

ARBEIDSNOTAT

No. 01/26

NICOLA DANIELE CONIGLIO &
RUNE JANSEN HAGEN

Optimal Assisted Return Policies Are
Dynamically Inconsistent



Institutt for økonomi
UNIVERSITETET I BERGEN

Optimal Assisted Return Policies Are Dynamically Inconsistent

Nicola Daniele Coniglio¹ and Rune Jansen Hagen²

Abstract

The number of individuals worldwide seeking asylum is steadily increasing. A significant share of asylum applications is rejected, resulting in millions of failed asylum seekers each year. Assisted return policies, a cost-effective alternative to forced repatriation, play a crucial role in addressing this issue. This paper presents a theoretical model analysing governments' optimal choice with respect to the generosity of these schemes. We show that ignoring the long-term effects of assistance on the attractiveness of the host country leads to support levels that are more generous than the dynamically consistent policy.

Keywords: asylum seekers; assisted return; dynamic consistency; migration policy

JEL Codes: J15, J61, J68, F22

1. Introduction

Every year millions of individuals cross borders seeking international protection. In 2022 alone the total was on the order of 5.4 million according to the International Organization for Migration (IOM) (McAuliffe and Oucho 2024). Asylum seekers increasingly face restrictive migration policies and asylum regulations in destination countries. Consequently, a large number of asylum applications are rejected each year. In OECD countries, for example, the average rejection rate for asylum claims was 45.8% during the period 2000–2017 (UNHCR 2024).

Assisted Voluntary Return and Repatriation (AVRR) programmes aim to facilitate the timely and humane return of individuals without a legal right to stay in the host country, with failed asylum seekers being the main target group. They are used extensively worldwide, involving more than 50,000 individuals in 2022 (IOM 2023).³ The rationale of AVRR is that hosting these individuals - particularly in reception centres – entails significant costs, and forced removals are very expensive too. Hence, it could be cost-effective to fund return migration. While all AVRR schemes have this feature, some also include a personal foreign aid component aimed at easing the reintegration of migrants in their country of origin.

In this paper, we show that AVRR programmes are time-inconsistent migration policy tools. As pointed out by Kydland and Prescott (1977), dynamic inconsistency is an ever-present

¹ University of Bari Aldo Moro, Bari, Italy. e-mail: nicoladaniele.coniglio@uniba.it. ORCID: 0000-0001-6488-4122.

² Corresponding author, University of Bergen, Bergen, Norway. E-mail: rune.hagen@uib.no. ORCID: 0000-0001-5771-5531.

³ The IOM is the main partner of governments implementing AVRR schemes, working with 135 host countries and 154 origin countries in 2022.

problem in policymaking. In monetary policy, this has induced many countries to give central banks greater independence. The famous declaration of "Read my lips: no new taxes" by George H. W. Bush has epitomised the importance of the problem with respect to tax policy, as he was unable to deliver on his promise during his presidency. In immigration policy, there are many examples of governments stating that an amnesty for illegal migrants is a one-time measure, yet this has not prevented future repetitions. For example, Italy enacted seven amnesties between 1986 and 2012, prompting Fasani (2018, 892) to note that "General amnesties have been a constant feature of the Italian migration policy."

The payments offered to failed asylum seekers through AVRR schemes can be substantial, and it is intuitive that more individuals will be induced to return if such payments are introduced or increased. However, this could have an additional effect, which is to make the host country more attractive as a destination. Given the very high number of rejections, seeking asylum is a risky enterprise - a lottery - and AVRR thus might serve as a form of insurance against the consequences of a failed application. Moreover, opportunistic individuals without a real need for protection might migrate just to collect the associated payments. This has been a longstanding worry of host country governments (Noll 1999).

We demonstrate theoretically that the presence of what we call the Boomerang Effect, i.e., that introducing or increasing return and reintegration payments attracts more asylum applications, renders AVRR policy dynamically inconsistent. At any point in time, more individuals lacking the right to stay will indeed be induced to go home voluntarily if the level of assistance is raised. However, it also implies that there will be more arrivals, making the net impact on the number of such individuals residing in the host country an empirical question. What can be shown, however, is that the policy would optimally have been less generous if the government could have committed to any given level of support from the outset.

This paper relates to earlier studies that focus on unintended consequences of immigration policies. For instance, Stark and Byra (2020) show in a two-period model that intensifying deportation efforts might "backfire". By affecting the probability of being forcibly returned in period two, the government might inadvertently induce an increase in the labour supply of illegal migrants in the first period that outweighs the labour-reducing effect of deportation. The work by Vinogradova (2016) also focuses on unintended effects of deportation on the return choices of illegal stayers. In a life-cycle model with a stochastic risk of deportation, when the government increases its effort to deport resident illegal migrants the added uncertainty translates into a reduction in the optimal duration of migration and voluntary return. We add to these studies in two ways. Firstly, by explicitly looking at the dynamic inconsistency of policies. Secondly, by investigating a different set of immigration policy tools, AVRR schemes. Despite their growing relevance due to the rising numbers of failed asylum seekers, such schemes have so far largely been ignored in the literature.

In the next section, we set up the model and formally demonstrate the Boomerang Effect. In Section 3, we prove the claim that this effect results in the optimal AVRR policy being time-inconsistent. We discuss potential policy implications in the conclusion.

2. The Model

2.1. Resource constraints and preferences

We consider a two-period world where there is just one potential origin country and one possible destination. A number of push and pull factors feed into actual migration decisions, but in order to focus squarely on the mechanism of interest here we abstract from some of these (e.g., the diaspora) and portray the others (e.g., income at home and in the host country) in a highly stylised fashion.⁴ Specifically, income in the origin country, X , is assumed to be time-invariant and consumed in its entirety whereas income in the destination depends on an individual's "status" in a way that will be elucidated shortly. In other words, we assume away any need to save before leaving to cover the up-front part of migration costs (as in e.g., Djajic et al. 2016) and ignore heterogeneity in wealth among potential migrants that could prevent some of them from realising their aspirations (as in e.g., Marchal and Naiditch 2020).

We summarise other push and pull factors by adding an individual-specific shock, π_{it} . As only the relative attraction of the two locations matters, it is sufficient that it affects utility solely when someone is residing in one of them. For analytical convenience we choose this to be the origin country. π_{it} is assumed to be a zero-mean iid shock distributed on the interval $[\underline{\pi}, \bar{\pi}]$, drawn at the beginning of each period before any decisions are made. Examples of shocks of this nature could be political developments like an increase in the likelihood of conflict or policy reforms due to a change of government. Individuals can be differentially affected by such shocks depending on their location within the home country, their occupation, or their family status and the consequences of such shocks could be avoided through migration.

Note that as π_{it} can be both positive as well as negative it can represent both push and pull factors. For example, a negative shock in period 1 pushes potential asylum seekers out, other things being equal, whereas a positive shock in period 2 would tend to pull them back. The shock is assumed to affect the utility (H)omestayers get from material consumption in period t in an additive fashion:⁵

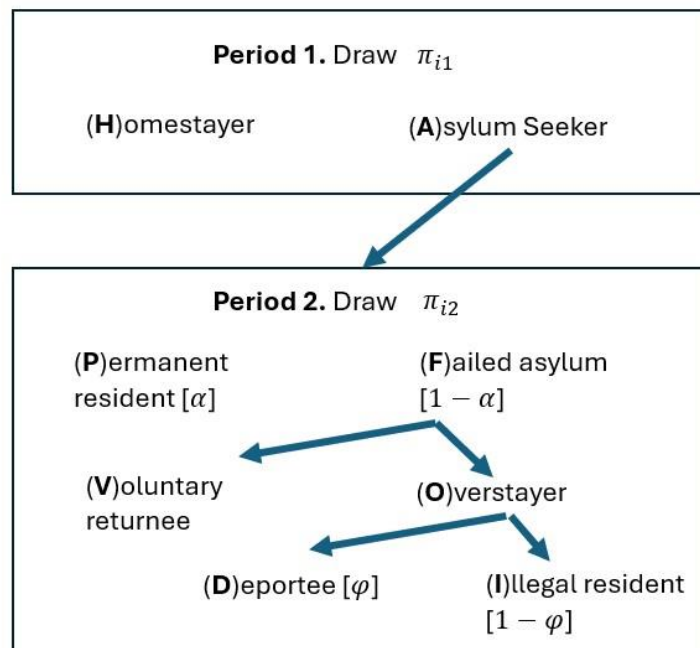
⁴ We also abstract from the fact that migration often takes time, and so migrants might change their intended destination if they receive news affecting its relative attractiveness. Bertoli et al. (2022) analyse how migration policies influence migrants in transit. Brekke et al. (2017) find both a "deflection effect", whereby stricter policies in one potential destination country shift the flow of asylum seekers to others, and a change in total outflows from source countries. Thus, analysing the impact of policy choice on the latter, as we in effect do, is empirically relevant.

⁵ The subutility function $u(C_t^H)$ is assumed to be strictly increasing and strictly concave.

$$U_{it}^H = \pi_{it} + u(X). \quad (1)$$

An individual electing to stay at home in period 1 will also do so in period 2. The only alternative status in period 1 is to become an (A)sylum seeker, which implies an income of Y^A that could include labour income in both the host and the home country as well as any post-arrival assistance from the government of the former.⁶ Out-of-pocket migration costs k are financed by this income.

Figure 1. Structure of the model and timing.



Note: exogenous parameters in square brackets

Migrating to seek asylum gives rise to a set of possible statuses in period 2. If the application for asylum is accepted, which happens with the exogenous probability α , the individual becomes a (P)ermanent resident of the host country with an associated income Y^P . With the complementary probability $1 - \alpha$ he ends up as a (F)ailed asylum seeker, who has the option of becoming a (V)oluntary returnee. This implies departure from the host country at the beginning of period 2, with travel and reintegration support R augmenting the income X available when the migrant is reestablished in the origin country. If he refrains from exercising this option, he becomes an (O)verstayer and faces a new lottery where he ends up as a (D)eportee with probability φ and as an (I)llegal migrant with probability $1 - \varphi$. These outcomes have associated incomes in the host country of Y^D and Y^I , respectively, as we assume deportation takes place at the end of the period. This timing captures the essence of AVRR programmes in a two-period setting: the threat of forced removal only materialises if

⁶ As noted by Dustmann et al. (2017), all EU countries restrict formal labour market access for asylum seekers. For many of these, government transfers in cash or kind are thus the most important source of income.

you do not avail yourself of the monetary and logistical support offered.⁷ For deportees, the period 2 shock is thus irrelevant, whereas it influences the utility of those who elect to return voluntarily. Figure 1 summarises the structure of our model.

2.2. The return decision

The expected utility from overstaying in period 2 is

$$E[U_2^O] = \varphi u(Y^D) + (1 - \varphi)u(Y^I). \quad (2)$$

Opting for voluntary return instead results in a utility of

$$U_{i2}^V = \pi_{i2} + u(X + R). \quad (3)$$

The latter is better than the former when

$$\pi_{i2} > E[U_2^O] - u(X + R) \equiv \hat{\pi}_2(R). \quad (4)$$

Observe that the critical value defined on the right-hand side of (4) is not individual-specific. All individuals therefore in expectation face identical prospects in period 2. We denote the distribution function of the shock as $P(z)$ and assume that $p(z) \equiv P'(z) > 0$ for all possible values. The ex-ante probability that an individual will choose assisted return is hence $1 - P(\hat{\pi}_2(R))$. It is of course increasing in the level of support:

$$\frac{\partial [1 - P(\hat{\pi}_2(R))]}{\partial R} = -p(\hat{\pi}_2(R)) \frac{\partial \hat{\pi}_2(R)}{\partial R} = p(\hat{\pi}_2(R)) u'(X + R) > 0. \quad (5)$$

The twin assumptions of strictly positive marginal probabilities and marginal utility of consumption jointly make sure that the result conforms with intuition.

We can now describe the expected utility of someone whose asylum application has failed from the perspective of period 1:

$$E[U_2^F] = \int_{\underline{\pi}}^{\hat{\pi}_2} E[U_2^O] p(z) dz + \int_{\hat{\pi}_2}^{\bar{\pi}} U_{i2}^V(z) p(z) dz. \quad (6)$$

The first term in (6) is the expected utility from overstaying and the second is the expected utility from choosing assisted return. As the latter is an increasing function of R (c.f. 3), so is the whole expression:

⁷ In some countries (e.g., Norway), you can apply for return assistance before your asylum application has been decided. It is analytically convenient to ignore this possibility here, but such rules support our timing assumption.

$$\begin{aligned}\frac{\partial E[U_2^F]}{\partial R} &= p(\hat{\pi}_2) \frac{\partial \hat{\pi}_2}{\partial R} [E[U_2^O] - U_{i2}^V(\hat{\pi}_2)] + [1 - P(\hat{\pi}_2)]u'(X + R) \\ &= [1 - P(\hat{\pi}_2)]u'(X + R) > 0.\end{aligned}\quad (7)$$

The second line follows from the definition of the critical value of the shock. At that point, the individual is indifferent between returning home with AVRR and overstaying his deadline for leaving the host country. Thus, a marginal increase in assistance makes return a more attractive proposition by raising consumption in all infra-marginal states where the individual will go home. The change in the probability of returning does not matter at the margin.

2.3. The migration decision

Given the recognition rate α , the expected period 2 utility of an asylum seeker is a probability-weighted average of the utility flowing from being granted permanent residence in the host country and the utility that can be expected if the application is turned down:

$$E[U_2^A] = \alpha U_2^P + (1 - \alpha)E[U_2^F]. \quad (8)$$

Since the second term is increasing in R (c.f. (7)), more financial support for voluntary returnees raises the expected period 2 utility of an asylum seeker. In effect, it insures him by improving the expected outcome if his application for asylum fails.

The insurance provided by the assisted return scheme naturally makes it more attractive to seek asylum in the first place, as the total expected utility is:

$$W^A = U_1^A + \delta E[U_2^A], \quad (9)$$

where $U_1^A = u(Y^A - k)$ and $\delta \in (0,1]$ is the discount factor.

In period 1, an individual compares W^A to the corresponding stream of utility from staying home, which is:

$$W_i^H = U_{i1}^H + \delta E[U_{i2}^H] = \pi_{i1} + (1 + \delta)u(X). \quad (10)$$

We assume that the migration decision is taken after the draw of the first-period shock, but that the consequences of the shock are avoided if an individual leaves the origin country. A comparison of (9) and (10) reveals that naturally a prospective migrant will only enter the asylum lottery if conditions at home are sufficiently adverse:

$$\pi_{i1} \leq W^A - (1 + \delta)u(X) \equiv \hat{\pi}_1(R). \quad (11)$$

By (7), (8), and (9),

$$\frac{\partial \hat{\pi}_1(R)}{\partial R} = \frac{\partial W^A}{\partial R} = \delta \frac{\partial E[U_2^A]}{\partial R} = \delta(1 - \alpha) \frac{\partial E[U_2^F]}{\partial R} = \delta(1 - \alpha)[1 - P(\hat{\pi}_2)]u'(X + R) > 0. \quad (12)$$

As the probability of migrating is $P(\hat{\pi}_1)$, we thus have

$$\frac{\partial P(\hat{\pi}_1)}{\partial R} = p(\hat{\pi}_1) \frac{\partial \hat{\pi}_1(R)}{\partial R} > 0. \quad (13)$$

The sign follows from (7) and the assumption that the distribution of the shock is assumed to be non-degenerate everywhere. Hence, an increase in the return assistance available if an individual chooses to go home voluntarily in period 2 following a negative decision on his or her asylum application will raise the likelihood of leaving in the first period.

There is an additional assumption underlying (13), namely that $\alpha < 1$. If an individual is granted asylum with certainty, the decision on voluntary return is irrelevant and so is the size of the support offered to those who opt for this solution. However, recognition rates are generally well below 1, c.f. Hatton (2023). Moreover, note that the sign is positive even if $\alpha = 0$. This means that individuals with baseless claims for asylum will see a higher R as a stronger inducement to come as they are solely motivated by the prospect of receiving the payment. In the model, we cannot distinguish the insurance motive from this type of opportunism as by assumption everybody faces the same possibility of being recognised and the probability of migrating is not individual-specific. But the result obviously generalises to the case of multiple sending countries. Very high recognition rates would mean that neither the insurance motive nor opportunism has much bite, whereas very low rates imply that the latter dominates.

2.4. Optimal policy in period 2

Given the above results, we can deduce that the number of migrants can be expected to be $NP(\hat{\pi}_1)$, where N is the size of the source country population. A share α of these will become permanent residents of the host country. The rest will split into two groups in period 2, with a share $P(\hat{\pi}_2)$ choosing not to return home. The ex-ante expected number of individuals selecting assisted return is hence $NP(\hat{\pi}_1)(1 - \alpha)[1 - P(\hat{\pi}_2)]$. We label this number N^R .

What is the relationship between N^R and the level of assistance R ? From (5) and (13), we have:

$$\frac{\partial N^R}{\partial R} = N(1 - \alpha) \left\{ p(\hat{\pi}_1) \frac{\partial \hat{\pi}_1}{\partial R} [1 - P(\hat{\pi}_2)] - P(\hat{\pi}_1) p(\hat{\pi}_2) \frac{\partial \hat{\pi}_2}{\partial R} \right\} > 0. \quad (14)$$

The second term in curly brackets is the intuitive effect that policymakers expect to see. If an assisted return programme is made more generous, more individuals already present in the host country will choose to go home. However, the first term shows us that there is another consequence of paying returnees more: they will constitute a larger pool to begin with as migrating to seek asylum becomes more attractive relative to staying in the source country. We label this the Boomerang Effect of assisted return.

Now suppose the government of the host country would like to minimise the number of failed asylum seekers staying illegally because they have not observed their deadline for leaving by choosing R optimally, subject to the cost of the AVRR programme.⁸ Even if the net economic effects might be positive, as argued by Chassamboulli and Peri (2015) and Chassamboulli and Liu (2024), governments are generally hostile to illegal migration. There are several reasons why policies are often restrictive (Chiswick 2005).⁹ In this domain, political, social, and economic factors are deeply intertwined. Illegal migrants may generate gains for some segments of the population – e.g., employers - and negatively impact others – e.g., workers with similar level of skills or individual hostile to social and cultural changes. Governments might weigh the welfare of these different groups unequally and choose restrictions on illegal immigration accordingly.

There is also an economic rationale for shortening the stay of failed asylum applicants. Overstayers usually receive some income support and are entitled to some welfare benefits, generating a fiscal cost. Furthermore, assisted return is an alternative to forced return, which is very costly. For example, in the Canadian pilot scheme of 2012-2014 the average cost per removal, including reintegration support, was assessed at CAD 2,969 (Canada Border Services Agency 2014). This was only 29% of an escorted removal. Estimates from the European Parliamentary Research Service indicate that in the European Union, forced return costs EUR 3,414 per individual, while the cost per voluntary return is only EUR 560 (Van Ballegooij and Navarra 2018). Hence, expenses for involuntary returns can be a multiple of those for AVRR as there will be additional costs such as those incurred when detaining returnees, renting designated planes, and paying police officers for overtime and foreign travel. Deportations are often controversial as well, generating political costs for the government.¹⁰

A further consideration is the practical difficulty of screening applicants for assisted return. Some would probably have returned voluntarily on their own account.¹¹ However, the host country government cannot distinguish these from those that require a financial inducement

⁸ Of course, many illegal migrants lack the legal right to reside from day one. Others become illegals during their stay by remaining when their visa expires. In some countries, assisted return is a possibility for these groups too. In the context of the model, however, being illegally in the host country means overstaying the deadline for leaving after having had a negative decision on your asylum application, and in fact most individuals in voluntary assisted return programmes in Europe belong to this category.

⁹ In a world without economic distortions, the optimal immigration policy would be to have open borders and no restrictions on unauthorised immigration inflows. However, since the seminal paper by Ethier (1986), several studies have shown that in the presence of market distortions, restrictions on illegal migration could be welfare-maximising (see e.g., Hanson 2006).

¹⁰ Humanitarian concerns might strengthen the preference for voluntary over forced return. The current Return directive of the EU, for example, obliges Member States to grant returnees a period for voluntary departure ranging from seven to 30 days. Of course, this need not involve either practical assistance or financial support from the host country government since return might be organised and financed by the returnees themselves.

¹¹ Cf. Méango and Poinas (2023), who find that in a sample of Afghan migrants residing in three German cities, there are individuals who have a negative expected benefit from overstaying, as well as individuals with large positive gains in expectation.

in order not to overstay. In fact, we are not aware of any screening process of this type associated with actual assisted return schemes.¹²

The objective function of the host country government is thus assumed to be

$$G = -N^O - \mu N^R R = -NP(\hat{\pi}_1)(1 - \alpha)\{P(\hat{\pi}_2) + [1 - P(\hat{\pi}_2)]\mu R\} \quad (15)$$

The first term is simply (minus) the number of persons overstaying, N^O , which is a share $P(\hat{\pi}_2)$ of those not being granted asylum $NP(\hat{\pi}_1)(1 - \alpha)$. The second term is the social cost of the return scheme. As assisted return programmes are miniscule compared to the size of the public sectors of host countries, it is a defensible simplification to take the marginal cost of public funds to be constant. We also assume that the above-mentioned costs of illegal migrants are constant at the margin. In (15), μ thus represents the relative marginal social cost of returnees compared to overstayers. And due to the lack of screening, this cost applies to all returnees ($NP(\hat{\pi}_1)(1 - \alpha)[1 - P(\hat{\pi}_2)]$), not only those who would not return unless they are financially incentivised to do so.

We start by assuming that the government chooses R to maximise G in period 2, prior to rejected asylum seekers making their return decision. It is then obviously not possible to affect the number of people that arrived in period 1. Hence, the first-order condition is

$$\frac{\partial G}{\partial R} = -N(1 - \alpha)P(\hat{\pi}_1) \left\{ p(\hat{\pi}_2) \frac{\partial \hat{\pi}_2}{\partial R} (1 - \mu R) + [1 - P(\hat{\pi}_2)]\mu \right\} = 0. \quad (16)$$

The first term in (16) - $-N(1 - \alpha)P(\hat{\pi}_1)p(\hat{\pi}_2) \frac{\partial \hat{\pi}_2}{\partial R} (1 - \mu R)$ when written in full - is the social benefit from shifting individuals from the category "overstayer" to the category "voluntary returnee." The second term - $-N(1 - \alpha)P(\hat{\pi}_1)[1 - P(\hat{\pi}_2)]\mu$ in full - is the pure cost effect of the return programme, which becomes more expensive the higher the level of assistance per returnee.

The first term is positive if $1 - \mu R > 0$.¹³ This obviously holds for very small R and, in particular, at $R = 0$. Still, the gain must be balanced against the cost of the programme. No programme could therefore be optimal if $1 - P(\hat{\pi}_2(0))$ is large. That is, if the share of returnees that would ideally return on their own account even in the absence of a scheme is substantial, incurring the cost associated with operating it might not be worthwhile for the host country government. Of course, these individuals might not have the means to return, but travel support would then suffice to ensure voluntary return.

¹² Sometimes, country-specific schemes are implemented by host countries. For example, Norway has had major programmes for Afghans, Iraqis, and Ethiopians, as well as minor ones for return to Burundi, Somaliland, and Mogadishu. Most of these were likely established to deal with a large existing stock of migrants from these countries or regions, and none had assistance based on individual characteristics beyond nationality.

¹³ By (4), $\frac{\partial \hat{\pi}_2}{\partial R} < 0$. Hence, $1 - \mu R > 0$ is both necessary and sufficient for the first term to be positive.

In line with what we observe - for example, all countries in the European Economic Area have some kind of return scheme - we assume that equation (16) has an interior solution that we label R^{**} . This is the discretionary return policy, i.e., the optimal policy from the perspective of period 2.

3. The optimal time-consistent policy

Does R^{**} differ from what would be optimal if the government could commit to a policy set before individuals make their migration decision, i.e., at the beginning of period 1? Clearly, in that case, the decision could be influenced, adding another term to the first-order condition:

$$\frac{\partial G}{\partial R} = -N(1 - \alpha) \left\{ p(\hat{\pi}_1) \frac{\partial \hat{\pi}_1}{\partial R} \{P(\hat{\pi}_2) + [1 - P(\hat{\pi}_2)]\mu R\} + P(\hat{\pi}_1) \left\{ p(\hat{\pi}_2) \frac{\partial \hat{\pi}_2}{\partial R} (1 - \mu R) + [1 - P(\hat{\pi}_2)]\mu \right\} \right\} = 0 \quad (17)$$

A major component of the new term in (17) compared to (16) is the Boomerang Effect. More generous support will induce more migration as the expected consequences of not winning in the asylum lottery become less adverse. Intuitively, this should lower the optimal level of assistance. By (12), the first-period critical value of the shock is increasing in R , in a sense adding to the marginal cost of the programme. This leads to the following conclusion:

Proposition: The commitment policy R^* is smaller than R^{**} .

To show that this is indeed the case, we simplify slightly by assuming that the shock is uniformly distributed.¹⁴ Then $p(\hat{\pi}_1) = p(\hat{\pi}_2) = p$. Start by noting that it follows from (4) and (12) that

$$\frac{\partial \hat{\pi}_1}{\partial R} = -\delta(1 - \alpha)[1 - P(\hat{\pi}_2)] \frac{\partial \hat{\pi}_2}{\partial R}. \quad (18)$$

Using this result, we can rewrite (16) and (17) as follows

$$-\frac{\partial \hat{\pi}_2}{\partial R} = \frac{[1 - P(\hat{\pi}_2)]\mu}{p(1 - \mu R)} \equiv \gamma^{**}. \quad (16')$$

$$-\frac{\partial \hat{\pi}_2}{\partial R} = \frac{P(\hat{\pi}_1)[1 - P(\hat{\pi}_2)]\mu}{p\{P(\hat{\pi}_1)(1 - \mu R) - \delta(1 - \alpha)[1 - P(\hat{\pi}_2)][P(\hat{\pi}_2) + [1 - P(\hat{\pi}_2)]\mu R\}} \equiv \gamma^*. \quad (17')$$

¹⁴ In this way, we get rid of the second-order effects working through changes in the marginal probabilities. The signs of these not only depend on the properties of the distribution of the shocks, but also on the parameters, variables, and functions determining the critical values of the shocks. They are thus difficult to sign, but their impact should in any case be negligible.

A simple comparison reveals that for the same value of R , $\gamma^* > \gamma^{**}$. By (4), the left-hand side of these two equations is simply $u'(X + R)$, which is monotonically decreasing in R . It follows that $R^* < R^{**}$.

In many ways, this is a standard problem of the dynamic inconsistency of policy. In a discretionary choice process, policymakers are forced to respond to the actions of private agents instead of using policy to influence them. Here, policymakers will choose return assistance that is too generous, as they only take into account that a greater share of the failed asylum seekers already in the host country will leave if they are paid more to do so. They cannot adjust to the fact that this will induce more asylum seekers to try their luck in the first place. This implies that they will be hit by a Boomerang Effect that is larger than the one arising if they could commit to a rule for the level of assistance that is to be provided.

4. Conclusion

In a world characterised by growing conflicts and strong economic and non-economic drivers of cross-border migration – such as those induced by climate change – we should expect a growing number of individuals seeking refugee status and asylum, especially as legal pathways for international migrants become more restricted. A significant share of asylum applications is, and will realistically continue to be, rejected, resulting in millions of failed asylum seekers each year. Assisted return policies are one way of dealing with the mass of individuals that have no legal right to stay in destination countries. While these schemes are more cost-effective and less degrading compared to the alternative of forced repatriation, they suffer from a potential time-inconsistency. They act as an insurance mechanism for prospective applicants and might induce opportunistic behaviour, leading to an increase in arrivals that we label the Boomerang Effect.

In this paper, we show theoretically that this unintended consequence forms the basis of a dynamic inconsistency problem that tempts host country governments to choose levels of support in their AVRR programmes that exceed what is time-consistent. An implication is that these programmes are less effective than they appear to be if judged by the uptake. In particular, they are less cost-effective than they could have been.

The standard theoretical remedy for dynamic inconsistency is to delegate responsibility for policymaking to an agent with different incentives. In the case of monetary policy, this has meant delegation to relatively independent central banks, which are given mandates that typically involve the pursuit of low and stable inflation.¹⁵ Similarly, Persson and Tabellini (1994) argue that in representative democracies voters can elect an agent – a prime minister or president – with redistributive preferences that limit the time-inconsistency problem of tax

¹⁵ For a survey of the evolution of central bank independence in recent decades, see Romelli (2022). The most famous example is probably the Reserve Bank of New Zealand Act of 1989. Walsh (1995) discusses whether this was indeed an optimal contract for a central bank.

policy. When it comes to immigration policy, rules and restrictions abound too. However, they mostly apply to the rights of migrants and obligations of states. It is thus not clear that these legal constraints make a difference with respect to the policy problem we analyse.

An alternative to domestic delegation as a commitment device is international cooperation (Dreher and Voigt 2011). A classic example is signing up for an IMF programme to gain credibility (Gehring and Lang 2020). It has also been argued that obtaining the seal of approval from the EU can induce beneficial capital market reactions (Gray 2009). Could international cooperation work for AVRR? On the one hand, there is a positive externality for other potential destinations as more asylum seekers select the one with a more generous voluntary return scheme. On the other hand, to the extent that the time-inconsistent policy attracts more asylum seekers, there will be more illegal migrants who are not returned because they escape the authorities before they can be deported. These could then move on to nearby destinations at some point. For such a group of host countries, it is thus conceivable that a common policy will improve matters. This seems to be the current thinking of the EU. In the newly proposed strategy on voluntary return and reintegration, the European Commission (2021) states that “The aim of this strategy is to develop a more uniform and coordinated approach among Member States to unlock the full potential of voluntary return and reintegration” (p. 2). The downside to any uniform strategy for a heterogeneous group is, of course, that it is unlikely to be optimal for any of them as they differ in terms of the volume and types of migrants they attract as well as their capacity for implementation.¹⁶ Tracking the performance of the system post-reform and comparing it to pre-reform outcomes in the host countries involved could thus be an interesting exercise that can shed light on whether the pros outweigh the cons in this particular case. The lessons learned might also be valuable for countries operating their own programmes.

Funding statement

Neither author has received funding for the research reported here.

References

Bernheim, B. Douglas, and Michael D. Whinston. 1986. “Common agency.” *Econometrica* 54 (4): 923-942. <https://doi.org/10.2307/1912844>

Bertoli, Simone, Herbert Brücker, and Jesús Fernández-Huerta Moraga. 2022. “Do applications respond to changes in asylum policies in European countries?” *Regional Science and Urban Economics* 93: 103771. <https://doi.org/10.1016/j.regsciurbeco.2022.103771>

¹⁶ Moreover, if the EU Commission is viewed as an agent of the signatories of the Schengen agreement, the theory of common agency (Bernheim and Whinston 1986) would have us predict that the principals will free-ride on each other’s efforts to incentivise the agent. The resulting policy will thus not be the best possible one from their perspective. Political economy factors might also render certain forms of cooperation suboptimal, as shown by Facchini et al. (2006) in the context of quotas for asylum seekers.

Brekke, Jan-Paul, Marianne Røed, and Pål Schøne. 2017. "Reduction or deflection? The effect of asylum policy on interconnected asylum flows." *Migration Studies* 5 (1): 65–96. <https://doi.org/10.1093/migration/mnw028>

Canada Border Services Agency. 2014. Evaluation of the assisted return and reintegration pilot program – final report. <https://www.cbsa-asfc.gc.ca/agency-agence/reports-rapports/ae-ve/2014/avrrpp-pparvr-eng.html>

Chassamboulli, Andri, and Giovanni Peri. 2015. "The labor market effects of reducing the number of illegal immigrants." *Review of Economic Dynamics* 18 (4): 792–821. <https://doi.org/10.1016/j.red.2015.07.005>

Chassamboulli, Andri, and Xiangbo Liu. 2024. "Immigration, legal status and fiscal impact." *Review of Economic Dynamics* 54: 101238. <https://doi.org/10.1016/j.red.2024.101238>

Chiswick, Barry R. 2005. "The economics of illegal migration for the host economy." In *The economics of immigration*, edited by Barry R. Chiswick. Cheltenham, UK: Edward Elgar Publishing.

Djajic, Slobodan, Murat G. Kirdar, and Alexandra Vinogradova. 2016. "Source-country earnings and emigration." *Journal of International Economics* 99: 46–67. <https://doi.org/10.1016/j.jinteco.2015.12.001>

Dreher, Axel, and Stefan Voigt. 2011. "Does membership in international organizations increase governments' credibility? Testing the effects of delegating powers." *Journal of Comparative Economics* 39 (3): 326–348. <https://doi.org/10.1016/j.jce.2011.04.003>

Dustmann, Christian, Francesco Fasani, Tommaso Frattini, Luigi Minale, and Uta Schönberg. 2017. "On the economics and politics of refugee migration." *Economic Policy* 32: 497–550. <https://doi.org/10.1093/epolic/eix008>

Ethier, Wilfred J. 1986. "Illegal immigration: the host-country problem." *American Economic Review* 76 (1): 56–71.

European Commission. 2021. The EU strategy on voluntary return and reintegration. Communication from the Commission to the European Parliament and the Council, Brussels.

Facchini, Giovanni, Oliver Lorz, and Gerald Willmann. 2006. "Asylum seekers in Europe: the warm glow of a hot potato." *Journal of Population Economics* 19: 411–430.

Fasani, Francesco. 2018. "Immigrant crime and legal status: evidence from repeated amnesty programs." *Journal of Economic Geography* 18 (4): 887–914. <https://doi.org/10.1093/jeg/lby028>

Gehring, Kai, and Valentin Lang. 2020. "Stigma or cushion? IMF programs and sovereign creditworthiness." *Journal of Development Economics* 146: 102507. <https://doi.org/10.1016/j.jdeveco.2020.102507>

Gray, Julia. 2009. "International organization as a seal of approval: European union accession and investor risk." *American Journal of Political Science* 53 (4): 931–949. <https://doi.org/10.1111/j.1540-5907.2009.00409.x>

Hanson, Gordon H. 2006. "Illegal migration from Mexico to the United States." *Journal of Economic Literature* XLIV (4): 869–924. <https://doi.org/10.1257/jel.44.4.869>

Hatton, Timothy J. (2023). "Asylum recognition rates in Europe: policies and performance." *European Journal of Political Economy* 76: 102267. <https://doi.org/10.1016/j.ejpoleco.2022.102267>

IOM (2023). Return and reintegration key highlights 2022. Geneva: International Organization for Migration.

Kydland, Finn E., and Edward C. Prescott. 1977. "Rules rather than discretion: the inconsistency of optimal plans." *Journal of Political Economy* 85 (3): 473-492. <https://doi.org/10.1086/260580>

Marchal, Léa, and Claire Naiditch 2020. "How borrowing constraints hinder migration: theoretical insights from a random utility maximization model." *Scandinavian Journal of Economics* 122 (2): 732–761. <https://doi.org/10.1111/sjoe.12355>

McAuliffe, Marie, and Linda A. Oucho, eds. 2024. World migration report 2024. Geneva: International Organization for Migration.

Méango, Romuald, and François Poinas. 2023. The (option-) value of overstaying. CESifo Working Paper 10536.

Noll, Gregor. 1999. "Rejected asylum seekers: the problem of return." *International Migration* 37 (1): 267-288. <https://doi.org/10.1111/1468-2435.00073>

Persson, Torsten, and Guido Tabellini. 1994. "Representative democracy and capital taxation." *Journal of Public Economics* 55 (1): 53-70. [https://doi.org/10.1016/0047-2727\(94\)90080-9](https://doi.org/10.1016/0047-2727(94)90080-9)

Romelli, Davide. 2022. "The political economy of reforms in central bank design: evidence from a new dataset." *Economic Policy* 37: 641–688. <https://doi.org/10.1093/epolic/eiac011>

Stark, Oded, and Lukasz Byra. 2020. "Can a deportation policy backfire?" *Public Choice* 183: 29-41. <https://doi.org/10.1007/s11127-019-00685-5>

UNHCR (2024). Refugee population statistics database (accessed in December 2024).

Van Ballegooij, Wouter, and Cecilia Navarra. 2018. *The cost of non-Europe in asylum policy*. Brussels: European Parliamentary Research Service.

Vinogradova, Alexandra. 2016. "Illegal immigration, deportation policy, and the optimal timing of return." *Journal of Population Economics* 29 (3): 781-816. <https://doi.org/10.1007/s00148-016-0586-z>

Walsh, Carl E. 1995. "Is New Zealand's Reserve Bank Act of 1989 an optimal central bank contract?" *Journal of Money, Credit and Banking* 27 (4), Part 1: 1179-1191. <https://doi.org/10.2307/2077796>