Border controls, benefits, and rights: How states shape migration patterns in a world of multiple origins and destinations

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(Extended Abstract)

1. Motivation and Research Question

There is a large literature on the determinants of international migration that highlights different pull and push factors to explain the direction and strength of migrant flows. This paper adds to that body of work by focusing on the role of the state in shaping international migration through both admissions laws and the economic and social rights and benefits given to immigrants. We build on two strands of literature: first, research on migration policy and immigrants' rights, and second, work on the "welfare magnet" hypothesis, which posits that countries with more generous economic benefits for immigrants may attract disproportionally larger migration flows.

Previous work on the role of migration policy and rights is rather limited, mostly because of lack of good data. Some previous studies have controlled for differences in immigration policy by either including destination country fixed effects or by grouping countries by type of immigration policy regime (e.g. Pedersen, Pytlikovà and Smith, 2004 & 2008, Hatton and Williamson, 2005). A recent study by Mayda (2009) contributed to the literature with a measure that captures changes in destination state admissions laws over time. The index was further updated by Ortega and Peri (2009). Both studies find a strong relationship between immigration policy regimes and immigrant flows.

The literature on "welfare magnets" is directly related to Borjas' (1999) argument that generous social security payment structures may play a role in migrants' decision making. Borjas posits that potential migrants take into account both the probability of being unemployed and the generosity of welfare benefits in the destination country that constitute a substitute of earnings during a period of job search. A recent paper by Giulietti and Wahba (2013) provides a detailed review of the "welfare magnet" literature. This line of work encompasses two types of empirical analyses: 1) those that study whether immigrants are prone to use welfare policies more than natives; 2) those that analyze whether differences in welfare provision explain the direction of migration flows.

The first literature has mostly focused on whether migrants take-up rate and participation in welfare programs is disproportionately larger than that of natives, mostly in the US (Borjas 1996, 1999,

Kaestner et al. 2003), but also in Europe (Bruker et al. 2002; Boeri 2010). Even though findings vary across periods and destinations, many of these papers find some "residual dependency" of migrants in US and some European destinations after controlling for socio-economic status of individuals.

The second strand of literature is also heavily focused on within-USA intra-regional migration, with mixed results, (Borjas 1999, Levine ad Zimmerman 1999; McKinish 2007, among others), but more limited and recent for international migration flows (Brucker et al. 2002, De Giorgi and Pellizari 2006, Pedersen et al. 2008, Razin and Wahba 2011; Giulietti et al. 2012). Razin and Wahba (2011) provide a theoretical framework to argue that the impact of welfare provisions on migration flows and on the selection of migrants within populations of source countries is likely mediated by immigration policy. They analyze migration flows into 14 core EU countries plus Norway and Switzerland to study whether the effect of the generosity of the welfare state on the skill composition of migrants varies by the migration regime. They differentiate among within-EU migration; migration from other developed countries to the EU and finally migration from less developed countries to EU. They find that in free-migration regimes, a generous welfare state tends to attract more unskilled migrants. Giuletti et al (2012) analyze whether migration to European countries from EU and non-EU countries differs by the generosity of unemployment benefits over the period 1993-2008. Even though OLS estimates indicate some small association for non-EU flows, it disappears when endogeneity of welfare programs is accounted for by GMM and IV methods.

In this project we plan to contribute to this nascent field of research by analyzing two hypotheses: migrants are more likely to choose destinations in which they (1) will have greater economic, social and political rights and benefits and (2) face less restrictive admissions regimes, as compared to destinations in which they will have fewer rights or face more restrictive admissions regimes.

To investigate these hypotheses, we combine the following datasets: (1) annual data on international migration flows and foreign population stocks in 30 OECD countries from 223 countries of origin for the period 1980-2010; (2) indices of social, economic, and political rights and naturalization regimes for migrants arriving in selected OECD destination countries from every source country for the years 1965-2009; (3) data from the OECD Social Expenditure Database SOCX 1980-2010, and (4) the immigrant admissions law indices compiled by Mayda (2009) and extended here..

Our empirical analyses estimates a gravity type model widely employed by previous literature on the determinants of migration, e.g. Pedersen, Pytlikova and Smith (2008) and Adserà and Pytlikovà (2012). Our empirical models will include a number of standard push and pull factors of migration (i.e. GDP per capita in destination and origin; historical ties, distance, among others). We will analyze the role of different types of social expenditures in destination countries (as either % of GDP or per capita) and interact them with a number of indices of immigrants' rights and immigration policies in the destination country to the list of pull factors, as detailed in next section.

In a previous paper, Adserà and Pytlikovà (2012) find that emigration rates are significantly higher from countries with relatively high unemployment rates and lower to destinations with high unemployment, other things being the same. Further in line with the theoretical framework proposed by Borjas (1999), they find that the coefficients to public social expenditure in destination are positive and significant. This runs counter to some existing empirical evidence (Zavodny 1997, Pedersen et al. 2008 and Wadensjö 2007, among others) and it is more in line with the works reviewed by Guiletti and Wahba (2013). At any rate *social expenditures would only be relevant for migrants as long as they are entitled to receive them*, though some OECD countries provide universal benefits in some spheres to anybody regardless of nationality. The fact that the dataset in Adserà and Pytlikovà (2012) extends to a larger set of source countries than any previous work, particularly relatively poor non-OECD origins, may explain the conflicting result with other literature. The aim of our paper is precisely to understand the nuanced relationship between the rights of immigrants, conditional of their country of origin, and the generosity of benefits at destination. Eligibility criteria should be taken into account when measuring whether welfare expenditure is indeed a pull factor for immigrants. Some previous work with European data has already attempted to address this by estimating the impact of welfare expenditures on migration flows a separately for intra-EU and for non-EU migrants (Razin and Wahba 2011; Giulietti et al. 2012). To our knowledge this is the first paper in the literature that aims at measuring this with formal indices that account for relative access to welfare programs and labour markets for individuals of different origins.

2. Data

For our empirical models we will combine data from the following sources.

Migration flows and stocks: The dependent variable in this paper will be the migration rates to OECD countries. In the analysis we will control for the existing stocks of migrants from the same origin country. To this end, we will employ the data on immigration flows and stocks of foreigners in 30 OECD destination countries from 223 source countries for the years 1980–2010 in Adserà and Pylikovà (2012). The dataset was collected by writing to selected national statistical offices for majority of the OECD countries to request detailed yearly information on immigration flows and foreign population stocks by source country in their respective country. This data set presents substantial progress over that used in past research on determinants of migration and over the existing datasets. First, our data covers annually *both migration flows and foreign population stocks*. Second, the data is more comprehensive with respect to destinations, origins and time due to our own effort with data gathering from particular statistical offices. For an overview of comprehensiveness of observations of flows and stocks across all destination countries over time, see Adserà and Pylikovà (2012).

Welfare Expenditure and Programs. To measure the generosity of the welfare programs across the OECD destinations we will use the OECD Social Expenditure Database (SOCX), which provides great indicators of social policy. It includes reliable and internationally comparable statistics on public and (mandatory and voluntary) private social expenditure at program level. The data covers 34 OECD countries for the period 1980-2009 and estimates for 2010-2013. Most policy areas are included in an itemized way: Old age, Survivors, Incapacity-related benefits, Health, Family, Active labor market programs, Unemployment, Housing, and Other social policy areas. This allows the researcher to track the composition of programs and changes over the period. With that information we will calculate per capita expenditure in particular policies. Giulietti and Wahba (2013) provide a good overview of variation across countries and changes over time of the expenditure patterns in the OECD.

In addition the OECD annual surveys provide a wealth of data on eligibility and benefits (replacement rates, for example) of many policies. We will include those indices as other means to measure the generosity of the welfare state across destinations. This is in line with De Giorgi and Pellizzari (2009) who show a high correlation of unemployment benefits expenditure with the net replacement rate (NRR), the share of earnings that is transferred via unemployment benefits to unemployed individuals. These researchers find that both measures of unemployment benefits are able to account for migration flows in a similar way.

Immigrants' rights. To compare immigrants' rights with those of natives in each destination we will employ a set of indices quantifying the social, economic, and political rights of immigrants as well as naturalization regimes in each destination state (Palmer 2012). Some of these indices have already been used with respect to a smaller set of countries in Palmer and Pylikovà (2013), but the present paper will be the first to employ all of the indexes and the full set of destination states that they cover. The rights of immigrants will be studied across four dimensions: (i) labor market access, (ii) social welfare, (iii) election rights, (iv) family reunification, and (v) ease of naturalization. These indices already make progress in differentiating rights by country of origin. This is important, since regulations vary depending on whether we analyze intra-EU flows or flows from non-EU countries; or whether former colonial powers, for example, award different rights to citizens from former colonies.

Migration policy: immigration and naturalization regulations. We will employ data from Mayda (2009) who contributed to the literature with a measure that captures changes in destination state admissions laws over time. The index was further updated by Ortega and Peri (2009). In addition we will combine existing information gathered by previous research (Goodman 2010a & b, Weil 2001, Waldrauch 2006, Joppke 2007, country official websites and data from the project *EUDO Citizenship Observatory*, among others).

3. Empirical Strategy and Robustness Analysis

3.1 Gravity Model

We base our empirical analyses on a *gravity type model* employed also in some previous literature, e.g. Pedersen, Pytlikova and Smith (2008) and Adserà and Pytlikovà (2012). As in these studies, we account for a number of standard push and pull factors of migration and then add a number of measures of immigrants' rights and immigration policies in the destination country to the list of pull factors. We will derive our estimating equation from the model in Adserà and Pylikovà (2012) that is based on "human capital investment" theoretical framework (Sjastaad, 1962) and its recent applications in Grogger and Hanson (2011) and Ortega and Peri (2009).

Our econometric model assumes that emigration rates to one destination are driven by differences in wages, employment rates between origin and destination countries, and the costs of migration:

$$\ln m_{ijt} = \gamma_1 + \gamma_2 \ln(GDP_j)_{t-1} + \gamma_3 \ln(GDP_i)_{t-1} + \gamma_4 \ln u_{jt-1} + \gamma_5 \ln u_{it-1} + \gamma_6 \ln pse_{jt-1} +$$
$$+\gamma_7 \ln s_{ijt-1} + \gamma_8 L_{ij} + \gamma_9 D_{ij} + \gamma_{10} FH_{it-1} + \gamma_{11} MP_{jt-1} + \gamma_{12} \ln pse_{jt-1} * MP_{jt-1} + +\gamma_{13} \ln p_{ijt-1} + \delta_j + \delta_i + \theta_t + \varepsilon_{ijt} \quad (4)$$

where m_{ijt} denotes gross flows of migrants from country *i* to country *j* divided by the population of the country of origin *i* at time *t*, where *i=1,…,223; j=1,…,30* and *t=1,...,31.* As in previous studies we proxy wages by GDP per capita and employment prospects in the sending and receiving countries by unemployment rates, u_{jt} and u_{it}. Most previous research either uses only stocks or flows to analyze migration flows, but in our models we will be able to study flows and control for existing stocks. We will use the total foreign population from country *i* living in country *j* per population of the source country *i*, s_{ijt}, to control for the network of migrants that has been shown to play an important role in lowering the direct and psychological migration costs (Massey et al., 1993; Munshi, 2003; Beine et al. 2011). Other pull and push factors will include *L* linguistic distance between source and destination countries, *P* population ratios, *FH* political freedom indicators in origin, as well as year and country of destination and origin dummies. Models will include robust Hubert/White/sandwich standard errors clustered at each pair of destination and source countries.

To understand whether migration policy, welfare expenditure and migration rights are important determinants of migration flows we will include a set of measures of either public expenditure $\ln pse_{jt-1}$ or indices of generosity of particular policies (i.e. unemployment benefits; health coverage) as well as the time-varying measures developed by Palmer of the immigrants access to those programs in relation to natives at each destination and/or indices of migration policy *MP*; and the interaction of those with welfare generosity.

3.2 Endogeneity of Immigrant Rights and Welfare Expenditure

Given the potential *endogenous* relation of the immigration and immigrant rights laws and policies[1], we will also estimate our models *using GMM estimator* and control for existing stocks of migrants of each source country in the country of destination—to take into account networks or lobbying from previous migrants. The fact that our dataset contains year information on stocks is a great

[1] There are a number of articles that analyze the effect of immigration on institutions, e.g. Timmer and Williamson (1998), Bertocchi and Strozzi (2008).

improvement over existing datasets and allows us to better employ this econometric technique to tackle endogeneity concerns.

Another concern for endogeneity or simultaneity bias arises from the relationship between migration flows and welfare expenditure. If welfare is measured as expenditure (or expenditure per GDP), it is possible that the entry of migrants themselves could affect both GDP and welfare expenditure (especially if, as the "welfare magnet" literature notes, we would expect migrants to be prone to use those resources more heavily than natives). Further, the generosity of policies may change in response to migration. Previous research has addressed these concerns by employing both GMM and IV. Some instruments employed by previous literature, for example, have been the number of coalition parties in the government (Giulietti et al. 2012) and the legal origin of the host country (English, Scandinavian, French or German) that indicate some basic notion regarding social and property rights (Razin and Wahba 2011). Thus, in addition to using GMM, as mentioned above, we will also employ *an IV strategy* that uses the position of the median member in government along the ideological left to right space. The generosity of the welfare-state has been shown to be aligned with that measure.

3.3 The Welfare Magnet hypotheses and Skill composition of migrants

A drawback of our dataset is the lack of information on the skill distribution of migrants from different origins. As noted in the theoretical section, some authors have posited that the impact of welfare provisions on migration flows and on the selection of migrants within populations of source countries is likely mediated by immigration policy (see Razin and Wahba 2011). Docquier et al. (2007) show differential skill selection across origins. To address this issue we plan to employ data on 1990 and 2000 migrants stocks by skill level from Docquier and Marfuk (2006) to *proxy the skill composition* of our flows and analyzed whether the predicted interactions between levels of welfare generosity and migration restrictions appear in our data. Alternatively to control for the skill distribution we will employ the new IAB brain-drain dataset on international migration that cover information for 20 OECD destination countries by gender, country of origin and educational level, for the years 1980-2010 (5 years intervals) (Brucket et al. 2013).

References:

Adserà, A. and Pytlikovà, M. 2012 The role of language in shaping international migration: Evidence from OECD countries 1980-2009, IZA working paper #6333.

Beine, Michel, Frederic Docquier, and Caglar Ozden. 2011. “Diasporas.” *Journal of Development Economics* 95 (1): 30-41.

Bertocchi, G. and C. Strozzi 2008. "International migration and the role of institutions," *Public Choice*, Springer, vol. 137(1), pages 81-102, October.

Boeri, T. 2010. Immigration to the Land of Redistribution. *Economica* 77 (308), 651{687

Borjas, George J. 1999. “Immigration and Welfare Magnets.” *Journal of Labour Economics* 17 (4): 607-637.

Borjas, G. J. and L. Hilton 1996. Immigration and the Welfare State: Immigrant Participation in Means-Tested Entitlement Programs. *The Quarterly Journal of Economics* 111 (2), 575-604.

De Giorgi, G. and M. Pellizzari (2009). Welfare Migration in Europe. *Labour Economics* 16 (4), 353-363.

Bruker, H., G. S. Epstein, B. McCormick, G. Saint-Paul, A. Venturini, and K. F. Zimmermann 2002. Managing Migration in the European Welfare State. In T. Boeri, G. Hanson, and B. McCormick (Eds.), *Immigration Policy and the Welfare System*, pp. 1-168. Oxford: Oxford University Press.

Brücker H., Capuano, S. and Marfouk, A. (2013). Education, gender and international migration: insights from a panel-dataset 1980-2010, mimeo.

Docquier, Frédéric, O. Lohest, and A. Marfouk, 2007. Brain drain in developing countries, *World Bank Economic Review* 21, 193-218.

Docquier, Frédéric and A. Marfouk. 2006. Dataset. In C. Ozden and M. Schiff (eds). *International Migration, Remittances and Development*, Palgrave Macmillan: New York.

Giulietti, Corrado and Jackeline Wahba. 2013 “Welfare Migration“ in Amelie F. Constant and Klaus F. Zimmermann (Editors), . *International Handbook on the Economics of Migration*, Edward Elgar, Cheltenham, UK, and Northampton, USA

Giulietti, C., M. Guzi, M. Kahanec, and K. F. Zimmermann (2012). Unemployment Benefits and Immigration: Evidence from the EU. *International Journal of Manpower*, Special Issue on Migration, the Welfare State, and European Labor Markets.

Goodman, Sara Wallace. 2010a. Naturalisation Policies in Europe: Exploring Patterns of Inclusion and Exclusion. November 2010. Florence: EUI, EUDO Citizenship Observatory.

Goodman, Sara Wallace 2010b ‘Integration requirements for integration’s sake? Identifying, categorising and comparing civic integration policies’, *Journal of Ethnic and Migration Studies*, 36(5): 75372.

Grogger, Jeffrey, and Gordon H. Hanson. 2011. “Income maximization and the selection and sorting of international migrants." *Journal of Development Economics* 95 (1): 42-57.

Hatton, Timothy J., and Jeffrey G. Williamson. 2005. “What Fundamentals Drive World Migration?” in George. Borjas and J. Crisp (eds), *Poverty, International Migration and Asylum*, Palgrave-Macmillan.

Joppke, C. 2007. ‘Beyond national models: civic integration policies for immigrants in Western Europe’, *West European Politics*, 30(1): 122.

Kaestner, R., Kausahl, N., Van Ryzin, G., 2003. Migration consequences of welfare reform. *Journal of Urban Economics* 53, 357–376.

Levine, P. B. and D. J. Zimmerman 1999. An Empirical Analysis of the Welfare Magnet Debate Using the NLSY. *Journal of Population Economics* 12 (3), 391-409.

Massey, Douglas S., Joaquin Arango, Graeme Hugo, Ali Kouaci, Adela Pellegrino, and Edward J. Taylor. 1993. "Theories of International Migration: A Review and Appraisal." *Population and Development Review* 19 (3): 431–466.

Mayda, Anna Maria. 2010. "International migration: A panel data analysis of the determinants of bilateral flows," *Journal of Population Economics*, October 2010, 23 (4): pp. 1249-1274

McKinnish, T. 2007. Welfare-Induced Migration at State Borders: New Evidence from Micro-Data. *Journal of Public Economics* 91 (3-4), 437{450.

Munshi, Kaivan. 2003. "Networks in the modern economy: Mexican migrants in the US labor market." *The Quarterly Journal of Economics* 118 (2): 549–599.

Ortega, Francesc, and Giovanni Peri. 2009. "The Causes and Effects of International Migrations: Evidence from OECD Countries 1980-2005." National Bureau of Economic Research Working Paper 14833.

Palmer, J. 2012. The Changing Legal Value of Naturalization: A Set of Indices Quantifying the Gaps Between Immigrants' and Citizens' Rights in 22 OECD Countries, mimeo, Princeton University.

Palmer, J. & Mariola Pytlikovà, 2013."Labor Market Laws and Intra-European Migration: The Role of the State in Shaping Destination Choices", Center for Research and Analysis of Migration Discussion Paper Series, CDP No. 11/13.

Pedersen, Peder J., Mariola Pytlikovà and Nina Smith. 2008. "Selection and Network Effects – Migration Flows into OECD Countries, 1990-2000." *European Economic Review* 52(7): 1160-1186.

Razin, A. and J. Wahba 2011. Welfare Magnet Hypothesis, Fiscal Burden and Immigration Skill Selectivity. *NBER Working Paper* 17515

Sjastaad, Larry A.. 1962. "The Costs and Returns of Human Migration." *Journal of Political Economy* 70 (5): 80-93.

Timmer and Williamson, J. 1998. Immigration Policy Prior to the Thirties: Labor Markets, Policy Interaction, and Globalization Backlash, *Population and Development Review*. 24, 739-771.

Wadensjö, Eskil. 2007. "Migration to Sweden from the New EU Member States." IZA Discussion Paper No. 3190.

Waldrauch, H. 2006. 'Acquisition of nationality', in Baubo¨ck, R., Ersbøll, E., Groenendijk, K. and Waldrauch, H. (eds) Acquisition and Loss of Nationality, Volume 1. Amsterdam: Amsterdam University Press, 12182.

Weil, P. 2001. 'Access to citizenship: a comparison of twenty-five nationality laws', in Aleinikoff, T.A. and Klusmeyer, D. (eds) Citizenship Today: Global Perspectives and Practices. Washington, DC: Carnegie Endowment for International Peace, 1735.

Zavodny, Madeleine. 1997. "Welfare and the Locational Choices of New Immigrants." *Economic Review – Federal Reserve Bank of Dallas;* 2Q: 2-10.