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WORKING PAPER

THE EUROPEAN ASYLUM SYSTEM AS A NON-COOPERATIVE GAME: THE ROLE OF HARMONISATION
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THE ROLE OF HARMONISATION

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Abstract
We delineate a non-cooperative game in which the countries of Europe implement restrictive measures to reduce the inflow of asylum seekers (AS) in their territories. These restrictions divert the AS towards other countries, with spillover effects. In the eventuality of massive, unforeseen inflows in one country, moreover, the game is found to entail competitive restrictions amongst the countries, while a country with a more accommodating policy (dove country), showing greater attention to the rights of the AS, is found to play a stabilising role. The model representing how each country implements its restrictions is extended to the area of the diverse national regulations. Attention focuses on the role of harmonisation of regulations, concluding that it can mitigate competition between countries without, however, entailing full respect of the rights of the AS and fair burden sharing.

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1 - Introduction

Construction of the European asylum system began in the late 1990s with directives for minimum levels of harmonisation. Subsequently, the Dublin system provided a solution to the problem of refugee burden sharing among the countries. With regard to the inflows of asylum seekers (henceforth AS), this set of regulations was designed to address the much debated problem of how to reconcile control of immigration with respect for the migrants' human rights.

The existing regulations vary from one country to another, above all in relation to procedures to examine applications for asylum and the granting of refugee status. There is strong concern that some countries may take undue advantage of the discretionary powers characterising national regulations, confronting AS with deterrence/pushback, and that such prerogatives may be used to bring in excessively restrictive forms of control, consequently burdening the other countries with a larger share of refugees than envisaged in the European regulations, while violating the refugees' human rights.

As for measures for deterrence or implementing policies to regulate the flows, there is no consensus in the literature on their effective capacity to exert significant influence on the choices made by AS on countries of destination. In this connection, it is to be noted that empirical studies carried out on the issue overlook certain discretionary practices that, as emerges from various sources of information, are employed by certain countries. Thus it is possible that the effects of restrictions may be stronger than some argue. Moreover, many studies fail to take explicitly into consideration the fact that restriction on the part of one country diverts flows of AS towards other countries, with spillover effects and consequent counter-restrictions brought in by other countries, induced to adopt similar measures to protect their borders. This can give rise to competitive restrictions amongst the countries. Thus the overall effects on the distribution of shares could prove negligible as restrictions and counter-restrictions balance out. And yet the effects on the rights of the AS could be truly considerable.

A symptom of scant cooperation can be detected in the very diversity of the national regulations on AS. The variegated picture of national regulations is indicative of the different approaches taken by countries to the rights of AS. This may have to do with the way governments interpret the feelings of their citizens and other political
motivations, leading them to pursue goals that may show greater or lesser attention to the human rights of the forced migrants. The question therefore arising is whether there are in fact hawks and doves among the European countries.

Taking an overview, we may say that the effective results of the European asylum system depend on the interaction of common but dishomogeneous rules, on national objectives lacking consistency among the countries, and different attitudes in terms of respecting the rights of refugees, together with attempts at harmonisation with the aim of settling these contradictions.

Recently, we have seen greater efforts being made to harmonise these regulations with construction of the CEAS (Common European Asylum System). These initiatives have kindled considerable expectations, above all with regard to respect of the refugees' human rights. These, too, are bound up with the possibility that more correct application of the European rules and/or certain forms of solidarity amongst the countries may lead to fairer burden sharing.

However, serious doubts have already been raised about the effective capacity of the harmonisation process in terms of both the above points, conjecturing that countries may respond to the attempts of harmonisation by dragging their feet and creating difficulties, possibly leading to more rigid positions on the issue of burden sharing.

Among the critical positions we may mention Thielemann (2004) and (2012).

In the literature we find logical analysis of the European asylum system conducted on the basis of various conceptual schemes. The theoretical approach is to take the asylum as a public good, entailing positive externalities amongst the various countries involved together with non-cooperative distortions and free-riding, which lower the overall level of well-being.\footnote{A useful survey of theoretical contributions to representation of the European asylum system is to be found in Czaika (2009). A recent contribution, including a survey of literature, is Thielemann and Armstrong (2013).} In this context free-riding implies admitting fewer refugees, leaving all the burdens to the other countries. Given the binding European regulations, all the countries formally subscribe to the agreements (such as the Dublin system), but they may decide not to play their part in the actions entailed by the agreement, thereby benefiting from the level of participation shown by the other countries (Hatton and Williamson, (2005), Thielemann and Dewan, (2006)). Czaika (2009) provides formal, mathematical expression of the non-cooperative game.
representing the European asylum system, examining the trade-off between the costs (both direct and political) and (public) externalities obtaining among the European countries. However, none of the above-mentioned studies explicitly consider a non-cooperative game involving restrictive measures and spillover effects, in such a way as to allow for analysis of the effects of harmonisation.

In this paper we provide representation of a non-cooperative game in which the AS spillover effects amongst the European countries are explicitly represented. The aims pursued by the countries are also made explicit, in terms of their trade-off between forms of control (quotas of refugees which the countries are prepared to admit) and the degree of respect of rights which they deem desirable. Distinction is made between the role of the government, which, albeit within the limits of the European regulations, designs the national asylum system, and the role of the agencies implementing the national regulations. The government issues directives to implement restrictions consistent with the trade-off between the above aims, and the agencies implement the government’s directives in accordance with the national regulations in force. The regulations set limits to the agencies' faculty to implement an effective restriction, which means that the agencies' restrictive powers may vary from one country to another depending on how the countries draw up their sets of regulations. On the basis of the differences shown by countries in terms of trade-off between the aims and in terms of the design of national standards, the various countries can be distinguished at the level of hawks and doves and analysis can be made of the consequences that the restrictions laid down by governments can have on burden sharing and respect of rights. Analysis can then be extended to the effects of harmonisation of procedures in terms of more uniform behaviour shown by the agencies of the various countries in implementing the restrictive measures determined by the governments.

The spillover effects entail strategic interaction amongst the countries, for each country can perceive, even indirectly, the restrictive measures of another and respond with its own restrictive actions. What emerges is a Nash-Cournot type of equilibrium and consequent adjustment dynamics in the face of external shocks modifying the inflows of AS. We have chosen to keep the math of the model very simple to make our
work accessible to a wide readership\(^2\), without in any way detracting from the significance of the findings.

In chapter 2 we will go further into the observations made above, illustrating, also with reference to previous studies, the ways in which countries implement measures for deterrence entailing spillover effects, and the channels along which these measures become effective. We then go on to analyse the divergences between national regulations on asylum and refer on the scope of harmonising procedures.

In chapter 3 we come to basic representation of the non-cooperative game model and will look into the dynamic response of the system in the emergency circumstances of massive AS inflows.

In chapter 4 we complete the model, analytically introducing distinction between the role of governments, issuing restrictive directives, and the role of the refugee agencies which implement these directives. The interaction between governments and agencies is traced out, providing a more complete analytic definition of hawks and doves. The role of harmonisation is also analytically treated.

In the conclusions we will summarise the findings and comment on them in less technical terms.

2 - Burden sharing and respect of rights

Restrictive policies

States seek to balance control of the migration process with the humanitarian principles inherent in the articles of their constitutions and in the sensibility of their citizens. Thus attention comes to focus on the trade-off effects between the control objectives of the individual States and their humanitarian motivations regarding the rights of migrants (Lavenex (2001a), Morris (2002), Joly (2004), Rush and Martin, (2008)). If different States take different approaches to this trade-off, then we may speak of hawks and doves in the asylum system.

Regret has been expressed by many authors and humanitarian organisations over a certain aversion States show to taking on quotas of refugees, above all, as the analyses reveal, for reasons of domestic politics (Budge et al., 2001; Boswell 2003, Thielemann

\(^2\) The level is set at that of an undergraduate textbook on microeconomics, such as Varian (2010), or indeed Gibbons (1992).
2003a; Neumayer 2004; Klingermann et al., 2007)³. Thieleman et al. (2010 page 111) also stress the social and political costs of admitting AS, concluding that States actually have a 'fierce aversion' to receiving refugees. Thus the point is made that States are not in general prepared for full cooperation at the European level in the activities involved in receiving refugees, but that each State also pursues its own ends, engaging in action of deterrence and/or restriction amounting to veritable barriers against AS seeking to cross their borders. The deterrence measures are classified, for example by Thielemann (2004), as:

1) Control of access
2) Tightening of procedures
3) Restriction of integration measures

To these are to be added the direct restriction measures:

4) Measures for protection of borders, pushing back asylum seekers, and stratagems to evade the European regulations, and in particular the Dublin rules.

Some actions of deterrence operate above all through the communication networks formed amongst the AS and the agents organising their journeys⁴. On the other hand, there are also measures that have direct and potentially strong effect on the flows. In connection with point 4, one stratagem deplored by the European Commission (2007b) itself is failing to comply with the obligation to take the fingerprints of forced migrants on entry into a State. Other actions include measures implemented by individual States to control their borders, pushing back AS in contrast with the principle of non-refoulement. Again, these actions are not recognised by the European regulations, and the States therefore take a secretive stance on them, which is why we have no data statistics regarding such operations. We do, however, have news about particular episodes showing individual States implementing pushback actions⁵. It is clearly probable that these operations can influence AS flows between European States to a

³ Although the findings of other authors (Holzer and Schneider, 2002) do not tally here.
⁴ We quote, for instance, from UK Home Office (by Robinson and Segrott (2002)) 'The main sources of information on UK asylum policy included agents, friends and relatives living in the UK, and information from newspapers or from rumours in the country of origin'.
⁵ Some Member States have brought in pushback measures on the borders where migrants seek entry, also including, indiscriminately, applicants for asylum (e.g. Italy with decree law 733/2009). Italy has been mulcted by the European Court of Human Rights (appeal n. 27765/09, June 23rd 2012) over what is known as the Hirsi Jamaa case.
significant degree. An important channel for the transmission of such effects lies in the choices of routes made by the smugglers/agents in directing the flows towards certain countries. These routes are influenced by the border control implemented by the individual States and/or by the Frontex operations. When, for example, Greece tightens its control over its seas, higher numbers of landings are expected on the Italian coasts of the Adriatic and Ionian. During the civil war in Libya some routes left from Egypt in the direction of Greece rather than towards Italy, which had stepped up on control over the sea. Other measures of deterrence reported by humanitarian organisations are associated with the complaisant attitudes shown by some States towards the Embassies of certain AS countries of origin, tolerating violations of privacy committed to obtain information on the identity of the AS, and on their organisations and their activities in Europe. These measures are tantamount to pushback since they allow the countries of origin to exercise direct control over refugee exits.

As to whether or not such measures prove effective in modifying the distribution of AS amongst States, we have an extensive literature. Some hold the effect to be significant. For example, Holzer et al. (2000b) conclude that 'government regulation can considerably affect the number of asylum requests even in the absence of a formal restrictive regime between industrialized states' (p.1184). Again, Hatton and Williamson (2004, p. 34) also argue that a significant effect is produced: 'toughening one individual element of policy (...) reduces asylum flows by approximately 10%'. Others, including Thielemann (2004) and Havinga and Böcker (1999), recognise a certain impact, but hold the effects to be negligible. Hatton (2009) finds 'that violence and terror can account for much of the variation and that, while tougher policies did have a deterrent effect, they account for only about a third of the decline in applications since 2001'. For a review of these studies, see Thielemann (2012), where it is stated that 'In sum, existing studies suggest that some information about variations in policies on access to territory and work does inform the choices of migrants in a significant way'.

Let us consider three remarks on this issue.

The first was made by Toshkov (2012) in relation to the studies declaring the effect of the measures to be negligible: 'It is unclear whether the reported effect is due to within-country or between country variation in policy. (... Then....) one would expect
that the association is driven by the cross-sectional variation'. This observation bears out the hypothesis of AS spillover amongst the States, also pointed out by Thielemann (2004): 'host countries with a high relative number of applications will try to make their asylum policies more restrictive and other host countries will, as a result, become more attractive destination countries'. Also in Thielemann (2012) we find that: 'there is an incentive for States to use restrictive policies unilaterally in an attempt to limit the number of forced migrants entering their territory, while, at least indirectly, encouraging migrants to seek protection in another country or region'.

The second remark we come to is that these studies failed to take into consideration the measures adopted departing from the European rules, as noted in the above point 4).

In any case, another observation (the third) arises at this point: the States do effectively implement restrictive policies. If they do so, it is because they believe that these policies can have an effect. While the final effect on the distribution of flows amongst States may be limited, however, the effects on the rights of the AS may prove truly considerable. An example is to be seen in the disputes between Italy and France over the inflows of AS and other migrants from Tunisia in 2011 and the measures adopted at the time.

The discretionary nature of national regulations

In the face of the European regulations, each State has adopted national regulations showing a great many differences from State to State.

The features of the procedures adopted by the various States are examined, for example, in the Reports drawn up by the Danish Ministry of Refugees, Immigration and Integration Affairs (2009) and the Intergovernmental Consultations on Migration, Asylum and Refugees (2009). Among the significant aspects are:

- the number of agencies in charge of the process: in particular, whether the agency dealing with reception (usually the police) is separate from the agency examining applications;

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6 As an example we may quote a document of the UK Home Office (2012) 'The numbers of asylum applications (in UK) have been relatively stable since 2005, having fallen substantially from a peak in 2002. These falls coincide with: the introduction in 2002 of a process preventing certain nationalities from appealing a decision while in the country; (...); and the introduction of fast-track facilities in 2003'.

7 Some States, such as Denmark and Ireland, have only accepted the European regulations in part.
the composition of the agencies/committees examining applications: inclusion of members independent of the government should ensure a fair balance in choices;⁸

- whether expedited procedures are in place, leaving discretionary margins in the examination of applications;
- whether consideration extends to '3rd safe countries' to which AS might legitimately be sent, departing from the non-refoulement principle;
- whether there are time limits for examination of applications, supposing that excessively drawn out procedures amount to a form of deterrence;
- the levels of appeal in place should international protection be denied, and procedures for issue of residence permits in such cases⁹.

In particular, a significant role appears to be played by the interaction between the government of a State and the complex of offices handling AS applications: we will refer to the latter as the refugee 'agencies'. The government draws up the national regulations in the context of the European Regulation. Furthermore, according to circumstances, it will issue directives to the agencies – based on its trade-off between control and humanitarian objectives – as to how the regulations are to be applied, exploiting the discretionary margins left in the national regulations and, in some cases, departing from the European regulations.

The way the procedures are conceived reveals different attitudes towards accepting applications in the different States (XXXX and YYYY (2011), Des Places and Deffains (2004)). This brings us back to the point as to whether there are in fact hawks and doves among the European States and how this is reflected in the regulations and practices regarding acceptance of applications. Definition as hawks and doves should therefore be based on the degree of States' trade-off between control and humanitarian objectives, together with the design, in keeping with the level of trade-off, of the regulations drawn up to achieve these objectives.

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⁸ Italy, for example, admits to the Committees examining applications an exponent of the UNHCR with right to vote.
⁹ Issue of the residence permit will become obligatory with Regulation (EU) No 604/201, which states the Dublin III system.
Harmonisation

As to the effort to greater harmonisation, some positive results have been achieved. El-Enany and Thielemann (2010), for example, assert that 'the development of a common asylum law on the basis of EU minimum standards in this area has curtailed regulatory competition among the Member States and in doing so has halted the race to the bottom in protection standards in the EU'. However, we have considered the possibility that standards are in fact violated due to discretionary application of the regulations. In this view, the task for EASO, among its accomplishments, of disseminating good practices, may be interpreted as the idea that States would have more limited margins in interpreting the norms, and consequently reduced capacity to clamp down on AS flows.

Given the Dublin rules, harmonisation could entail a greater asymmetry in behaviours amongst States. Thielemann (2004) and (2012) for example argues that, with greater harmonisation, some States would become more rigidly set in their restrictive attitudes. As a consequence, attempts at harmonisation can prove 'counterproductive to the aim of more equitable asylum burden-sharing in Europe'. Hence the rights of the AS would be at even greater risk. The emphasis on harmonisation, he argues, distracts attention from the real problem of burden sharing, which lies in structural factors associated with the nature and geographical distribution of the political and humanitarian crises that give rise to flows of AS. This, I would add, is an observation that brings us straight back to the Dublin rules and the failure of the States to come to a general consensus on clear and explicit burden sharing rules.

The picture I wish to trace out now is rather more complex. In the previous discussion, in fact, it has been argued that, given spillover effects, there is competition between States, which can lead to progressively tighter restrictions.

However, some States (doves) show more accommodating response to unexpected flows of AS. Thus the respect of rights also depends on the combined (non-cooperative) action of all the States. In terms of this interpretation, the role of harmonisation and the issues of rights and burden sharing are closely bound up. In my representation of the facts, a sharper reaction on the part of a hawk would in any case meet with the reactions of the other States, and the final result will depend on the overall interaction at the level of the entire CEAS.
Theoretical representation

The theoretical approach to the issue of refugee burden sharing has failed to address these problems explicitly. In the literature the approach is to consider asylum as a public good, implying positive externalities amongst the various States participating, with non-cooperative distortions and free-riding which lower the overall level of well-being. Here free-riding consists in receiving fewer refugees, leaving the major burdens to the other States. Given the binding European regulations, all the States formally subscribe to the agreements (e.g. the Dublin system), but they could decide not to take part in reactions provided for by the agreement, so as to exploit the level of participation of the other States (Hatton, Richter and Faini (2004), Hatton and Williamson, (2005), Thielemann and Dewan (2006). Czaika (2009) explicitly pictures a game amongst States, including in the States’ utility function the costs for the protection of refugees and humanitarian objectives.

What is missing in the literature is an analysis of the non-cooperative game played by the States in relation to asylum – an analysis that takes into explicit consideration the spillovers amongst the States deriving from restrictive measures. Nor do we have any theoretical representation of the role harmonisation may play in the outcome of the game. The need is to represent in a realistic, albeit stylised, way the limitations that harmonisation can set to the discretionary powers of the hawk-States that want to evade the regulations because of their aversion to refugees. We also need representation of how the inclusion of humanitarian objectives can balance all of this out and how interaction amongst the States can influence the outcome. Moreover, it is also necessary to introduce a measure of respect of rights and a measure of the burden sharing to evaluate the effect of harmonisation on the sound functioning of the CEAS.

We will be looking into these points in the following two chapters.

3 - Burden sharing in the 1980s and 1990s: a basic scheme

In the 1980s and up to the mid-90s the problem of receiving refugees in Europe had yet to be addressed following common rules. It was Germany that raised the issue of shares, calling for the participation of the other States so as to arrive at a more equitable distribution of refugees (Thorburn, 1995, Hailbronner, 2000). The failure of attempts to reach agreement on this point is indicative of the non-cooperative approach adopted by the States. A very simple way to represent the situation is to take the case
of two States, State 1 and State 2. To focus examination on the essential elements of analysis, we will assume that the two States are absolutely identical in terms of reception capacity, however we may define it – for example, taking capacity indexes. Thus distribution with a share of 1/2 for each of the States must be considered a fair deal. Let us suppose that each of the States takes charge of the AS crossing its borders. This is consistent with what was in fact the case subsequently with the Dublin rules. If, through a combination of pull-push factors, the AS made for the States in the proportion of 1/2, then this distribution would respect the refugees' human rights, being consistent with the choices they would make.

This raises two issues. The first arises when, for reasons related to particular pull-push factors (such as geographical proximity), the AS flows run in the direction of one of the States in a proportion greater than 1/2. The second problem arises when one of the two States is not prepared to take on even as much as a 1/2 share, finding it inconsistent with the objectives of domestic politics or too costly in social and financial terms. Of course, the two issues can also arise one on top of the other.

The model

We will therefore consider possible restrictive measures implemented by the State, which will indicate with the symbol r. In fact, r can be an index of restrictive measures, like the one formulated by Thielemann (2004), which we discussed in the previous sections, but it can also include pushback measures. For the purposes of analysis we will take value r as indication of the departure from the fair value, i.e. the value that is totally neutral at the level of restrictions. For example, the recognition rate is perfectly consistent with the principles of the Geneva Convention on refugees, the choice of the third safe countries is based on criteria of effective and real 'safety', and the State makes provision for a decorous life for the refugees. These are all points we have already discussed.

Thus r = 0 is the fair value of the restriction index we take as reference. In cases of r < 0 it is understood that restrictions are underway and the refugees' rights are violated.

We will go on to assume that the restrictive measures have a real deterrence value, i.e. they can effectively modify the choice of State of destination made by the AS. As discussed in the previous sections, this means that the restrictive measures implemented by each State influence not only the flows towards that State, but also the
flows towards the neighbouring State. In other words, spillover phenomena occur amongst the States.

Let us indicate as the share of AS going towards State 1. Normalizing to 1 the total AS number, we can refer to also as the number of AS. Let us indicate as \( r^* \) the restrictive measures of State 2, and in general with a * suffix all variables referring to it. We can thus write the following:

\[
\text{(1)} \quad \frac{\sigma}{r} = \sigma r - \lambda r^* + \phi
\]

where \( \sigma \) and \( \lambda \) represent the reaction of the two States to the AS flows and \( \phi \) represents the share of AS that would go towards the State 1 in the absence of restrictive measures.

The equation for \( * \) is simply \( * = 1 - \phi \), from this it follows that \( \sigma^* = \lambda, \lambda^* = \sigma \) e \( \phi^* = 1 - \phi \). I suppose further the condition \( \lambda < 1 \) e \( \sigma < 1 \). This condition means that the AS shares react less than proportionally to restrictions, as also emerges from empirical findings.

If, because of geographic proximity or other pull factors, it happens that \( \phi = 1/2 \), then it is possible to obtain a fair share distribution with no need of restrictive measures, i.e. with \( r = 0 \) and \( r^* = 0 \), that is without violating refugees' human rights. In this case obviously it results that \( \frac{\sigma}{r^*} = 1/2 = \phi \) e \( * = 1/2 = \phi^* \). I denote as the target value of the share desired by State 1, and with the same for the State 2. Let us now introduce the loss functions of each State:

\[
\begin{align*}
(\text{P}) & \
\frac{\sigma}{r} & = \
(\text{P}^*) & \frac{\sigma^*}{r^*} = 
\end{align*}
\]

I will assume, in this first elementary treatment, that each State can utilize as it likes its restriction index \( r \) or \( r^* \), in order to minimize its loss. In the absence of any kind of coordination, the only solution is, obviously, \( = \) and \( * = 1 - = \).

A first obvious remark is that the problem doesn't admit any solution unless it results that In this case there exist a infinite number of solutions, corresponding to all the combinations of \( r \) and \( r^* \) which fulfil the relation \( \sigma r - \lambda r^* + \phi = \). If , on the contrary, no solution exists. In this case, the \textit{ex post} values of the shares always fulfil the \( + * = 1 \), however, at least one of the two States doesn't minimize its loss. Thus the shares are completely accidental and
depending on a combination of events and on the reaction of the States in the circumstances.

Let us now briefly consider the first problem above, i.e. what happens when, due to an extraordinary event, there occurs a value $\phi' > 1/2$.

Obviously, the fair solution is no longer possible, in particular the States manage the restrictions $r$ and $r^*$ so as to restore the desired share in the loss functions. This entails the relation $\sigma r' - \lambda r^* = \phi' - \phi < 0 = \sigma r - \lambda r^*$.

We will go on to observe that, if the State 1 sets a target $< 1/2$ (this is the second problem above), then a solution is possible only if $> 1/2$, that is if the State 2 is willing to assume an unfair share. The point is why it should do this, since it is sub-optimal.

Then evidently the answer lies in an extension of the model. So, let us consider the attention State 2 pays to the AS human rights.

Let us then consider the State 2 (dove) loss function:

\[
P^* = + \nu^*,
\]

where $\nu^*$ represents the weight State 2 attaches to the AS rights. It is clear that State 2 seeks to maintain the $r^*$ value close to zero, i.e. the fair value. The hawk, on the contrary, has not such a term in its loss function, which is thus still represented by equation (10).

The model is thus formed by the equations (1), ( ) e ( )'. A non-cooperative game entails that each uses its own instrument to minimize its loss, given the value of the instrument of the other player.

Thus we can obtain the solutions by solving the two reaction functions: $= 0$ and $= 0$.

This provides the two simultaneous equations:

\[
( ) \sigma (\sigma r - \lambda r + \phi - ) = 0 ; \\
( ) \lambda (1 - \sigma r + \lambda r^* - \phi - ) + \nu^* r^* = 0 .
\]

By solving, it is obtained the Cournot equilibrium and the equilibrium values of $r$ and $r^*$. I will assume in the following that the solutions are such that $r \leq 0 \ e \ r^* \leq 0$.

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10 We could consider an attention to the rights on the part of the hawk, with a weight $\nu$ and $\nu << \nu^*$. Doing so, the main results would not change.
This is completely compatible with the assumptions on the coefficients and means that both the States exert a restriction or are fair as regards the AS human rights. Let us observe that relation (1) implies that $r = (\phi - \sigma)r$, namely that $r < 0$. Furthermore, looking at the equation (2), it can be checked that the solution for $r^*$ is $r^* = 0$.

Summing up, if State 2 pays (even little) attention to the rights, then both the States reach the desired share. This entails a violation of the rights by State 1 and full respect of human rights by State 2. All this solves the first problem above.

As to the second problem, let us suppose that $\phi < 1$, in particular we can assume that $1/2$ and $1/2$. Once more, I assume that the State 1 is affected by a higher pressure than its desired share, namely that it is $\phi$. It can be readily be verified once again that the minimum condition (1) entails that $r^* = 0$, but a solution exists where also the (2) condition is respected, with obviously, $r^* = 1 - > \lambda$. That is to say, State 2 now is willing to accept a greater share than the desired one. Moreover with simple comparisons, it can be seen that the solution $r < 0$ and $r^* = 0$ is no longer possible.

Comparative statics

We now need to study better the solutions of the equations. To this end, we will write the system in the standard form:

(1) $r^* = (\sigma/\lambda) r + (\phi - \lambda)/\lambda$ ;
(2) $r^* = (\sigma r + \phi - 1)$.

Solving, it follows after a few steps:

(3) $r = - (\lambda + \phi - \lambda + \phi + \nu^* - \nu^* \phi)$ ;

(as verification, if one sets $\phi = 1/2$, it emerges the fair solution $r = 0$).

With simple computation we obtain:

(4) $= - = -$ ;

As for $r^*$, we obtain, for example from (2) :

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1. If a positive shock on $\phi$ occurs, say $\Delta \phi > 0$, i.e. if the AS are pressing on the State 1, then we see that this leads to an equilibrium $E'$ in which it is $\Delta r < 0$ and $\Delta r^* = 0$, which entails greater restriction by State 1 and no change of the restrictions by State 2. This confirms what we previously found by inspecting the , This is done starting from any initial equilibrium, since the derivatives of $r$ and $r^*$ are constants, for any shock $\Delta \phi > 0$. Eventually, as regards the share ex-post, it will turn out that $= \frac{\left(\Delta \phi^* + \Delta \phi\right)}{\left(\lambda + \Delta \phi\right)}$, namely State 2 entirely absorbs the shock and State 1 restores the desired share.

2. Let us see now what happens if State 1 reduces its target share, that is if it sets $\phi < 1/2$, while $\lambda$ remains fixed at its initial value and thus $\lambda < 1$. I will indicate with $E''$ the new equilibrium that ensues. By computation, we can see that $\frac{\lambda}{\left(\lambda + \Delta \phi\right)} < 0$ if and only if

\[ \nu^* < 0. \]

Note that it turns out that $\nu^* > 0$, under the assumption made at the beginning that $\lambda < 1$.

From the formulas above it is seen that $\frac{\lambda}{\left(\lambda + \Delta \phi\right)}$ has the same sign of $\frac{\lambda}{\left(\lambda + \Delta \phi\right)}$, and therefore it is now $\frac{\lambda}{\left(\lambda + \Delta \phi\right)} < 0$.

For which, if $\frac{\lambda}{\left(\lambda + \Delta \phi\right)} < 0$, then it also turns out that $\nu^* > 0$ and $\Delta r^* > 0$. Under these assumptions, it is clear that, under inequality (d), if the State 1 reduces its desired share, the new equilibrium that ensues involves an enlargement by both States

\[ \nu^* < 0. \]

Adjustment to external shocks

The important issue now is to examine the adjustment. That is the question of the stability of equilibria. Here the tools of the adjustment are $r$ and $r^*$. Assume an adjustment process in which each State assumes the realized value of the instrument of the other as given and responds by setting the value of the instrument on its reaction
function. Here this means that States interact with alternate moves: the first State decides what degree of restriction it wishes to implement (i.e. the new value of $r$), so as to minimize the loss, given the shock. The second State observes the AS flows it receives, given the new value of $r$, and changes its level of restriction $r^*$ so as to minimize its loss. Then the first State reacts, and so on. It's a process widely used to study the stability of Cournot equilibria. Note that a State observes only the change in flows at its borders. So if this change comes from the restriction of the other State, it is not necessary for the first State to know the extent of this restriction. Since, however, the observed change results from an optimizing process, it reflects the policies of the other State, which are implicitly considered in the reaction of the first State. All this seems quite natural and implies a strategic interaction between States.

As we know, the stability of the process depends on the slopes of the two functions of reaction. We denote the slopes of the reaction functions (\( \varepsilon' \)) and (\( \varepsilon'' \)) with \( e \) respectively. The values of \( \varepsilon' \) and \( \varepsilon'' \) are easily obtainable. By calculation, we find that both values are positive and that

\[
\frac{\varepsilon''}{\varepsilon'} < 1 \quad \text{if and only if the inequality (d) is fulfilled.}
\]

Observe that the necessary and sufficient condition for the stability of equilibria in the dynamic process described is that (\( \frac{\varepsilon''}{\varepsilon'} < 1 \)) if and only if the condition (d) does not hold. Under these assumptions, we can perform an analysis of the stability of equilibria.

Suppose now that inequality (d) is fulfilled and that the hawk State first reacts to shocks, because it is there that the shocks occur first. If we represent the reaction functions in the plane (\( r, r^* \)), the situation is illustrated in Figure 1 (a) and (b).

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11 For all this, see Varian (2010), chapter 26. More complex adjustment processes can be assumed, which correspond to more elaborate behaviour of the States. See, for example, Axelrod (2006).
In the case of an adjustment from E to E', that is, if we examine the case in which a shock occurs like $\Delta \varphi > 0$, the process is generally unstable. However, the particular relative position of the two equilibria (it is $\Delta r^* = 0$), entails that if State 1 reacts first, then the equilibrium E' is reached in one move. Otherwise, the new equilibrium is not reached. In the case of adjustment from E towards E'', i.e. when State 1 reduces its target share, the process is unstable. This implies that, if State 1 responds first, then increasingly marked restrictions take place. It is a process of competitive restrictions between States, which can lead to serious violations of human rights of AS by both States.

By contrast, we can analyze the adjustment in the case where the inequality (d) is not verified, that is, when $\nu^* > 0$. In this case the relative slope of the two reaction functions is exchanged and is $\Delta r^* > 0$. It is easy to verify in this case (figure not shown) that equilibrium E' is stable, and if the State is to move first, then in one move the system reaches the new equilibrium. In this case, State 2 absorbs all the variation in the shares induced by the shock. Equilibrium E'' now entails a restriction by both the States, namely $\Delta r^* < 0$.

Finally, let us consider the case of pressures on State 2, not analysed so far, is obtained observing that a pressure on State 2 corresponds to $\nu^* > 0$, i.e. $\Delta r^* < 0$. If State 2 is a dove, we may presume that it will not attempt to make any great change in
its ex-ante share; hence the analysis is as in the case of point 1 above, with equilibrium $E'$ which continues to show $\Delta r^* = 0$, with no extra restriction on the part of the dove, and $\Delta r > 0$, i.e. relaxation of restrictions by State 1, subject to less pressure on its share than in the previous position. All this very simply follows from (5) and (6). In this case, therefore, conditions for the human rights of the AS in general actually improve.

Let us summarise the stylised facts appearing in this section. The lack of a State functioning as dove entails inconsistency in national objectives. Each State reaches the desired share of AS which it is prepared to admit and a share of applicants is rejected outside Europe.

On the other hand, the presence of a dove State creates conditions for the shocks to be absorbed and the violations of rights limited. If, however, the hawk adopts particularly aggressive attitudes, seeking to reduce the share of AS it had been accepting, then if the dove is a 'moderate' one (i.e. it doesn't attribute a particularly great weight to respect of rights), Europe's AS reception process may fail to follow a convergent trend, with serious violations of rights. If, on the other hand, the dove attaches great weight in rights, then the trends are stable. By contrast, in the case of pressures on the dove’s share no destabilising trends are generated.

4 -European regulations and harmonisation

Subsequent to the Stockholm Conference at the end of the 1990s, the European Union started on construction of a common asylum system. With reference to the model illustrated in the previous section, the situation can be summed up with the observation that the States would no longer be free to fix the restriction indexes $r$ and $r^*$ as they liked, but restrictions were to be subject to certain rules.

The model

We will assume that the restrictions applied by the States derive from the attitudes of the respective governments, which may be more or less averse to letting AS cross their State borders. Thus the government, in the various circumstances, gives content to a demand for restrictions which corresponds to a certain degree of aversion towards AS. We will represent this introducing a variable $R$. For example, in the case of a massive
and unexpected inflow of AS, we may imagine that the government will issue restrictive directives showing a high value of R.

Restrictive policies are implemented by an Agency for Refugees, which handles the entire reception processes, examination of applications and other restrictive measures. We will therefore consider how an Agency implements the restrictive directives which the government may issue in particular circumstances. This depends on the national regulations which apply to the Agency's activities. It is beyond our scope here to provide a microfoundation of Agency behaviour. Formulation will be confined to stylised representation. Let us recall the significance of restriction index r, which encapsulates the intensity of the overall restriction implemented by applying the national regulations. The variable r is calculated in terms of the departure from 'fair value', so that \( r < 0 \) indicates a restriction under way and \( r > 0 \) indicates the intensity of the restriction. Given directives R, the Agency implements the restrictive measures exploiting the margins of freedom left by the national regulations. We will indicate with E the restrictive effort implemented by the Agency, defined as the total restriction it is able to carry out. The effort will be all the greater the stronger proves the intensity of restriction and the higher the number of AS submitting applications, i.e. A. To see how this works let us take as an example the case in which the restrictive measure consists in reducing the recognition rate. Thus r indicates the departure of the recognition rate from the fair value. In this case the restriction index is a percentage value which reduces the number of applications accepted. Thus the total restrictive effort amounts to \( E = \ldots \). In the general case, r encapsulates the intensity of all the restrictive measures implemented. Many of these cannot be represented by a percentage. Let us take, for example, the case of expedited procedures, which are applied to AS from certain particular countries of origin, with diversified effects for the diverse AS categories. To give aggregate representation of how the measures are applied to the number of AS, we will introduce elasticities and present representation \( E = \ldots \).

The value of the elasticities depends on the design of the national regulations and the degree of discretionary/arbitrary powers with which the regulations can be applied. The greater these powers, the greater will be elasticity, and it will in fact be

\[12\] The percentages can be calculated ex-post, i.e. once the results of the restrictions become measurable.
possible to apply the restriction to a far broader range of AS. On the contrary, with greater discretionary/arbitrary powers will prove smaller. In fact, in this case the restrictive measures can be applied departing from the regulations and the intensity of restriction inherent to the standards can be circumvented. To clarify the point, let us take, for example, the case of the restriction applying the 3rd safe country clause: if there is an arbitrary margin, the clause can be applied to categories of AS that should not in principle be involved. For example, countries that are not really safe can be included in the list of 3rd safe countries simply because they have seen the transit of many AS. Thus attention focuses not so much on the way of defining 'safety' i.e. as on the number of AS to whom the restriction is applied.

In summary indicates the restriction effort of the Agency referring to the number of the AS. We can define this value as an absolute aversion to the AS, as contained in the rules. indicates the weight of the index of intensity of restriction |r| and is correspondingly smaller, the greater is the degree of discretion/arbitrariness that the national rules allow the Agency.

Let us sum up the discussion by linearising the relation E = :  
(7) \[ R = - r. \]

The equation represents the equilibrium between the restriction action of the Agency and the directive of restriction by the Government.

A relation similar to (7) holds for State 2 thus the model takes now the form:
(1) \[ = \sigma r - \lambda r^* + \phi; \]
(7) \[ R = - r ; \]
(8) \[ R^* = * (1 - ) - r^*. \]

The loss functions are still:
( ) \[ P = \]
( )' \[ P^* = + v^*. \]

Let us recall the relations, still valid, \[ * = 1 - e \quad \sigma^* = \lambda, \quad \lambda^* = \sigma \quad e \quad \phi^* = 1 - \phi. \]

Let us then consider the case of a shock \( \Delta \phi > 0 \) on the number /share of AS that goes to the State 1.

The impact response can be computed, for given \( r^* \), by the equations (1) e (7). By simple computation, we can see that it turns out \(< 0 \) if and only if the parameters
verify the relation $\sigma > -$. In this case moreover it also turns out that $\Delta r < 0$. Thus State 1 reacts limiting access with a greater restriction. The same applies when $\Delta r^* < 0$ for given $\phi$, namely if the State 2 makes a restriction. The direct opposite when $-$. Given the meaning of and , I refer to the ratio $-$ as representing the conditional aversion to AS. All this allows for a definition of hawk and dove.

- The hawk has a strong conditional aversion to AS, namely it holds $\sigma > -$, and no attention to the human rights of the AS, namely $\nu = 0$.

- The dove has a limited aversion to AS, namely $\lambda < -$, and pays attention to the AS rights, namely $\nu^* > 0$.

To solve the model, we can consider the reduced form:

$$A = \alpha R + \beta R^* + \varepsilon;$$

$$r = \gamma R + \delta R^* + (a/b)\varepsilon;$$

$$r^* = \gamma^* R^* + \delta^* R + \varepsilon^*.$$

where is set:

$$\alpha = -\beta; \quad \beta = -\beta; \quad \varepsilon = - (\phi - ); \quad \gamma = -(\alpha - 1); \quad \delta = -\beta;$$

$$\gamma^* = -\alpha; \quad \delta^* = -(a^* \beta + 1); \quad \varepsilon^* = -; \quad \text{con C} = 1$$

The reaction functions are obtained by computing the derivatives $- = 0$ and $- = 0$.

By computation, they are:

$$( )'' = -(\varepsilon - );$$

$$( )'' = ;$$

where we I have set
The European asylum system as a non-cooperative game: the role of harmonisation

Note that, if \( v^* = 0 \), then it turns out that \( \beta = -\beta \), and this implies that there are infinite solutions, or there is no solution. This depends on whether or not the constant terms are collinear with the matrix of coefficients (in this case they must be equal. By computation, this happens if \( \beta = 0 \)). This confirms the stabilizing role of the dove, much as we saw in the previous chapter.

Adjustment to external shocks
What matters is the relative slope of the two reaction functions. Using the definitions of \( \alpha \) and \( \beta \), we can see that, provided that \( v^* > 0 \), it turns out that \( \alpha < 0 \) if and only if the inequality holds:

\[
12 < \alpha < 0.
\]

Let us recall that \( 0 < \alpha < 0 \) implies that the dynamic process is unstable. On the contrary \( \alpha > 1 \) entails stability. So let us consider the two cases:

(I) State 1 is hawk and State 2 is dove. This means that the harmonisation of standards is not strong enough to reduce the hawk's conditional aversion. Then it holds \( \alpha > 1 \). This implies that \( C < 0 \). From this, it will be readily be seen that \( \alpha > 0; \beta < 0; <0 \). Furthermore, from the definition of \( \beta \), by routine computation it follows also that \( \beta < 0 \). Therefore, it is easily checked that \( \alpha > 0 \). Moreover, the relation (12) is also fulfilled and thus the process is unstable.

(II) Harmonisation is strong enough to reduce the conditional aversion of both the States. Observe that, if \( a/b \) is sufficiently small, Then it holds \( \alpha < 1 \) and, if also \( a^*/b^* \) is small, then \( C > 0 \). We will not go into analysis of the signs of the coefficients, which are combined in a different way now. With long and tedious calculations it is seen in this case that \( \alpha > 0 \) and thus the adjustment process is stable.

Consider now the dynamics which emerge in case (I). From equations ( )" e ( )" we obtain the equilibrium values of \( R \) and \( R^* \). By differentiating, it can be obtained that \( \alpha > 0 \) and, under reasonable assumptions, that also \( \beta > 0 \).
In this case the adjustment processes follow dynamics similar to the example illustrated in figure 1(b), chapter 3 (but with R and R* as variables at the axes and following mirror-image progression): hence the considerations made in chapter 3 apply equally here. In particular, with scant harmonisation the possibility emerges for competitive restrictions leading to restrictive directives, or in other words increasingly raised values of R and R*. From equations (9), (10) and (11), it will be seen that the effects of restrictions on A, r and r* entail R and R*effects of the opposite sign. This results in oscillating trends in A, r and r*, with non-convergent dynamics\(^{13}\), which means that the shares of AS fail to arrive at any well-defined final values while both States can also take turns in violating the rights of the AS, to a more or less accentuated degree. On the other hand, with fuller harmonisation the adjustment trend is stable and competitive restrictions accordingly come to an end when a new equilibrium is arrived at. We will comment on this in the conclusions.

**Conclusions**

The aim of this study was to examine the European asylum system in terms of AS burden sharing and their rights, and in this context to see whether harmonisation of the regulations can help towards achieving both objectives.

To this end, we began with a model in which each State takes charge of the AS crossing its borders in accordance with the Dublin regulation, or with the practice followed prior to the regulation. Each State has means of restriction at its disposal which are applied to flows of AS towards that State. The occurrence of spillover implies a non-cooperative game, in which the States compete with one another to achieve each its own objectives, expressed in terms of trade-off between access control and humanitarian considerations. What emerges from the first simple model, as crucial to the coherency of the entire system, is that one of the States (which we identify as ‘dove’) attributes some weight to humanitarian objectives. If there is no dove, there are no well-defined equilibria and the system dynamics follows an erratic trend with shares of AS that depend largely on those geopolitical circumstances that give rise to considerable inflows of AS in certain European counties. With this first

\(^{13}\) Generalisation of the model, hypothesising more complex behaviours on the part of the agents in the game, could show chaotic trends with dynamic paths greatly dependent on the initial conditions (butterfly effects) and thus fundamentally erratic functioning of the entire asylum system. For the chaotic microeconomics see Lorenz (1989) and Medio and Lines (2004).
model it is found that even if clearly defined equilibria emerge in the game, what matters is the dynamics with which the entire system reacts to external shocks, i.e. to massive, unexpected inflows of AS towards certain particular States. In these circumstances competitive restrictions may be brought in by the States, each seeking to receive the share of AS consistent with its objectives. If the role of the dove country is limited, then the dynamics of the system are unstable, which means that the competitive restrictions with consequent violation of rights can become very harsh. If, on the other hand, the dove shows real interest in rights, then the trends are stable and the competitive restrictions, although still present, do not take on divergent – i.e. potentially very high – values. In this case respect of rights can be breached only to a limited extent.

The second model introduces the national asylum regulations showing a minimal degree of harmonisation in accordance with the European Directives, but leaving discretionary/arbitrary margins which the States can exploit to achieve their national objectives. The aim of this analysis is to see whether greater harmonisation, setting limits to the discretionary/arbitrary powers of the States, can lead to a fairer asylum system, in terms of both fair AS burden sharing and greater respect of rights. Harmonisation of the regulations and procedures is achieved through a complex feedback system going through the actions of each State’s refugee Agency, taking into account the governments’ aversion to AS. This implies a more refined definition of hawks and doves than used in the previous model; what matters here is the degree of aversion to AS, displayed through the restrictions implemented by the Agencies. Again, in keeping with the findings of the previous section, we see the stabilising role played by the dove State, whose presence is indispensable to achieve a stable process of adjustment to the impact of exogenous shocks on the distribution of AS amongst the States. Here the feedback differs from that of the previous model, serving now to indicate the conditional aversion of each State towards the AS, i.e. the way national regulations allow in practice for restrictions to be made on the AS flows.

We had conjectured that the degree of aversion implicit in the regulations can be reduced through more intensive harmonisation. In this case, on the evidence of analysis of the system dynamics, we may state that situations of unlimited competitive restrictions amongst the States, with all the risks of serious violation of the human rights of the AS, can in fact be avoided. Also in terms of the contribution that
harmonisation can make towards fairer burden sharing amongst the States, the presence of a dove country can, as in the previous section, constitute an implicit, albeit minimal, form of cooperation. And again harmonisation has a contribution to make, stabilising the adjustment process and affording the dove the possibility to play its role more effectively in sharing shocks amongst the States.

Thus we must qualify the observation advanced by Thielemann (2004) that harmonisation can 'undermine' the process of European cooperation, and that it can prove 'counterproductive to the aim of more equitable asylum burden-sharing in Europe' since it could aggravate competition amongst the States. The situation described by Thielemann is reflected, in our model, in the circumstances in which the States compete in addressing massive and unexpected inflows of AS with a disorderly succession of restrictions. Such are the cases of unstable dynamics. By contrast, we have shown how greater harmonisation can bring stability to the process. This implies that the competition amongst the States will in any case be on a limited scale, and consequently the effects on burden sharing will not prove disastrous. This also applies at the level of respect of rights.

Ultimately, then, harmonisation can enable greater consistency in policies and effective restrictive actions. Nevertheless, it cannot suffice to construct a fair and effective CEAS, for it may play a stabilising role, but lacking the capacity to achieve in toto the two objectives at the level of shares and rights. The real reason, as emerges clearly from our analysis, lies in the impossibility of physically re-allocating the AS, in the aversion to AS implicit in the States' objectives, which is not susceptible to harmonisation, and in the occurrence of asymmetric shocks on AS flows. As long as there are asymmetric shocks with no clear rule for physical AS re-allocation, we will continue to witness spells of access restriction and violation of rights.
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