ECONOMIC FREEDOM AS A MAGNET FOR INTRA-EU28 MIGRATION

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The decision to leave your home country and establish your life somewhere else is a complex one, in which personal and psychological reasons, economic and political factors, information and preferences as well and sheer luck all play a complementary role. For this very reason the study of migratory processes tends to be a multidisciplinary enterprise, in which economists, sociologists, antropologists have a say (Jansen 1969). It is also a historically and geographically changing phenomenon, from the fordist-immigrations of the last centuries to the high-skilled mobility of contemporary knowledge workers.

In literature, there are three main models of assessing drivers for immigration: (1) network-driven models, in which cultural similarities, historical affinities and the existence of a large group of migrants attract new flows of migration; (2) economic-driven migration, in which is the difference in expected salary or other economic variables, such as GDP, median income and employment opportunities attract migrants to their new country of residence (Sjaastad 1962); (3) and welfare-driven models, according to which more generous welfare state tend to attract more immigrants (Borjas 1999). While all these hypotheses are well established in literature, it is mostly the latter that gains prominence in public debates, often overemphasizing its relevance.

In this work we want to analyze the question of what drives immigration in the framework of neo-institutionalism, namely the theory that focuses on the way institutions, meant as "humanly devised constraints that structure political, economic, and social interaction" (North 1990), interact with and affect society. The whole effort of social sciences through centuries, from Plato's *Republic* and Adam Smith's *Inquiry* on the causes of social welfare to contemporary economics, sociology and political science can be summarized as a collective – and often uncoordinated – enterprise to discover what institutions can foster prosperity. Therefore, references to literature can only be partial and useful to insert this research in a general framework. Acemoglu & Robinson (2012) explains how economic growth is caused by inclusive institutions, which "require secure property rights and economic opportunities not just for the elite but for a broad cross-section of society", and nations fail to accomplish growth and prosperity "when extractive economic institutions do not create the incentives needed for people to save, invest, and innovate. Extractive political institutions support these economic institutions by cementing the power of those who benefit from the extraction". Similarly, North et al. (2009) explains how open access orders, institutional ar-

rangements in which citizens have untampered access to economic resources, are characterized by increased growth and development. In order to operationalize the quality of institutions, we will use Gwartney, Lawson, and Hall's (2012) *Economic Freedom of the World Annual Report* (EFW). The EFW index measures the consistency of a nation's policies and institutions with economic freedom on a broad range of indicators, covering five areas: 1) size of government: expenditures, taxes, and enterprises; 2) legal structure and security of property rights; 3) access to sound money; 4) freedom to trade internationally; and 5) regulation of credit, labor, and business.

EFW index is widely used in literature: Hall and Lawson (2014) survey 402 articles on journals listed in the Social Science Citation Index since 1996, finding out that 198 empirical papers use EFW index as an explanatory variable and that fewer than 4% of the articles surveyed found economic freedom to be associated with a normatively negative outcome such as income inequality or obesity. EFW is also consistently correlated with the Heritage Foundation Index of Economic Freedom.

In this framework, we are going to assess whether intra-EU28 migration is responsive to better institutions, as previously defined in terms of economic freedom. Analyzing intra-EU migration allows also to be aware of an important distinction in migration literature, i.e. that among voluntary and non-voluntary migration (Segal et al. 1993): European countries are quite homogeneous in terms of political stability, personal safety and economic development, so we can reasonably assume that EU citizens migrate in order to satisfy largely non-critical life-choice ambitions, such as better working prospects or improved quality of life.

Migrations inside EU are an interesting case-study for the Tiebout (1956) model of geographical competition: according to this model, citizens leave their home jurisdiction for a jurisdiction that has a set of institutions and policies closer to their set of preferences. This "exit" decision is affected by the expected improvement in the correspondence to one's set of preferences, and the cost of leaving.

European countries are more differentiated, in terms of language, culture and socio-economic indicators than other federal orders, e.g. US, on which most of the literature on internal migration is based. But the principle of free-movement of workers lays at the core of the European project since its foundation, therefore the EU is committed to remove legislative barriers to internal migration, so that "regulatory" cost of exit is lowered.

To sum up, intra-EU28 migration provides us with an interesting case study of voluntary migration, with medium-high cultural barriers and low regulatory barriers, and a limited variance in terms of political stability and accountability.

VISUALIZING INTRA-EUROPEAN MIGRATION

Immigration is a complex bidirectional phenomenon, and in order to better understand the complexity of flows to and from a given country it is important to watch it in a compelling format. Bidirectionality, intensity and complexity are missed in traditionally used migration maps, which show flows as stroked lines among the in-

terested geographic areas. "Effective visualisations of migration flows can substantially enhance our understanding of underlying patterns and trends. However, commonly used migration maps that show place-to-place flows as stroked lines drawn atop a geographic map fall short of conveying the complexities of human movement in a clear and compelling manner" (Sander et al, 2014:1).

Following Abel & Sander (2014) demographic visualization technique, we map the flows of immigration to/from 28 European Member state on a circular bidirectional chord chart. (Graph X.1)
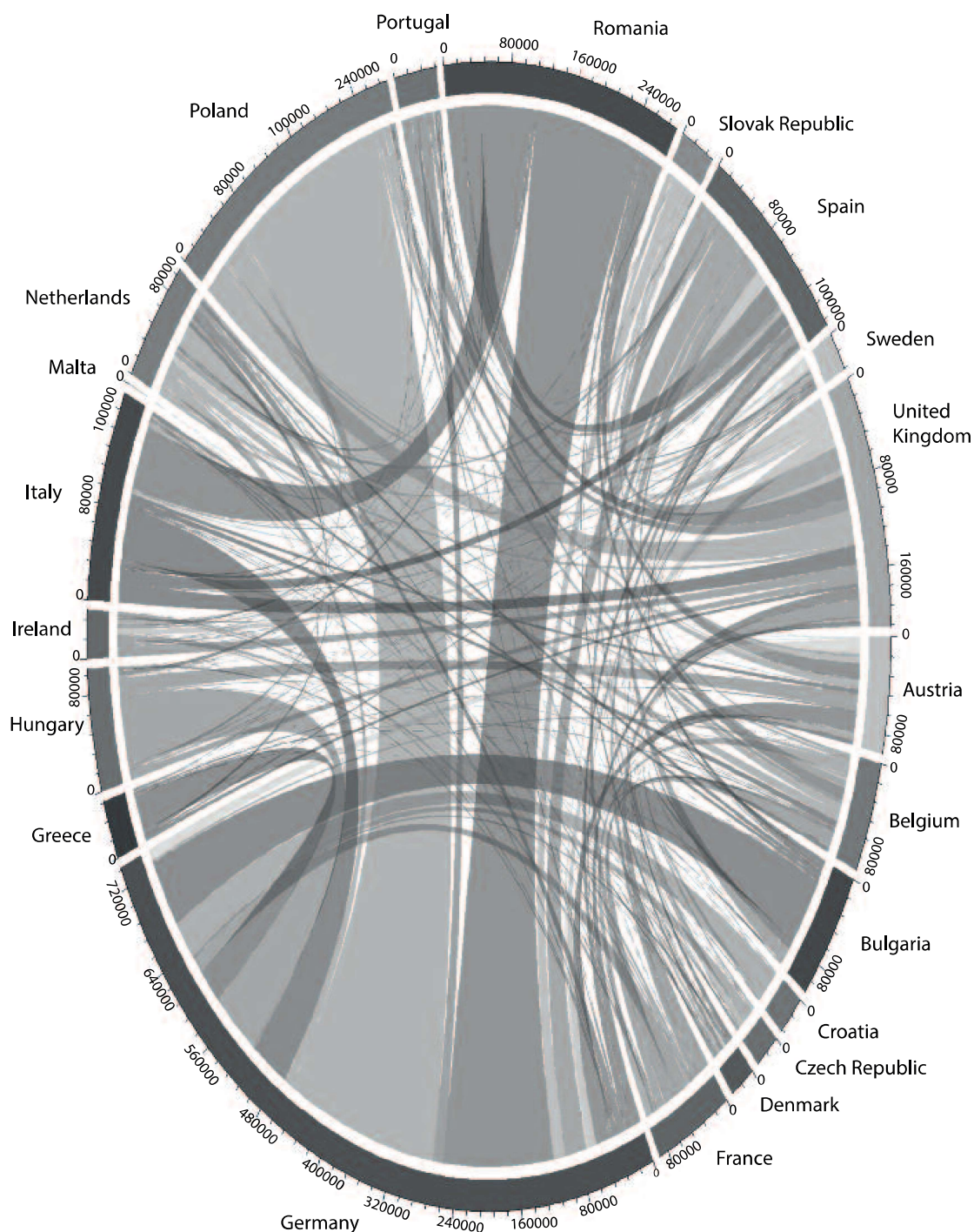
Graph 1. Bidirectional flows of intra-EU immigration. Data sources: OECD International Migration Database and the United Nation International Migration Flows to and from Selected Countries (2015 revision). Our elaboration.

This visualization helps us realize how the migratory phenomenon has multiple directions but it is clearly differentiated, so as to make possible to assess for meaningful trends.

As a further assessment of the migratory phenomenon inside the European Union, we built a fractionalization index (Alesina et al. 2003) which accounts for the diversity of local populations in European countries by using the 2012 stock of Eu28 (except reporting country) and non-Eu28 migrants over the total population aged 15-64 (Eurostat). Based on this fractionalization, we built two Lorenz curves showing the proportion of the overall population represented by European and non-European migrants that are distributed in the EU territories. In fact, the closer the curve is to the bisector, the less concentration you can observe in the population. But our curves are quite far from having a 45° angle. That means that immigrants are distributed across the European territory in a very heterogeneous manner.
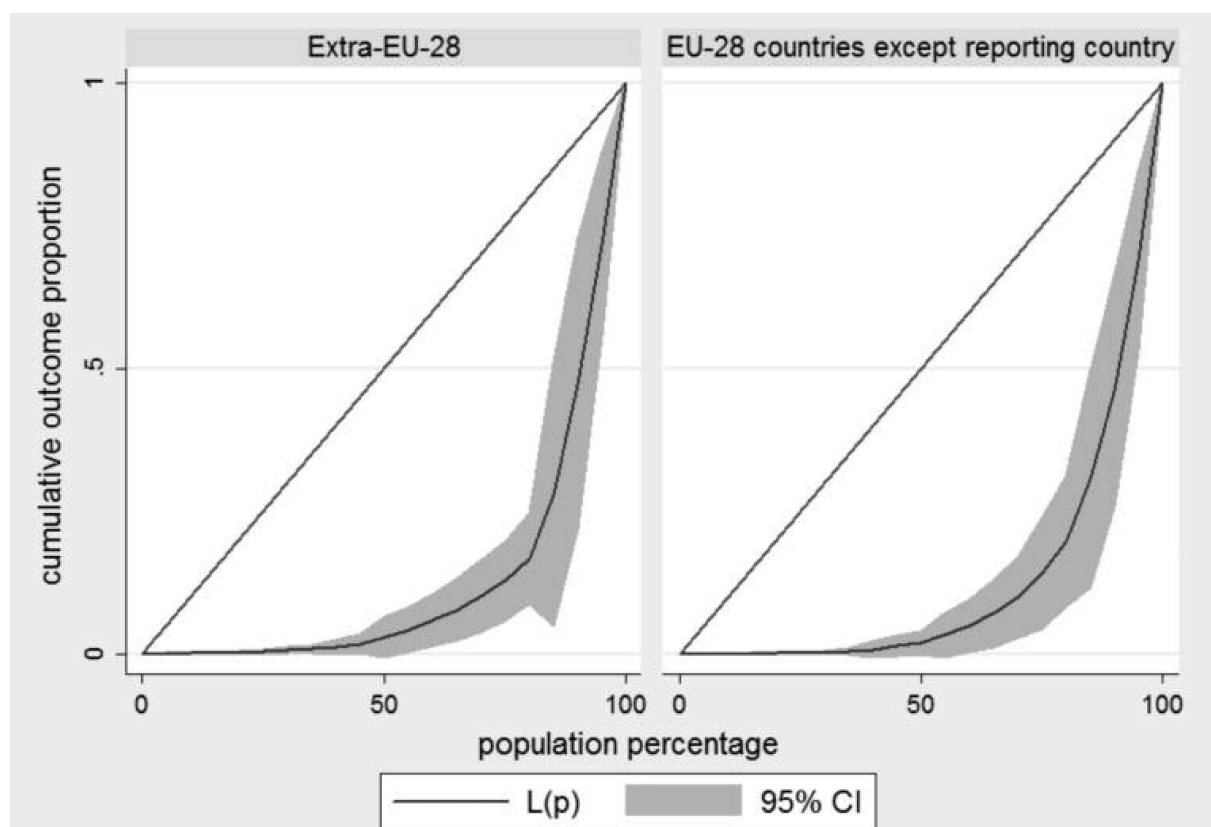
Graph 2. Lorenz curves for EU28 and non-EU28 migrant population. Data source: Eurostat.

CLUSTER ANALYSIS OF IMMIGRATION

In order to assess whether interesting trends need to be further explored, we conduct a preliminary data analysis. We firstly compare flows of European migrants in 2013 and corresponding differentials between the EFW rank of the destination country and the EFW rank of the origin country. In particular, we are referring to EU-2 migrants, aged 15-64. We can observe in Graph X.3 a strong evidence of positive correlation, with appreciable confidence interval.
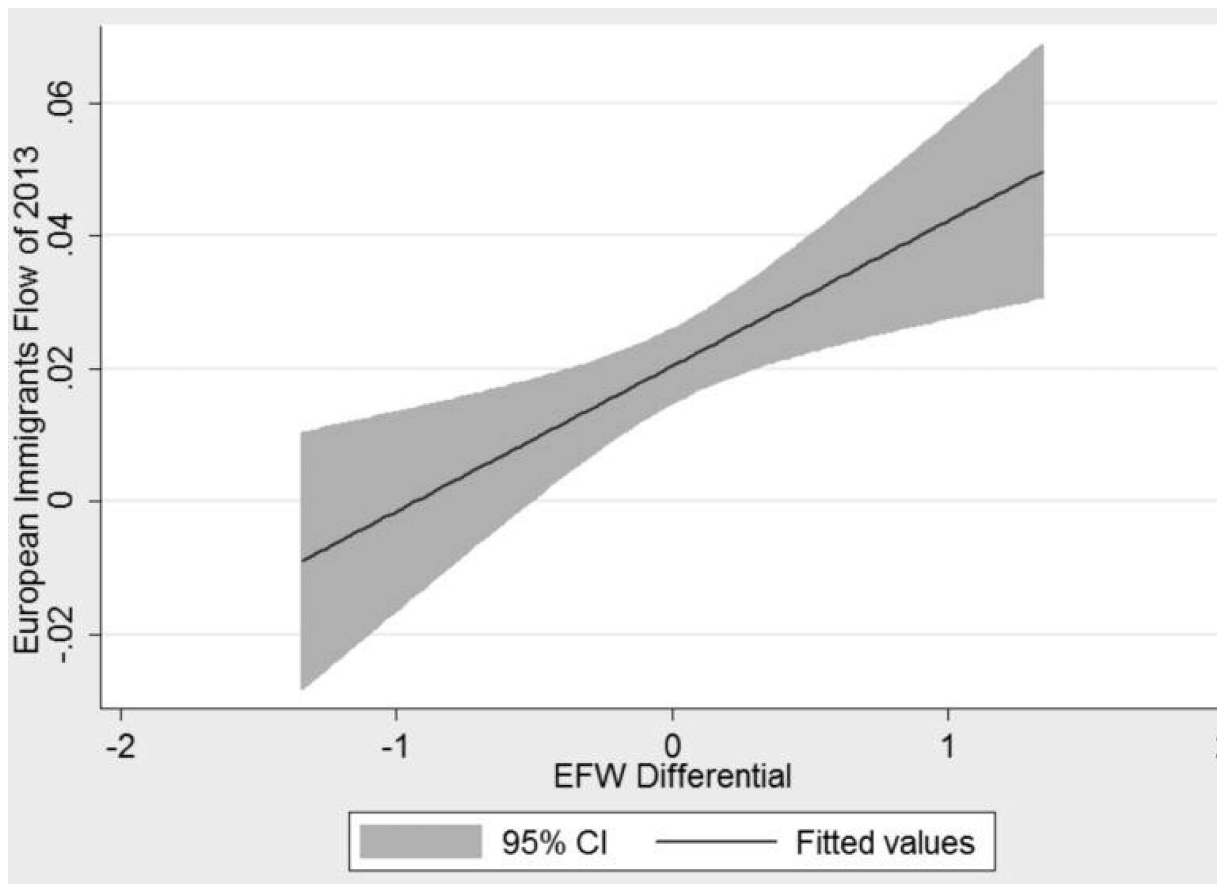
Graph 3. Relationship between EWF and stock of EU28 migrants in 2012. Data source: EFW, Eurostat.

Since European countries are quite homogeneous in terms of institutions, we start with a preliminary analysis of their relationship with our dataset of institutional and economic variables using a hierarchical method for clustering functional data.

The cluster analysis is useful to inspect data and get a general overview of the characteristics of our subjects of interest. We have included variables considered by the EFW as well as the Heritage Foundation Index of Freedom: variables in this area covers indicators of property rights protection, fiscal freedom, labour freedom, investment freedom, regulation, law enforcement, taxes, government consumption, licensing restrictions and barriers.

A second set of variables includes socio-economic variables, such as GDP, unemployment over total population, median income, and social expenditure as share of GDP, as well as two output indicators for social welfare: quality of Healthcare and quality of education; finally, we add a Social Capital indicator measuring the perceived quality of social life (sub-indicators of the Legatum Index of Prosperity).

A third set of indicators accounts for political institutions, using World Bank Governance indicators, including a rank for rule of law, voice and accountability, government effectiveness, control of corruption, political stability and regulatory quality.

We apply hierarchical clustering with Ward (1963)'s minimum variance criterion (Ward 1963), as the linkage method in order to minimize the total within-clus-

ter variance (Ferreira and Hitchcock 2009). Following this method, we identify seven groups, depicted in the dendrogram in Graph X.4, which are homogeneous within and heterogeneous between one another.

Hierarchical Clustering - Ward Method
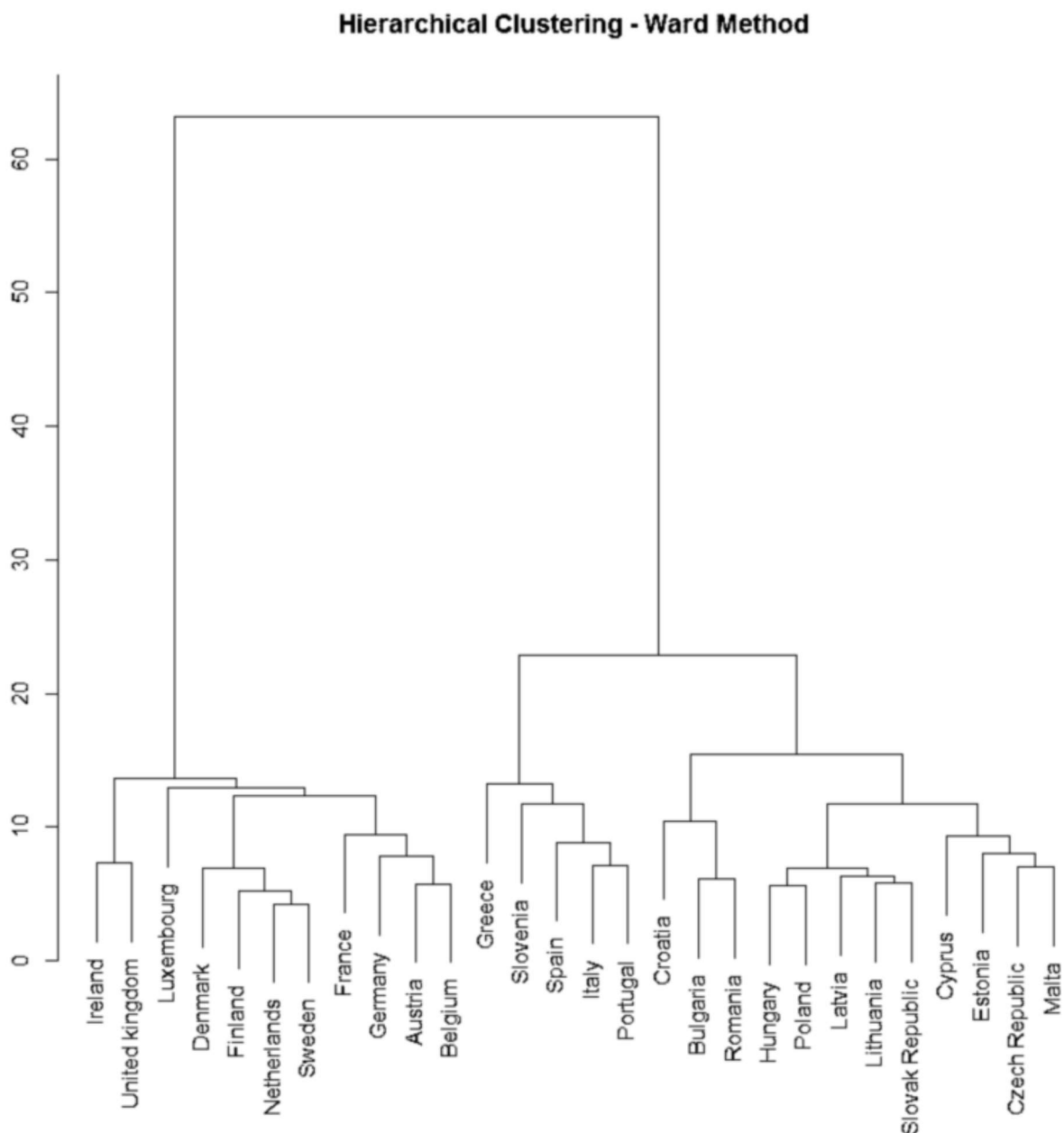
Graph 4. Clustering of institutional and socio-economic variables in EU28. Data source: Eurostat, OECD, EFW, Heritage Index of Economic Freedom; Legatum Index of Prosperity; World Bank Governance indicators.

While no distance or geographical position was used, we can easily identify a geographical order in the groups, and read them against previously used data on the stock of immigration.

On the left, the first group is the one composed by Ireland and United Kingdom, which are the top two countries in Europe for Economic Freedom: respectively, the EFW score is 7.9 and 7.83. They have a very high percentage of European immigrants over the total population: 0.569% in Ireland, 0.41% in the United Kingdom.

Luxembourg is a particular case, which we can consider an outlier based on very his peculiar scale and history. In fact, it has recorded the highest percentage of European workers when compared to the other European countries. It also has the highest GDP pro capita in Europe and very low unemployment. It has a quite high level of economic freedom, but also the highest national social expenditure per capita.

Denmark, Finland, Netherlands and Sweden are gathered in the Nordic group, with similarly medium-high positions in the economic freedom rank (in particular a very high protection of property rights), and a large stock of European migrants within their borders.

The Continental group (France, Germany, Austria, Belgium) holds a middle position in both our measures of our interest – European migration and economic freedom – although they have high levels of social expenditure.

Greece, Slovenia, Spain, Italy and Portugal (the Southern group) shows with middle-low levels of both measures, and the Eastern European group (Croatia, Bulgaria, Romania, Hungary, Poland, Latvia, Lithuania and the Slovak Republic) shows very low levels in both our measures of interest.

On the right side, we can see a very interesting group. In this case, we don't have particularly high levels of income, nor of social expenditure, but we have two of the top countries for what regards both European immigration and economic freedom – namely Cyprus and Malta. In fact, in both countries the majority of non-nationals were citizens of member countries.

A MODEL FOR ASSESSING THE IMPORTANCE OF ECONOMIC FREEDOM IN FOR INTRA-EU28 MIGRANTS

Our explanatory model of intra-EU movements is based on the assumption that the migrant decides to migrate when the expected benefit of migration exceeds the benefit of residing in his home country plus the cost of leaving. Then, the ratio between the utility of migrating (UM) minus the cost of migrating (C) and the utility of staying in the origin country must be greater than 1. Or, expressed in a more convenient way, we can take the logarithm at both sides of the inequality and get the expression of the return to migration (R) as the difference of the logarithm of the quantities previously mentioned. Of course, this must be positive.

Of course no migrant is explicitly thinking in these terms (unless they are economists), but the decision of migration is influenced by what, in light of the available knowledge, the actor thinks would be an improvement in his/her quality of life or lifestyle, comparing home and destination country, and discounting the costs of relocation (the cost of adapting to a new geographical and cultural context, as well as regulatory barriers to immigration). In our model, European citizens are expected to make their decision to move based on a comparison of institutional, economic and socio-geographical indicators between their native country and destination country in a time preceding their decision to migrate.

In order to measure this difference in expected utility between home and destination country, we built a differential database for economic and institutional variables. In this database we gather variances between origin and destination country in 2012 for the following set of indicators: 1) Economic freedom, as measured by Fraser Economic freedom of the world indicators, 2) GDP in Purchasing Power Parity (World Bank indicators), 3) Unemployment over total population (Eurostat); 4) Social expenditure in % of GDP (Eurostat).

We also add two dummy variables to account for the cost of relocation, namely Borders and Languages. These two dummies consider geographical distance (this corresponds the value 1 if the destination country and the origin country share a land or maritime border) and language distance (this corresponds the value 1 if the destination country has, between its official languages, the one spoken in the origin country).

Data availability and lack of comparability plagues research on immigration, but in order to measure our dependent variable we built an integrated database of dyadic flows among the 28 EU member states from the OECD *International Migration Database* and the United Nation *International Migration Flows to and from Selected Countries* (2015 revision). Since in our behavioral model of migration information about quality of institution and socio-economic factors precedes the decision to migrate, the dependent variable is lagged by 1 year, a reasonable timeframe to formulate and implement the decision to migrate.

We run a OLS regression on the following model:

Economic freedom is our main regressor, and we control cultural and geographic distance as well as traditional economic indicators. For the first, we built a vector made of the two dummies for borders and language.

Literature on migration highlights the importance of increased economic opportunities and the so-called welfare magnet, assuming that migrants will migrate either where there is more economic growth, labor market opportunities and a more generous welfare state. We take into account these effects by controlling for GDP in Purchasing Power Parity, national social expenditure in percentage of GDP and unemployment over the total population.

This is the output we get when we run the OLS regression[17]:

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17. We conducted the usual regression diagnostics for linearity and heteroskedasticity and obtained positive results.

TABLE 1. OLS REGRESSION OUTPUTS	
	IMMIGRATION/POPOPULATION
EFW	0.0131* (1.98)
BORDERS	0.0143 (1.54)
LANGUAGE	0.0366** (2.63)
GDP-PPP	2.11e-14*** (9.41)
SOCIAL EXPENDITURE	0.000819* (2.40)
UNEMPLOYMENT	-0.000684 (-1.17)
_CONS	0.0168*** (6.28)
N	677
T statistics in parentheses: * p<0.05, ** p<0.01, *** p<0.001	

Linguistic and geographical distances have an impact on the decision to move, meaning that in Europe there are still significant exit costs. As expected, GDP as a positive and significant coefficient, while the unemployment coefficient is negative (although not very significant) and social expenditure has a positive coefficient.

Our main variable of interest, Economic Freedom, has a positive and significant coefficient: one point of difference between the EFW score of the destination country and the EFW score of the origin country corresponds to an increase of 0.013 in the percentage of European immigrants in the destination country. To compare with the popular welfare magnet theory, which seems to worry so many political commentators, a percentage point of national social expenditure means adding just 0.0008 to the immigration variable. Considering that the variance range between the two variables, EFW and Social spending in EU countries, is very different, 1% improvement in the Freedom of the world index will have the same impact of a 15.98% increase in social expenditure. Economic Freedom, then, seems to be very attractive to mobile EU citizens.

CONCLUSIONS

Based on our empirical analysis, we can assess that Economic freedom act as a powerful magnet for voluntary migrants inside the European Member states. Our model of migration does not require to follow strict rational-choice, nor perfect information model assumption: the migrant might well not be perfectly informed about distances in a set of indicators between home and destination country, but it can still can ap-

preciate the effect of those through the price system, which Hayek (1945) described as "a kind of machinery for registering change". While migrants might know nothing of GDP or Economic Freedom differentials between their country and the one they're moving to, they are well aware of the increased opportunities for cooperation and thus potential welfare improvement. Thus by choosing to reside in a country with more opportunities the migrant also demonstrates, while not necessarily expressing it politically, a preference for better institutions in term of economic freedom.

If this can be interpreted as a "voting with your feet" mechanism, shed an optimistic light on the European landscape, which has been plagued by the rise of anti-european, anti-immigration and anti-economic freedom populist parties. If we consider the institutional preferences expressed by European citizens when moving, we can see that EU migrants move to countries with a smaller government, fiscal responsibility, low regulation and more freedom to trade globally. Whether this will be enough to make the Exit mechanism effective for driving EU federal order toward better institutions outside the scope of this paper, but Clark et al. (2015) find small but positive increases in institutional quality as a result of increased immigration, so while this might be a leap of faith, migrants can be a positive force driving the European union toward better institutions.

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DATA DESCRIPTION	
IMMIGRATION FLOWS	OECD International Migration database, Inflows of foreign population 2004-2014. UN International Migration Flows to and from Selected Countries: The 2015 Revision. (POP/DB/MIG/Flow/Rev.2015) for For Bulgaria, Croatia, Estonia, Ireland, Lithuania, Romania. Missing datapoints from Bulgaria, Cyprus, France, Greece, Latvia, Malta, Portugal have been integrated with emigration flows to EU28 countries. Reference year: 2013.
IMMIGRATION/POPULATION STOCK	Eurostat [lfsa_pganws] Population by sex, age, citizenship and labour status: - EU28 citizens except reporting country, age 15-64. - Non-EU28 citizens except reporting country, age 15-64. - Reporting country, age 15-64. Reference year: 2012.
ECONOMIC FREEDOM	Fraser Institute, Economic Freedom of the world. Heritage foundation, Index of Economic Freedom. Reference year: 2012.
GDP	World Bank, International Comparison Program database, GDP, PPP (current international $). Reference year: 2012.
SOCIAL EXPENDITURE	Eurostat [spr_exp_sum], Expenditure. Reference year: 2012.
HEALTH QUALITY INDICATOR	Legatum Institute Prosperity Index, HEALTH sub-index. Reference year: 2012.
EDUCATION QUALITY INDICATOR	Legatum Institute Prosperity Index. Reference year: 2012.
LANGUAGE	Matrix built on EU official languages.
BORDERS	Matrix built on public data the world.