

## **Network Analysis of the Contemporary “International Refugee System”: is there any structure?**

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As Zolberg (2001:1) pointed out, the contemporary massive movement of human beings across international borders has sparked tense reactions and much concern especially in the developed countries, final destination of many international migrants. Despite the “anxieties” in those receiving societies and restrictive policies of immigration control the flows and volumes of international migrants keep on scaling up and diversifying on destinations and migrants’ profiles (Castles & Miller, 2003). To deal with the complexity of migration phenomenon some analysts suggested that the human displacements across space should be considered as a social process well structured and organized as a socio-spatial system (Kritz & Zlotnik, 1992; Massey et al. 1998). Then, the international migration system is a conceptual tool – based on social theory and empirical findings – supposed to put in order the myriad of international flows, origin and destination sites, as well as shed more light on causal factors which bear the migration process worldwide. Nevertheless, to be an effective tool of analysis the migration system should be assessed and tested objectively against the empirical facts. Thus far, despite genuine efforts the International Migration System still awaits for formalization and clarification (Zlotnik, 1999; Faist, 2001).

In this study we propose to investigate the so-called International Migration System considering the case of the refugee flows in 2005 (UNHCR, 2005). In fact, this is a study about which features one should come up with if there is in fact an empirical pattern of the refugee flows into the “International Migration System”. Assuming that the refugees are an important part of the more general migration system (see, Castles & Miller, 2003; Faist, 2001; Zolberg, 2001), we should find structural patterns converging to a system-like design of the refugee flows and volumes among countries of origin and destination. In other words, is there any structure behind the distribution of refugee flows, volumes and countries of origin and destination? And if so, what structural configuration is supposed to exist and to which factors such patterning should be causally related to?

The literature on refugees suggests that the main determinant factors to explain the refugee flows would be political and military, like inter and intra-State wars, civil wars, ethnic and religious strife, genocides and intervention wars (cf. Keely, 1996; Schmeidl, 2001; Castles & Miller, 2003). There are other recognized factors but still in need of testing, like economic factors (poverty), environmental disasters, and population characteristics (population growth, fertility rates, family networks). Finally, there are structural factors neglected by the majority of studies that did not consider the patterning of refugee flows as emergent constraints of the presumed “migration system”.

In this study, besides major political, economic, demographic, cultural and geographical variables, we consider various “structural variables” concerned specifically to the dyadic relations between each country in the world – we defined variables like

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“refugee flows between each country”, “international trade flows between each country”, “countries with colonial links”, “countries with common language and ethnic links”, “spatial contiguity between countries”, and network variables such as “centrality” and “density” measures.

We hypothesize initially that the International Refugee System should display the same structural pattern as the predicted International World System of Nation-States, that is a center-periphery model with a structural hierarchy across developed and developing countries (see, Keely, 1996; White and Smith, 1992). However, while we go further in our study we realize that new patterns in the refugee system could have emerged in the last 20 years, since the ending of Cold War in the 90’s. As many authors have pointed out, the contemporary refugee regime might be indicating new actors and structural features, mainly with the change from ideological and military bipolarity in the Cold War to a new one expressive of the North-South Divide (Keely, 1996; Zolberg, 2001; Betts, 2006). Thus, we also hypothesize that the contemporary International Refugee System should display a bipolar (non-concentric) configuration consistent with the North-South Divide assumption.

This research is still in progress but our proposal for IUSSP 2009 is to present a thorough analysis since we have already started the analysis of some results (that we shall mention briefly in this extended abstract). First, we present some conceptual discussion on refugees, the refugee system/regime and the determinant factors to refugee migration. Second, we detail our data and the methodological standards of the Network Analysis (the definition of structural variables and our hypotheses). Finally, we introduce some results of our analysis.

## **1. Concepts and Determinants of Refugee Migration**

### **I. Refugees**

According to Zolberg et al. (1987) the conceptualization of refugees is based mainly on the idea of violence from within the country (or region) of origin. The refugee is one who flees from fear of violence against his/her integrity and is usually a consequence of the State's incapacity to keep domestic security. However, the authors claim that the refugee movements have another prior strong factor exerted from outside the country of origin. This is the violence between States or more commonly the interventionist wars that fuel separatist and segregationist internal conflicts.

The legal definition of “refugee status” was defined formally by the UN General Assembly covenant in 1951 to resolve problems of Europeans victims of Nazi persecution during the World War II. The definition was very strict and defined rather limited features for one’s eligibility to the refugee status: any person fearing violence against his/her life from a State not able to protect his/her integrity (or fleeing from a State perpetrator of violence). Some analysts highlighted the “Eurocentric” bias of such conceptualization of refugees that only changed in the end of the 60’s. In 1967, an amendment to the 1951 UN conference expanded geographically and politically the definition, including other forms of forced migrations (like religious persecution).

Finally, the definition of refugees is based on international laws that regulate all process of refugee assignment. People fleeing violence can be assigned to refugee status

based on “personal application” (when Justice in Nation-States judge in a “case-by-case” system) or the so-called “prima facie” procedure (when Nation-States receive a mass influx and have to judge the whole group of people at once). Refugees can also apply “onshore” or “offshore” depending on the countries of destination and personal situation. While the refugee-applicant waits the final decision of the receiving Nation-State he/she is considered as an “asylum-seeker”. Usually the asylum-seekers are restricted to live in camps or specific places in the country of destination till the definition of his/her application, but it varies across Nations and asylum-seekers’ origin. The so-called “durable solution” for the refugee problem is ideally the “repatriation” (the return of refugees to their original countries). But the refugee can become a permanent migrant or still be “resettled” in a third country.

## II. The Refugee System/Regime

The refugee system should be regulated by the Nation-States summoned at the United Nations Assembly (Gallagher, 1987). The foundation of UNHCR (United Nations High Commissioner for Refugees) reflected the organizational relations among the Nation-States in the UN but was supposed to resolve the problem of refugees.

Then, the refugee system is properly transnational as Zolberg et al. (1987:156) pointed out: "The transnational perspective adopted here is grounded in the notion that the globe constitutes a comprehensive field of social interaction, conceptualized as a network of interdependent political and economic structures, but with some autonomy in relation to each other". There is clear resemblance with World-Systems Theory (Faist, 2001, who talks about the “social networks’ linkages between micro/macro levels, and in the sense of transnational perspective, the Nation-States are macro structures and the refugee flows micro and macro linkages between them). However, as Zolberg et al. (1987:157) argued "(...) the global network that came into being is founded on enormous asymmetries of power and wealth, and exhibits distinctively anomic features”.

Expressing those asymmetries between Nation-States, the International Refugee System settled down and evolved from the beginning of the 20<sup>th</sup> Century – that evolution converged to the UN agency system with the formation and consolidation of the UNHCR. As affirmed Keely (1996:1056-7),

“after World War I, uncontrolled movements of people from states that could not or would not protect their citizens led the League of Nations to arrange internationally coordinated protection and assistance to displaced people, who were generally unwanted where they fled. The international response to refugees developed into a refugee regime. Concern gradually shifted from population transfers, related to the end of European empires, to interwar minorities issues and refugees from Nazi Germany. After World War II, the focus of international refugee aid shifted to repatriation in Europe and then, when forced repatriation to Iron Curtain countries became unacceptable, changed quickly to overseas settlement schemes. The European focus dominated until the mid-1950's, when attention shifted to the Third World where refugee production increased because of civil wars and ideological revolutions. These wars and revolutions were tied to post-colonial nation and state building and to cold war rivalry (...) The international refugee regime's contemporary structure, norms, and resources evolved to address the problems of a post-World War II world, dominated by cold war rivalry. Today the refugee regime deserves reevaluation" (Keely, 1996:1056-57).

The contemporary refugee system has different institutional actors and countries, but according to Keely, the main purpose of the refugee regime follows determination of the current geopolitical system (the international relations among Nation-States):

"The international refugee regime - with international treaties, multilateral agencies, and a phalanx of nongovernmental organizations encouraged to be implementing partners in dispensing aid - is not based primarily on humanitarian feelings. Whatever individual motivation inspires national and international officials and civil servants and refugee and human rights advocates, the political basis for the international refugee regime is the protection of states and the international system of states that is threatened when states fail to fulfill their proper roles. **Because refugee production is rooted in the nation-state model that undergirds the current geopolitical system, refugees are a system-induced threat.** Any system will try to counter such a threat and return to its original or a new equilibrium" (Keely, 1996:1057-58)

That's why the preferred "durable solution" regarding the refugee problem is the repatriation ("send'em back home"). Thus, the role of UN system is to provide an arena where the Nation-States system would operate objectively. But it seems to be more a theatrical arena where power is arranged across regional groups and factions. Anyway, concerning refugee flows the so-called UN system, through the High Commissioner for Refugees, should work as central coordination bureau of the humanitarian actions for the whole refugee system. However, as suggested above the UN system would also express the Nation-State international political system dominated by political disputes. For instance, Keely argues that **"the mandate of UNHCR to provide protection, it should be recalled, is a mandate given by states. As the source of the mandate, states define its scope and operation. The mandate is not a moral law nor does a UN agency provide the final interpretations on the meaning of its mandate under changing conditions.** States provide authoritative interpretations and extensions of mandates of international organizations. (...) Currently, there is tension between some UNHCR officials and refugee and human right activists, on the one hand, and states, on the other hand, about the meaning, scope and application of refugee and humanitarian law in emerging situations involving civil conflict" (Keely, 1996:1061).

However, it is important to note that many States have shifted away from the cold war's bipolarity, and have adopted a collaborative multistate activity concerning the solution of the refugee flows (Keely, 1996:1063). Further, many analysts have recalled that the international system of governance is never static and many things can change. The refugee regime was shaped in the period of post-World War II and the cold war times, when the main ideas (discourse) were rooted in the bipolar world (capitalism X communism). So the regime, organizations and identities were impacted strongly by these leading ideas (Betts, 2006). The regime was based on the Eurocentric normative structure in its very beginning (that changed only in the 70's). It was arranged under the centralized and hierarchical organization of the UN and bipolar disputes, and the identities were tied to the clash between capitalism and communism (so, the refugee problem was mainly an ideological problem, and never an environmental problem, for example). Today it is different because many more NGO's, advocates and political actors entered into the arena. UNHCR is not the only organization taking care of the refugee

problem (although, still they have many prerogatives and coordinate the information on refugees around the world).

Currently, the international relations have changed from bipolarity of cold war to the new one of North-South, and this new configuration can produce new determinant factors for refugee flows. For instance, according to Betts, the problems concerning refugee flows in the perspective of contemporary South States are more of environmental and developmental issues while in the North States it is more of migration and security issues. Nevertheless, it is not clear yet how much those linkages could affect the structure of a "world refugee system" (Betts, 2006:14-5).

### III. Factors Influencing Refugee Flows

Since the Nation-State, as a political organizing principle, contains opposing tendencies which provides the basis for different potential States, the refugee problem will arise eventually. Thus, disagreements about State structure can lead to internal conflict and violence against different collectivities. "These tensions in the nation-state model yield three sources of refugee production: multinational realities that conflict with the nation-state norm, ideological disagreement, and state failure. These are rooted in the instability of the nation-state, the fundamental unit of contemporary geopolitical structure" (Keely, 1996:1052).

Political and economic factors are supposed to impact on the refugee regime, although few studies have quantified such impact (Schmeidl, 2001). It is affirmed that the political and military factors are the main source of refugee flows, but economic factors which could increase poverty and social injustices are also important since they can influence civil wars within Nation-States. "Economic factors can spark opposition and may lead to nationality conflict, revolutionary activity, or even the collapse of the state. Yet refugees, who have appeared in moderately wealthy and very wealthy states, are not primarily an economic phenomenon. Rather, refugee production originates in the nation-state as the mode of geopolitical organization" (Keely, 1996:1056).

In short, there are three main sources of refugee flows based on geopolitical and military factors: 1. Multinational conflict; 2. Social revolution; 3. State implosion (post-colonial conflicts, mainly). The literature has not systematic studies about the evaluation of economic factors influencing refugee migration.

In addition, Jacobsen (1996) calls attention to the influence of State policy factors: She used the idea of "policy sets" as the main guide for government action dealing with refugee issues. The Policy Sets might be think of as a spectrum, from most positive (in accordance with international law standards - the UNHCR conventions) to negative (violations and poor cooperation). In the policy sets governments may act directly on the influxes, creating legal-bureaucratic institutions to tackle the refugee problem, can cooperate with international organizations, do both, or deal with the problem through army and military institutions. The governments can follow strictly or not the UNHCR convention statements. Such policy sets will probably impact on refugee flows.

Then, there would be four broad categories of factors affecting refugee policies and flows: 1. bureaucratic choices made by the governments; 2. Diplomatic international relations; 3. the absorption capacity of the local host community; 4. national security considerations (Jacobsen, 1996).

## 2. Data and Methods

### I. Datasets:

We accessed different data sources in order to compile varied information on refugee flows and Nation-States worldwide. We collected data on refugee flows from UNHCR Statistical Online Population Database and elaborated the refugee matrices using STATA9 software. We first elaborated matrices of refugee flows among all countries in the world according to ISO3 standards used by United Nations. However, in order to guarantee a consistent match between different datasets (especially the socio-demographic, economic and geopolitical variables) with minimum missing cases we decided to standardize our matrices based on an international reference project at the Centre D'Etudes Prospectives et D'Informations Internationales (CEPII), which compiled most of variables used in our study. In addition, some special variables (like demographic projections on age structure, number of landline telephones, cell phones and internet hosts and users) were extracted from the CIA Factbook 2005.

Then, the refugee matrices were imported into the Social Network Analysis Package, UCINET, and we finally elaborated the definitive relational datasets of diverse flows among 222 countries around the world. Although our data spans from 1995 to 2005 in this study we shall analyze only the refugees, asylum-seekers and repatriated flows in 2005.

Our datasets have three types of variables:

- Attribute variables regarding each Nation-State: categorical and interval variables ranging from demographic and economic to geopolitical and cultural factors such as total population, GDP, literacy rate, length of borderland, communication and transport system variables, official languages, etc.
- Relational variables: binary and interval variables expressing “relations” between each country in the world. The refugee data informs us about the refugee flows between each country in a matrix ( $N \times N$ , i.e.,  $222 \times 222$ ), the international trade data informs us about trade exchanges between countries. We have also relational data on common colonial past, common official languages and ethnic groups, borderland contiguity, and interstate war linkages.
- Structural variables: these are specific interval variables regarding the Network Analysis of the refugee matrix, like centrality measures, clusters and partitions.

### II. Methods and Hypotheses:

Perhaps, the major contribution of this study is about the application of network modeling to the migration phenomenon (specially the refugee problem). According to the literature on refugees different causal factors are still to be explained in the refugee system. In fact, we have doubts whether there would be the so-called “refugee system” – supposing that such “system” should also imply structural

constraints on refugee flows and Nation-States, corresponding to structural factors not considered in the previous studies.

In other words, we argue that the studies on refugee flows do not consider the associations between attribute and relational variables (especially what we call here the structural variables of the system), but they deal with the refugee migration as a regime or system. We propose to analyze the interactional effects of different variables that could provide support to the expected “refugee system” – consequently, our effort to include in this analysis the attribute factors, like economic and demographic, and relational/structural factors, like dyadic exchanges of refugees, trade, war, political and cultural ties.

We propose two hypotheses to test the configuration of the refugee system:

- If there is an international refugee system, it should display the structural patterns of the Nation-State World System. In this sense, we should expect that the patterns of refugee flows among countries of origin and destination take shape of the core-periphery model (concentric). In this model, we should expect the convergence of the World-System model (politically and economically powerful countries in the core and poor countries in the periphery) with a bipolar structure in which countries with the highest inflows should rest in the core and the countries with the highest outflows in the periphery.
- The second hypothesis suggests that the international refugee system should display a bipolar (non-concentric) model. In this model it is not expected that wealthiest countries be in the core because we interpret “centrality” (i.e., the powerful positions in the refugee system) as the most dynamic and embedded positions in the “refugee system”. Thus, it should be expected that the countries with more links (inflows and outflows) to others are the more important in the system. Our hypothesis suggests that bipolarity will assign North countries in the one side and South countries in the opposite side of the graph. In this case, we suggest that the International Refugee System does not match the World-System model and its hierarchy (i.e., core>semi-periphery>periphery – see, White & Smith, 1992).

### 3. Initial Results

First, we assessed the reciprocation of refugee flows between countries (i.e., is there balance between senders and receivers?) – we also assessed the reciprocation of asylum-seeker flows and repatriated flows. We found that out of 222 countries only 3.15% reciprocate the flows of refugees, 3.59 the asylum-seekers, and 5.31% the repatriated.

This suggests that there is a huge disequilibrium between sending and receiving countries, but it is worth to point that repatriation flows have a slight better performance (we shall explain later, in our analysis in progress, that the reciprocation of repatriated occurs mainly between neighboring countries in Africa and Asia).

Second, we ran a Quadratic Assignment Problem (QAP) in order to assess the correlation between the matrices of flows. We confirmed that there isn't correlation between sending and receiving countries ( $r=0.006$ ,  $p<0.000$ ), and between refugee flows

and repatriated flows in 2005 ( $r=0.012$ ,  $p<0.000$ ). Between refugee flows and asylum-seekers we found a very light correlation, yet ( $r=0.119$ ,  $p<0.000$ ).

Third, concerning the structural (network) analysis, we analyzed the performance of countries considering their centrality and embeddedness in the network. Here we present only some preliminary results about centrality of the refugee system in 2005.

We calculated the centrality measures for the original matrix of refugees (that is, the absolute values of each directed refugee flow). We can see below the list of top-12 more in and out-degree centralized countries in the network. The centrality measures express a hierarchy of “connectivity” of the countries regarded their number of direct connections weighted in the overall distribution of connections. The most centralized countries are those that show more connections (or more weighted connections) to others. Then, a high centralized country is one that sends and/or receives to/from many other countries.

**Top-12 In-degree (receivers) Countries:** Germany (DEU), United States (USA), Canada (CAN), Great Britain (GBR), France (FRA), Netherlands (NDL), Switzerland (CHE), Australia (AUS), Sweden (SWE), Kenya (KEN), Denmark (DNK) and Norway (NOR).

**Top-12 Out-degree (senders) Countries:** Afghanistan (AFG), Somalia (SOM), Democratic Republic of Congo (ZAR), Iraq (IRQ), Yugoslavia (YUG), Iran (IRN), Russia (RUS), Rwanda (RWA), Sudan (SDN), Burundi (BDI), Sierra Leone (SLE), Angola (AGO);

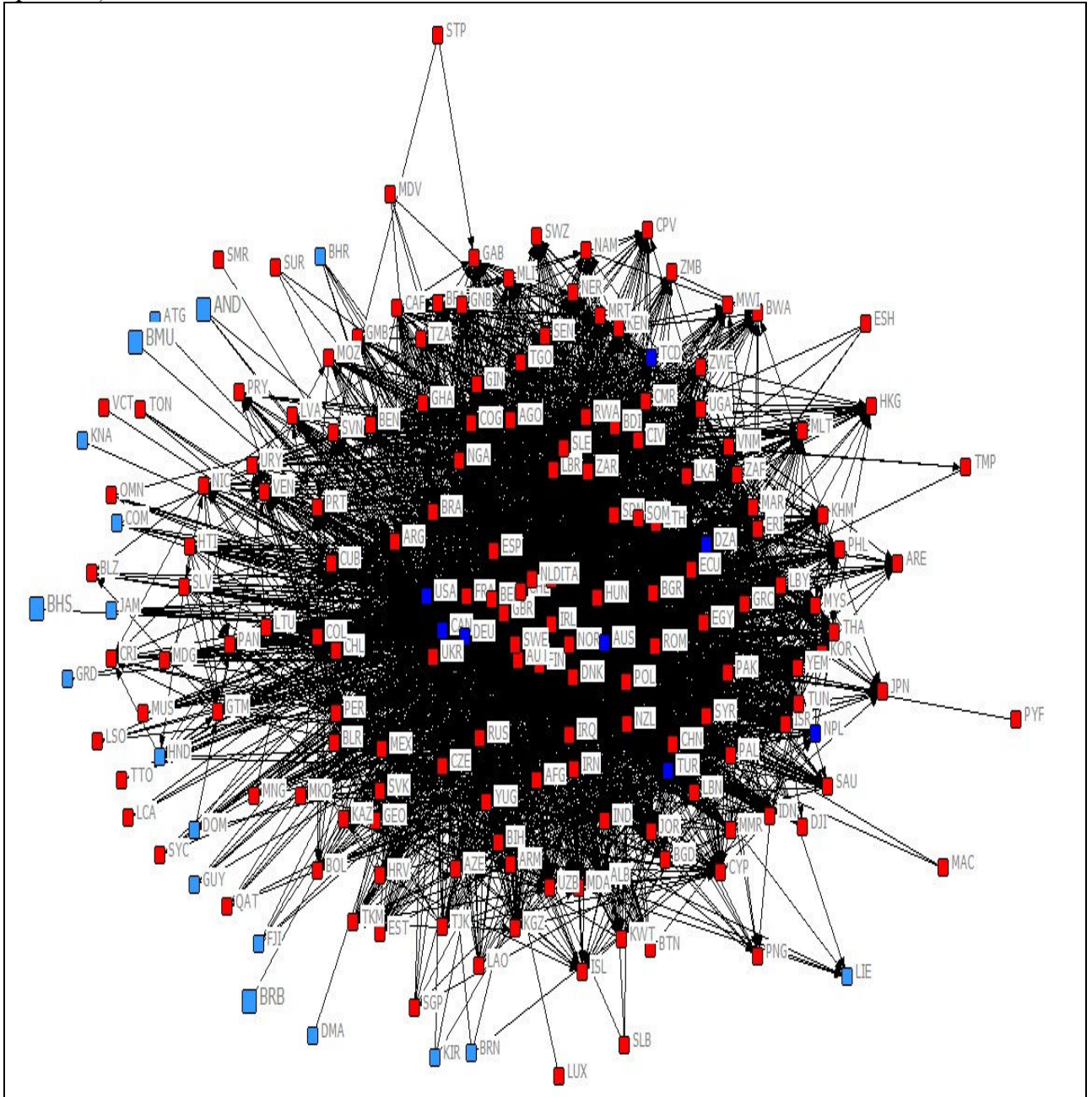
We can see clearly that the most centralized countries in sending and receiving positions are different, and we can find some pattern in the clusters. For instance, the receivers are predominantly Western Developed countries, except for Kenya – but this country is a regional important country in Africa. The senders are predominantly developing countries from Africa and Asia, except Yugoslavia and Russia. But all countries in that cluster have in common the geopolitical and military situation (interstate wars, intrastate or civil wars).

Moreover, the network centralization index confirms some structural differences between senders and receivers: out-degree centralization of 9.6% and in-degree of 21.9%. The centralization index is a global measure for the entire network, so it means that higher the centralization (from 0-100%) the more heterogeneous is the network, with one major “node” connected directly to each other, and all the others dependent upon it. Considering the perspective of refugee out-flows we see a less centralized network meaning that more countries are alike, and have diversified links. On the other hand, the in-degree centralization shows that the network is more centralized with preferable destinations, and fewer countries with more diversified links.

We shall see this in the figures below. The first graph in the figure 1 shows the network of refugees in 2005 based on the original data (absolute values of refugees in each dyadic link). The second graph in the figure 2 shows only those flows upper than 1,000 refugees in each link. Visually, one should note the difference between the representations concerning the concentration of dark lines in the figure 1 (more links with fewer refugees among countries) and fewer lines in the figure 2.

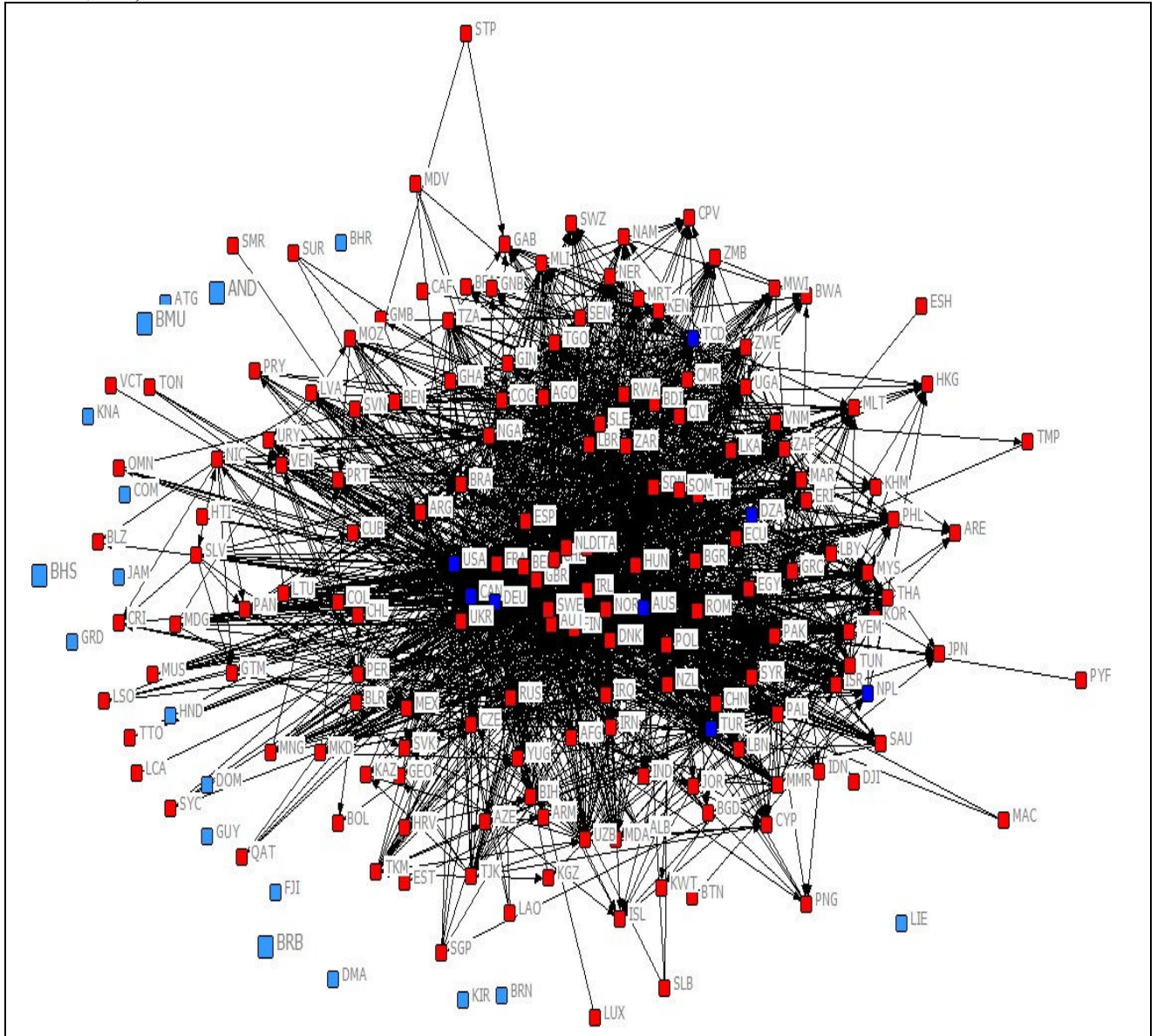


Figure 1: The Network of Refugees in 2005 (original data in absolute number of refugees per link)



The graph visualization is based on Multidimensional Scaling procedures improved by the spring-embedding algorithm and the drawing shows a pattern of the distributions of links among the countries – as more similar is the distribution of links (in and outflows) closer the countries (nodes) will be. In the graphs we can see that the countries in the core are more “active” as possible – that is, they share more links and volume of refugees –, and therefore those countries are more central than others in the periphery. However, this is not a core-periphery pattern because there are some countries in the extremes that have regional importance (we didn’t test the model, yet).

Figure 2: The Network of Refugees in 2005 (absolute number of refugees per link upper than 1,000)



The graphs also show some structural features of the nodes. The red nodes are averaged embedded countries, the dark blue ones are outpoints (i.e., brokers), and the light blue are the most vulnerable countries in the system. In the figure 2 we can see that the light blue countries are disconnected because they do not share refugee flows upper than 1,000 individuals per link. The dark blue countries are structurally very important because they have “exclusive” links to some other “dependent” countries. For instance, Nepal (NPL) in the right down corner is a broker between Bhutan (BHT) and the system because only Nepal has received refugees from Bhutan. Thus, Nepal acquires a regional importance in structural terms.

Finally, we would expect to find in the graph a core-periphery pattern. We can see that the core is mainly occupied by western developed countries. However, still in the

core range, we can see in the upper right a small cluster of African countries (Rwanda, Liberia, Sierra Leone, Democratic Republic of Congo, Cote d'Ivoire, Ethiopia, Somalia and others). All these countries have high centrality scores, just the same as the western developed countries. We shall test a model in order to disentangle varied effects on such disposition: does the structure of the refugee system show a concentric core-periphery pattern (following the political and economic World-System) or an antagonistic and bipolar pattern between North and South?

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