking, the results presented here correspond with our expectations. As in most other studies we find that human rights abuses are the most powerful drivers of asylum applications from source countries. Among the measures of source country political and social conditions, the political terror scale has a strong positive effect while lack of civil liberties also has a positive effect. Origin country GDP per capita has a negative effect on the number of asylum claims while destination country unemployment rates also have negative effects. But the magnitudes are generally modest; differences in unemployment trends since the recession account for only a small part of the relative increase in applications to Australia. Finally, destination country policy has a negative deterrent effect, but only through access and processing policies, not through welfare policies. These policies have significant deterrent effects but they do not fully capture the impact of shifts in Australian policy after 2001 and again after 2007.

Our approach to estimating the determinants of asylum applications is now standard in the literature. The results are consistent with others in the literature, although the effects of terror and human rights abuse in source countries and policy in destination countries are particularly strong. While the results obtained here are fairly robust, they come with several caveats. One is that we model flows as depending on conditions in the source and destination countries. This does not account for the effects of conditions in third countries and particularly in transit countries. And although our approach sidesteps the heterogeneity across source and destination country pairs it may still be vulnerable to biases arising from within-pair endogeneity. Second, there is a great deal of heterogeneity in the circumstances that lead to asylum claims that cannot be captured in aggregate-level analysis. As a result we explain only a small proportion of the year-to-year variation in individual source and destinations flows. The indicators that we use to explain migration flows are measured at the country level and do not capture within-country differences in the forces that drive asylum applications, for

example between regions or ethnic groups. And third, for reasons outlined above, our policy index is inevitably a crude representation of the often subtle shifts in asylum policies.

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## DATA APPENDIX

### Countries included in the econometric analysis

<i>Destination countries</i>		
Australia	Germany	Spain
Austria	Hungary	Sweden
Belgium	Ireland	Switzerland
Canada	Italy	United Kingdom
Czech Republic	Netherlands	United States
Denmark	Norway	
France	Poland	
<i>Source countries</i>		
Afghanistan	Eritrea	Moldova
Albania	Ethiopia	Mongolia
Algeria	Fiji	Nepal
Angola	Georgia	Nigeria
Armenia	Guatemala	Pakistan
Azerbaijan	Guinea	Philippines
Bangladesh	Haiti	Russian Federation
Bosnia and Herzegovina	India	Serbia <sup>1</sup>
Cameroon	Indonesia	Somalia
China	Iran (Islamic Republic of)	Sri Lanka
Colombia	Iraq	Sudan
Congo	Korea	Syrian Arab Republic
Côte d'Ivoire	Lebanon	Turkey
Democratic Republic of Congo	Malaysia	Ukraine
Egypt	Mauritania	Viet Nam
El Salvador	Mexico	Zimbabwe

<sup>1</sup>Serbia includes Montenegro, Kosovo and Macedonia. Sudan includes South Sudan.

### Data sources

#### *Bilateral variables:*

*Asylum applications:* First instance asylum applications are taken from the UNHCR's Statistical Online Population Database at: <http://www.unhcr.org/pages/4a013eb06.html>; supplemented for earlier years from the UNHCR's annual report on *Asylum Levels and Trends in Industrialized Countries*.

*Immigrant stock:* The number of immigrants aged 25 or over from each source at each destination in 2000/1 are taken from version 2 of the database at the website of Frederic Docquier: <http://perso.uclouvain.be/frederic.docquier/oxlight.htm>.

*Distance:* Great circle distance between capital cities (in km) from the website of Kristian Skrede Gleditsch: at: <http://privatewww.essex.ac.uk/~ksg/data-5.html>.

*Visa requirements:* Taken from the European visa requirements database of Mogens Hobolth at: <http://www.mogenshobolth.dk/evd/exploreVisaRequirements.aspx>.

#### *Destination country variables*

*Real GDP per capita:* Taken from OECD at: <http://stats.oecd.org/>.

*Unemployment rate:* OECD harmonised unemployment rate (all persons) from: <http://stats.oecd.org/>.

### **Source country variables**

*Political terror scale:* Taken from the website of Mark Gibney at: <http://www.politicalterrorsscale.org/>. The variable used is the average of the values derived from the reports of US State Department and Amnesty International.

*Battle deaths:* The number of battle-related deaths in conflicts from the UCDP Battle-related Deaths Dataset V5, at: [http://www.pcr.uu.se/research/ucdp/datasets/ucdp\\_battle-related\\_deaths\\_dataset/](http://www.pcr.uu.se/research/ucdp/datasets/ucdp_battle-related_deaths_dataset/). The figure used is either the 'best estimate' or the average of high and low figures.

Freedom House indices: Indices for political rights and civil liberties from: <http://www.freedomhouse.org/report-types/freedom-world#.UyXqYYVJtMI>.

*Real GDP per capita:* Taken from version 7.1 of the Penn world Tables (rgdpch) at: [https://pwt.sas.upenn.edu/php\\_site/pwt71/pwt71\\_form.php](https://pwt.sas.upenn.edu/php_site/pwt71/pwt71_form.php) (chosen in preference to PWT V8 because of the country coverage. Data for the year 2011-12 and other missing values from the IMF at: <http://www.imf.org/external/data.htm>).