

A submission for International Migration Review

**Measuring and Comparing Migration, Asylum and Naturalization Policies:
Methodological Challenges and Solutions**

Word count: 8787

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Abstract

Academics and policy-makers require a better understanding of the variation of policies that regulate international migration, asylum and immigrant naturalisation. Yet, at present, there is no comprehensive cross-national, time-series database of such policies, rendering the analysis of policy trends across and within these areas difficult at best. Several new immigration databases and indices have been developed in recent years. However, there is no consensus on how best to conceptualize, measure and aggregate migration policy indicators to allow for meaningful comparisons through time and across space. This article discusses these methodological challenges and introduces practical solutions, which involve historical, multi-dimensional, disaggregated and transparent conceptualizing, measuring and compiling of immigration policies. Such an approach informs the International Migration Policy and Law Analysis (IMPALA) database.

INTRODUCTION

All around the world, interest in migration policies is on the rise. While the number of migrants as a percentage of global population has remained fairly static, the number of people on the move – and the number of countries affected by the phenomenon – is greater than at any time in human history. Both government and the general public have become increasingly conscious of the relationship between policy and migratory flows. The transnational movement of people situates itself at the heart of social and political cleavages over resource allocation, labour market competition and ethnic relations. Within the academy, migration is also being carved out as a key area of research interest. Central to this development is a concern among migration scholars and governments to measure immigration policies, and to evaluate the various weight of such policies within policy processes, across countries and through time. Social scientists are no longer satisfied to consider immigration policy descriptively, or in single country cases: they are now seeking means to measure and compare immigration policies globally. The challenge is that there is as of yet no comprehensive, cross-national, time-series database of immigration policies. Such a database would allow us to build policy indicators of stringency and orientation to track important trends in immigration policy across countries and time, and to analyze the causes and consequences of immigration regulation more systematically. It is a challenge that has brought together an interdisciplinary group of academics under the auspices of the IMPALA Project¹ – the International Migration Policy and Law Assessment Project – which has at its centre the creation of just such a database.

¹ IMPALA is a joint project of Harvard University, the Universities of Sydney, Amsterdam and Luxembourg, the London School of Economics (LSE) and the Social Science Research Centre Berlin (WZB) to develop the world's first comprehensive large-n database of migration law policy, and to aggregate the acquired data into indexes of migration regime openness and restrictiveness. Coming from a range of social science disciplines and law, the IMPALA consortium and to collect data on migration policies in **26 countries across a 50-year time period (1960-2010)**.

This article sets out some of the central methodological challenges to building immigration policy indicators and explores how these challenges are addressed by the IMPALA Project. We begin in Part 2 by identifying four key methodological issues around conceptualizing and measuring public policies, and look at how these have been dealt with in existing policy indices on immigration (1) We begin this section with a discussion on how to conceptualize migration policies and how we have validated the choices (and groupings) we have made. We have a particular interest in temporal and cross-sectional validity, especially given that most studies have thus far been restricted to a modest number of countries and to the most recent time periods. (2) The second point concerns the differentiation between policy *outputs* and policy *outcomes*. We argue that it is important not to conflate the two and to specify whether a project seeks to study binding policies and laws, or their consequences. (3) We then discuss the need for precise and transparent policy indicators. This is related to questions about the number of immigration items to be coded, the gradation of measurements, the way data are coded, as well as questions of data reliability. (4) Finally, we address bilateral and aggregation issues. Here we look especially at the differences between pre- and post-coding aggregation, and discuss this in connection with the bilateral dimensions of the project. The choice of aggregation method depends, among other factors, on the level of generality at which indicators will be specified. Having laid out the methodological challenges inherent in building policy indicators in the migration space, we set out details of the approach taken in the IMPALA Project, highlighting its methodological innovations. The article concludes with a discussion of the expected pay-offs and added value of the IMPALA Project and the policy indices of restrictiveness and openness that it facilitates.

*METHODOLOGICAL CHALLENGES FOR CONCEPTUALISING AND MEASURING
MIGRATION POLICIES*

A number of methodological issues around conceptualization and measurement need to be addressed by any attempt to capture government policy. All the existing attempts to quantify immigration policy have their own strengths and weaknesses in this regard. In this section, we analyze briefly how existing indices have dealt with key issues around: conceptual scope; differentiation between outputs and outcomes; precision in measurement; case selection across time and space; coding; validity and reliability (including replicability); and aggregation. Our discussion takes account of the most prominent indices of immigration policies existing at time of writing. (Timmer and Williamson 1996; Thielemann 2004, 2006; Hatton 2004; Lowell 2005; MIPEX 2011; Cerna 2008; Ruhs 2011) and naturalization policies (EURO 2011; Howard 2005, 2006, 2009; Waldrauch and Hofinger 1997; Koopmans et al 2005, 2012; Helbling 2008; Janoski 2010).²

Conceptual scope

Any measurement attempt needs to be clear about what it is trying to capture. When seeking to measure immigration policy, scholars identify the means by which governments aim to regulate the number and attributes of foreigners who enter and reside in their territory and their avenues for naturalization following entry. Beyond this core definition, there is little consensus over the conceptually essential elements of a country's migration, asylum and naturalization policies.

For example, in the naturalization literature where a large range of indicators have been built over the last decade, researchers apply very different conceptualizations (Bauböck and Helbling 2011). While some indicators focus on specific aspects of naturalization policies (Howard 2009), others also include one or several aspects of *integration* policies (Huddleston

² Indices are understood as highly aggregated, composite measures of immigration policy, while indicators are understood as more specific, disaggregated elements that are individually coded.

and Niessen 2011; Koopmans et al. 2005; 2012 and Waldrauch and Hofinger 1997). This poses some content validity problems as it is not completely clear what the domain of the concept is and whether the measure fully represents this domain (Blalock 1982). Within the immigration field, existing indices are limited to particular areas of immigration admission such as the rights of migrant workers and their families (Ruhs 2011; MIPEX 2011), asylum policy (Hatton 2004; Thielemann 2004) or labour migration (Cerna 20098; Lowell 2005). As such, existing indices, while making important contributions, do not capture a comprehensive array of areas of immigration admission.

Most indices aim to capture the relative openness or restrictiveness of government policy when it comes to the admission of foreigners and the rights granted to them when they are within the territory of a host state. Yet, there is disagreement over what this openness or restrictiveness constitutes. Data collection efforts in this field need to determine where immigration policy ends and other forms of social and labour market policy begin. For instance, when considering economic migration policy, is the involvement of the trade union movement as a consultative body in the definition of “labour shortage” a relevant component, or does this pertain more to labour market policy? Given the complexity of measures used by governments, and the resource constraints of those collecting data, creators of immigration indices must make choices about which sub-fields and indicators of immigration policy to focus on, and which ones to exclude.

Arguably, immigration policy needs to be measured not just in terms of the existence or absence of obstacles to admission but also in terms of rights granted to those who are already within the territory of a host state. The existence or absence of integration measures, including access to naturalization and its antecedent entitlements, should be seen as part and

parcel of countries' immigration policies. These measures arguably influence the real and perceived openness or restrictiveness of states towards immigrants. We might even conceptualize the relationship between immigrants' rights of access and rights associated with residence, as a trade-off. Countries with relatively open access will tend to be more restrictive in terms of the rights granted to foreigners on their territory and vice versa (Ruhs and Martin 2008, but c.f. Cummins and Rodríguez 2010). Yet, the extent to which the ambit of migration includes integration elements, particularly welfare entitlements, is an enduring debate within the immigration field. Welfare rights may be seen as a discrete area of social policy (Hammar 1985; see Wong 2006 for a discussion). Alternately, they may be viewed as an important migratory "pull" factor, and therefore an important constituent part of migration policy. These important conceptual questions over definitional scope are implicit, rather than explicit, in most existing measures of immigration policy (i.e. MIPLEX 2010; Ruhs 2011). We will discuss these issues further when we return to the IMPALA Project's approach to issues of scope below.

Temporal and cross-sectional validity

Attempts to measure immigration policies also face a number of challenges related to the validity of underlying concepts. It is essential that concepts are well matched to the empirical data. As Adcock and Collier (2001, 531) note, "measurement is valid when the scores, derived from a given indicator, can meaningfully be interpreted in terms of the systematized concept that the indicator seeks to operationalize." Inter-temporality creates particular validity challenges, as it requires the researcher to develop measures that are both meaningful conceptually, but which also work across time.

Take the following examples of how two important changes to immigration policy have complicated this goal. First, over the period from 1960 to 2010, English speaking countries such as Australia, the US or Canada moved away from race- and ethnicity-based selection criteria towards skill or family-based modes of selection. Therefore, it is important when devising questions to include indicators that capture this transformation. The very notion of “skill” that is so central in contemporary immigration policy was supplanted by race and ethnicity in the earlier historical periods. Second, over time, immigration laws and policies have become increasingly complex. This creates the challenge of devising indicators that are parsimonious and not unduly complex in earlier periods, but that also capture current-day migration regimes in all their sophistication.

Validity concerns also arise in terms of the cross-national application of these questions. It is important to avoid conceptual stretching from one jurisdiction to another (Sartori 1970). This concern is apparent with the definition of “skill”, where no single consistent international definition of skill exists globally (Green, 2006). Any attempt to allocate various economic migration visa categories into a skilled/unskilled dichotomy, working from individual-country definitions, will be invalid and any attempt to benchmark against a singular definition will be “necessarily artificial” (Ruhs, 2011: 7).

Another good illustration of the issues around cross-sectional validity is provided by early attempts to capture restrictiveness in immigration policies regarding workers’ mobility. Mayda (2010) as well as Ortega and Peri (2009) have developed restrictiveness indexes for economic migration in a set of OECD countries. Their inferred index of migration policy captures whether migration policy has become less or more restrictive as a result of policy reforms in the field of economic and humanitarian migration as well as family reunification.

A major advantage of this approach is that it provides some very useful information about the time evolution of immigration policy *within* each destination country (for instance, Mayda (2010) covers 25 years ranging from 1980 to 2005). Nevertheless, by capturing only the occurrence of policy reforms and not the general stance of the policy, it is an approach that does not allow comparison of relevant policies across the destination countries.

Temporal and cross-sectional validity issues have hardly been addressed so far in existing migration policy indicators, as existing immigration policy indices are limited in their temporal or country coverage. Analysis is often restricted to the most recent years. MIPEX, for example, covers the years 2004, 2007 and 2010 (MIPEX 2011), while Howard covers 2008 and “the 1980s” (Howard 2009).³ Martin Ruhs’ study of openness, skills and rights considers the human rights of migrant workers and accompanying family members in 46 high and middle-income countries, for early 2008 and 2009 (Ruhs 2011, 6). The exception is Timmer and Williamson’s (1996) index which covers the years 1860 through to 1930. Yet, historical coverage across time often comes at the cost of country coverage with Timmer and Williamson’s (1996) index of change in restrictiveness of immigration policy covering only six countries.

Most existing indices focus on OECD countries, with MIPEX and EUDO covering largely EU member states (EUDO 2009; MIPEX 2011). Decisions over case selection are no doubt informed by data and funding availability, but also potentially due to a traditional focus on the role of Western policy regimes in regulating migration from South to North. Also, there can be little doubt that richer countries often have more developed datasets given the considerable costs involved in large-scale data collection (Schedler and Mudde 2010). Yet,

³ When in the 1980s is not clearly specified in Howard 2009.

the limited coverage of existing indices is at least in part a product of the data sources that dataset creators rely on. Some historical outcome sources do not provide extensive country coverage. For example, comparable data on refugee recognition rates has only been available through the Office of the United Nations High Commissioner for Refugees (UNHCR) for selected OECD countries. OECD countries only record standardized immigration flows data since 2006, while globally, such data is currently not available (OECD 2010).

Output or outcome indicators?

Closely related to the question of the conceptual, spatial and temporal ambit of the issue under investigation, is the analyst's decision about what aspects of policy products and processes to capture. The distinction between outcomes and outputs is now well-rehearsed in policy studies. Easton (1965, 351) first defined "outputs" as "the binding decisions, their implementing actions and [...] certain associated kinds of behaviour" while outcomes were "all the consequences that flow from [...] the outputs of the system." Hollifield later adopted this definition in the immigration field. He characterized outputs as "the level of policy formulation" while outcomes are "at least in part the result of policy implementation" (Hollifield 1986, 114-5, our emphasis). As such, we conceive of policy outputs as the laws and policies surrounding the regulation of immigration and naturalization legislated or ordered by government entities, whereas policy outcomes—although potentially partially resultant from these outputs—are to some extent affected by legislation but may also be caused by immigration push factors and importantly in the migration field, through individual human agency.

Adjudication between various policy products and processes is an important methodological consideration for the development of any measures of public policy. Coding both outputs and outcomes presents obvious challenges. First, the data collection exercise is significantly

expanded through a focus on outcomes in addition to outputs. Second, reliability of variables is challenged through variation in data availability, particularly intra-temporally. Third, there are concerns over the relevant unit of analysis. In the case of policy outputs, the unit of consideration would be relevant visa classes,⁴ while in the case of outcomes, the relevant unit of consideration is often individuals or aggregates of individuals as visa entrants, reflected through immigration statistics, or through naturalization rates.

There are obvious advantages in considering outcomes as well as outputs. As Money (1999: 22) notes, to only consider formal regulations (outputs) “leaves out important aspects such as the control, interpretation and implementation of laws as well as the consequences of formal regulations.” Some indices have focused on outcomes and used immigration flows as a proxy for immigration policy outputs. For instance, Money (1999) measured immigration policy as annual per capita immigrant inflows for twelve immigrant-receiving countries from 1962 to 1989. Kogan (2007) constructed a measure of the “relative selectivity” of immigration policy for 15 European Union countries from 1992-2000 by comparing the proportion of immigrants with tertiary education and against the tertiary educated native born. Neumayer (2004) uses asylum recognition rates as a proxy for asylum policies. Yet, while the project focuses on outcomes and might be justifiable for some research questions, it will be insufficient, and indeed, problematic for most. This is because a conflation of outputs and outcomes assumes government control over immigration flows, notwithstanding enduring discussion in immigration studies over the reasons for policy gaps between policy outputs and policy outcomes (Cornelius 2005; Helbling 2010), including arguments of a “liberal paradox” that explains this gap (Joppke 1998; Guiraudon and Joppke 2001).

⁴ This is not to suggest that the unit of consideration for policy outputs is necessarily straightforward, a point we return to below in our discussion of immigration tracks.

Furthermore, building policy indices on the partial basis of outcomes such as the observed migration flows can even yield some distorted views of policy output restrictiveness. There are basically two major reasons for this. First, immigration flows are impacted by a large set of economic and political factors. There is an extensive empirical literature aiming at identifying the respective determinants of immigration flows. As Mayda (2010) points out, these factors are located either on the demand or on the supply side. Immigration policy can be readily classified as one major factor belonging on the demand side. Other pull factors such as wage differentials (Grogger and Hanson, 2011) or migrant networks (McKenzie and Rapoport 2010; Beine et al., 2011) have been shown to be major determinants. Depending on the source and the destination countries, observed migration flows can reflect the relative influence of those other factors. Inferring immigration policy from observed flows might lead us to ascribe part of the role of these other factors to immigration policy. Second, immigration policy is highly endogenous and can be the result rather than the cause of observed flows. For instance, a destination country subject to illegal migration may increase the hurdles for potential illegal migrants. Conversely, a country more protected because of its geographical location may be less keen to develop an explicit policy in that field. Once again, inferring the stance of immigration policy from the observed flows of illegal migrants would spuriously lead us to consider the first country as much more liberal.

Conversely, focusing on policy outputs (rather than outcomes) can also be more problematic, especially where, adherence to de jure laws is often supplanted by de facto realities on the ground (Money 1999: 22). Existing databases have grappled with this important question and some have tried to address this issue through combining outputs and outcomes (i.e. Koopmans et al. 2005, 38; Howard 2009, 24; MIPEX 2011; Thielemann 2003). Howard (2009) and Koopmans et al (2005) both use naturalization rates as part of their output

indicators. Yet, by including naturalization rates, both studies are at the same time pointing to, but also blurring, the crucial differentiation between policy outputs and outcomes (Janoski 2010: 36). It thereby becomes unclear what these studies are actually measuring, which in turn raises concerns about the aggregation of indicators. In fact, comparing the two phases of the policy process, arguably presents the best solution to this vexed issue.

Precision, measurement and transparency

Existing immigration policy indices are often insensitive to important gradations within policies. In their discussions of democracy indices, Elkins (2000) and Coppedge and Gerring (2011: 249) argue that unlike simple dichotomous indicators, continuous indicators are more precise as they are more sensitive to gradations (see also Bader 2007: 876). Elkins (2000) shows that graded measures have superior validity and reliability. Some studies in the immigration field use a single proxy variable to represent immigration policies. For example, Neumayer (2004) uses determination rates as a proxy for the relative openness or restrictiveness of asylum policy. This is arguably a crude attempt to capture complex rules and regulations and neglects the highly politicized way in which recognition statistics are employed by governments. Thielemann (2004; 2006) uses a small number of indicators, which provided more nuanced measures but still employ regenerated indices with only limited variance. Lowell (2005: 7) provides seven major indicators, ranked on a four point scale, to assess skilled immigration policies.

Naturalization indicators have been built in very different ways and include different amounts of data, directed at different conceptual issues. Howard's Citizenship Policy Indicator (CPI)

is certainly the most parsimonious as it is based on three aspects of legal regulations and six variables. Waldrauch and Hofinger (1997) included almost 80 items in their index. Koopmans et al.'s (2005; 2012) study of settlement policy contains 40 sub-indicators that involve both legal and cultural aspects and codes jurisprudence, administrative decrees and local implementation practices. Finally, the MIPEx-indicator is based on a large range of over 140 sub-indicators that have been collected by means of expert surveys (Huddelston and Niessen 2011).

Many immigration policy indices rely on expert coding of clear and concrete coding criteria. However, this is not always the case. Some questions in expert surveys are posed in ambiguous terms that allow for the personal background and values of the coder to influence responses (Howard 2009: 34-35). Some coding questions require judgment by the coders on issues with important normative implications. Questions like: "Do residents have access to placement and public services, under equal conditions as EU Nationals?" (MIPEx, 2010, question 6) raise concerns over whether respondents' answers might reflect their overall sense of key characteristics (such as administrative efficiency or fairness in bureaucratic processes) of the country in question, rather than an independent evaluation of the more specific questions posed. It is unclear here whether this question is directed at the *de facto* or *de jure* situation of access to services. It is also unclear what the actual "services" under consideration comprise. As a result, some indices may actually be considerably less disaggregated than they appear; they might suffer from this kind of "premature aggregation" (Coppedge and Gerring 2011: 250). We return to this important issue below.

Aggregation in coding and combining indicators to form composite indicators

Aggregation is an unavoidable and ultimately subjective task that is inherent to the construction of macro-comparative quantitative datasets. It may be conceptualized as occurring in two stages. First, aggregation will often be necessary at the data collection stage, when a researcher is engaged in the task of scoring a unit or case for a defined indicator. Aggregation occurs as the relevant information from available sources is summarised into a single score. We refer to this stage of aggregation in the remainder of this article as *pre-coding aggregation*. Second, aggregation may also be required if more specific indicators that have already been scored need to be combined to create a composite measure or index for use in data analysis. We refer to this second stage of aggregation as *post-coding aggregation*.

Three decisions made during data collection crucially shape the stage at which the aggregation of information is required. The first decision is to determine the level at which indicators will be specified. A methodological principle of post-coding aggregation requires that indicators be defined at a level of generality that is proximate to the level of generality at which information is provided by sources, in order to minimise the amount of pre-coding aggregation that must occur. The second decision is to determine the scoring methods for each indicator. The scoring methods for an indicator may require only direct observation on the part of a coder, or it may require the coder to incorporate some type of ranking or scaling procedure when determining a score. A methodological principle of post-coding aggregation requires that indicators be defined in such a way that preserves the direct observations that form the basis of scores. Ideally, any ranking or scaling procedure should occur as a second step, because the process of ranking often requires that a coder combine observations. Finally, we must determine the methods for constructing aggregate indices. A methodological principle of post-coding aggregation requires that aggregate indices be constructed as a second step following an initial scoring of all factors that will be incorporated into the

construction of an index, in addition to providing publicly accessible instructions on how the various indicators are combined, including any weighting procedures utilized.

An example of data loss through pre-coding aggregation is provided by MIPEX (2011). Here, indicators are scored with a ranking procedure, but the scoring options are imprecise. For example, an indicator for the policy strand of labor market access within the policy dimension of labor market integration is defined as: “State facilitation of recognition of skills and qualifications obtained outside the EU.” The definition of this indicator includes a list of sub-policies in a country year that include matters such as the existence of state agencies and information centres for the recognition of skills and qualifications; and information on profession-based language courses and on procedures for assessment of skills and qualifications. A coder must score this indicator on a 1-to-3 scale according to which combinations of the listed components are contained in national policy. Although the coder must determine whether the sub-policies identified are present in the national policy prior to determining the score, this information is not retained. Instead, the data user can only determine whether a country had either some or none of these policies. A researcher who would prefer to know whether each country provides information on language courses, for example, would be unable to obtain this information, as it is aggregated with other information.

METHODOLOGICAL INNOVATIONS OF THE IMPALA PROJECT

The IMPALA Project distinguishes itself from existing measures of immigration in its aims, scope and in its methods. First, IMPALA considers a wider range of immigration policy including asylum policy, economic admission and naturalization policy. Second, IMPALA codes important areas of immigration selection that have not been previously addressed in

large-scale comparative immigration datasets (student and bilateral migration), with a greater degree of detail (it disaggregates within classes of economic migration), across a larger number of countries, including some leading immigration nations that are currently omitted from the MIPEX database (such as Australia and New Zealand) and across a larger number of years (from 1960 through to 2010). Crucially, of interest to migration historians, this includes periods of preferential race-based selection, in the 1960s and through to the 1970s in some cases. Finally, the IMPALA Project addresses, more explicitly than previous indices, many of the methodological challenges to conceptualization and measurement that we identify above. In this section, we canvass the key features of the IMPALA approach.

Aims and definitional scope

The IMPALA Project compiles comparable data on immigration law and policy. It will initially consider five major areas of migration policy: economic migration, family reunification, student migration and humanitarian migration, and the acquisition and loss of citizenship for those migrants once resident in the selecting state (see Table 1).⁵ In parallel to coding immigration laws and regulations around these areas, we also identify the major bilateral agreements in the area of cross-border mobility of people. Bilateral migration sits as a separate category which branches across these major areas. A bilateral agreement is defined as an agreement that confers preferential treatment by the destination country to potential migrants coming from a particular origin country. Analysis of these agreements is very important to capture relatively open movement between countries such as Australia and New Zealand, as well as historical forms of race- and ethnicity-based selection, including to former colonies such as France and the United Kingdom. More importantly, bilateral

⁵ The Project will be expanded later to include policies concerning irregular migration, enforcement and threshold issues such as health and character rules. AB: IN LIGHT OF THE FACT THAT WE HAVE AGREED WE SHOULDN'T COMMIT TO TOO MUCH IN THIS PAPER, I THINK WE SHOULD EXCLUDE THIS FOOTNOTE. THOUGHTS OF OTHERS? MH: AGREE WITH AB.

agreements not only cover aspects of immigration laws and policy that are specific to a pair of countries but also often introduce exceptions or derogations to existing laws and policy on a bilateral (or multilateral) basis. It is therefore crucial to account for such agreements if one wants to produce meaningful indices of the various dimensions of immigration policy.

* Insert Table 1 about here.*

Table 1 lists different sub-groups that fall within the respective categories. In some cases, defining these sub-groups was relatively straightforward. For example, in relation to the family migration, a biological distinction can be made between partners, children, parents and extended family. In other cases, however, the distinctions are less clear. Originally, for instance, the IMPALA consortium included as sub-categories within the economic sub-category, the descriptors “highly skilled” and “labour migration.” In attempting to fit the laws and policies of the target countries into these groupings, however, we encountered difficulties in finding common understandings of what constitutes “skill” and “labour” migration at different times and in different contexts. As discussed above, we opted finally for a term of higher level abstraction – economic migration – because this avoided the value judgments inherent in terms such as “skilled” or “unskilled”.⁶ We have adopted an approach of disaggregating visa classes into tracks where a variety of different migratory paths are represented within one visa category.⁷ We then use a post-aggregation strategy to combine these tracks, as we explain further below.

⁶ The justification for this approach is that ‘value’ labels are often used by countries as surrogates for need. One example is the case of how nurses are categorized. In Australia such health professionals are classed as “highly skilled”, while in the United Kingdom they are classed as ** insert example** AB: THIS IS A GOOD POINT BUT EIKO OR PAT, IS THIS TRUE? MY UNDERSTANDING WAS NURSES IN THE UK ARE ALSO CLASSIFIED AS HIGHLY SKILLED. THOUGHTS?

⁷ The difficult issue of what defines a “track” is not always adequately addressed in other comparative studies. For instance, Ruhs (2011: 7-8) refers to “programs” but does not clearly define whether these are individual visa classes, or combinations of visas (for instance, the General Skilled Immigration program in Australia comprises

In addition to the different immigration entry paths, IMPALA covers naturalization eligibility granted or adjudged after admission by a host society. As noted earlier, immigration and naturalization address different phenomena. Naturalization policies determine the accrual of citizenship, and in some cases its loss, once immigrants have settled. As immigration and naturalization are clearly conceptually distinctive, they are treated as separate categories within the Project. Nonetheless, we believe that they are sufficiently interconnected to warrant consideration. There are a number of reasons for this: First, naturalization policies, especially draconian iterations or those featuring citizenship tests, may act as deterrents against certain types of migratory flows. However, frequent amnesty decisions or streamlined naturalization procedures may also attract greater numbers of migrants. In addition, the track of entry through which an immigrant comes to a receiving country may affect the conditions of her or his eligibility to naturalize over the longer term. Therefore, consideration of a state's migration policy that do not also factor naturalization rules would be amiss.

As Helbling (2010) notes, over the last five years, there has been a proliferation of comparative naturalization datasets. Even so, at time of writing there was no cross-national database on naturalization policy that covers all OECD countries experiencing net migration, as the IMPALA database will do. Waldrauch and Hofinger (1997) cover only eight Western European countries for the year 1995. In a first project Koopmans et al. (2005) presented data for five Western European countries and three time periods (1980, 1990, 2002). More recently, this dataset has been expanded to ten Western European countries and a fourth time period (2008) (Koopmans et al. 2012). The "Migration Integration Policy Index" (MIPEX)

of a number of visas, with different rules associated with each and even conceptual differences within visa; known as "sub-visas"). The unit of consideration is therefore at times under-specified in other comparative immigration datasets.

(Huddleston and Niessen 2011) includes all member states of the European Union plus Australia, Canada, Japan, Norway, Switzerland and the USA for the year 2010. The project started with the EU-15 in 2004 and expanded to the EU-25, Canada, Norway and Switzerland in 2007. Howard's (2009) "Citizenship Policy Indicator" (CPI) covers the EU-15 for two periods in time (1980 and 2008). Janoski (2010) introduced two new output and outcome indices for 18 OECD countries and for the period 1970 to 2005. Most recently, Koning (2011) presented his index that measures naturalization policies in 26 Eastern and Western European countries as well as Australia, Canada, New Zealand and the USA.

The EUDO Database provides the most expansive and detailed source of naturalization policy, but only for the most recent time period. The IMPALA Project builds on EUDO's categorization of citizenship acquisition and loss into separate "modes" (EUDO, 2009a), and presents advantages in its methodological rigor and scope. Whereas the EUDO database entails a significant amount of qualitative description to reflect historical change (EUDO, 2009b), IMPALA codes national law for every case country in every year back to 1960.

Focus on policy outputs

The IMPALA indicators focus on immigration policy outputs, which can then be analyzed in conjunction with existing datasets on migration flows and stock.⁸ As we discussed in Part 2, to do otherwise (conflating outcomes and outputs) would undermine the content validity of the measures we seek to ascertain, and would hinder the interpretation of findings. That said, it will be useful to analyze the IMPALA *output* data in conjunction with more *outcome-*

⁸ That said, for each entry track, we also seek to collect information on how many individuals were admitted for each year.

oriented variables that are currently being developed by other researchers.⁹ Outputs are themselves defined broadly in the IMPALA Project to include immigration acts, and associated regulations, policy manuals and directives. As much as possible, the IMPALA consortium has sought to minimize reliance on case law that interprets these legislative instruments, on the grounds that such interpretation may create ambiguities for coders. Exceptionally, the orientation of humanitarian immigration regulatory provisions is powerfully shaped by case law. For this reason, in the humanitarian category, coders also consult case law from apex courts.¹⁰

Coding: The entry track approach

As noted earlier, the IMPALA Project initially examines six major categories of migration law and policy: economic migration; family immigration; student migration; humanitarian migration; bilateral agreements on mobility; and acquisition and loss of citizenship. Within each of the categories other than citizenship, we identify the various types of statutes and regulations that affect the number and composition of immigrants entering a country and their legal rights as migrants to that country. For each country and for the reference year (defined as calendar year), the first step is to identify the various entry tracks from the immigration law prevailing at the end of the year in question.¹¹ An entry track is defined as a particular mode of entry for a migrant given his or her characteristics (status, skills, type and length of

⁹ See for instance, the recent project to develop outcome indicators for immigration to Latin American states: Puentes, R. , A. Canales, H. Rodriguez, R. Delgado-Wise, and S. Castles. 2010.

¹⁰ Apex courts are higher courts and tribunals of record, with a preference given to courts of final appeal, where relevant decisions are available.

¹¹ The coding of bilateral agreements is an exception to that approach. More precisely, within one particular type of bilateral agreement, we do not define different entry tracks. Each bilateral agreement might be seen nevertheless as one particular way of entry. For each bilateral agreement, we simply capture whether the agreement gives preferential access with respect to the general policy. Similarly, acquisition and loss of citizenship are not coded as entry tracks but rather, rely upon a system developed by Waldrauch and Hofinger (1997) identifying 27 modes of acquisition of citizenship and 15 modes of loss. These ‘modes’ are different from the tracks identified in the other areas of our study in that they are not derived from national legislation. Rather, they are a conceptual typology that is constant across countries and countries are coded as either having or not having a particular mode.

requested residence permit). Each entry track is associated with one particular category. For example, the entry track for migrants wishing to study at the university level in the destination country is attributed to the student category. For each category, two sets of questions have been developed. The first are those asked at country level and that require answering once only. Examples are questions going to matters such as relevant international instruments to which a country is party. The second are the track level questions which are applied to all entry tracks within the same category. The answers to those questions reflect the main features of the migration policy of the countries at that time in that particular category. Examples include indicator questions about the advantages given to skilled workers and the recognition of qualifications, used to define migration policy concerning economic migration.

Case selection

The entry track approach was developed and refined through pilot test studies of six, diverse countries. This sample included a mixture of “settler societies”, such as Australia and the United States, “post-colonial societies” such as the Netherlands, Spain and the United Kingdom as well as one small European country, Luxembourg, which has had relatively limited immigration legislation until recently. The advantage of selecting cases according to the principle of maximum variation (Patton 2002, 234-5) is that the heterogeneity can be used to identify indicators which work across a wide range of immigration regimes. In other words, if it is possible to identify (immigration) category questions that work for these very different cases, then there is a real prospect that the questions will also work for countries that fall within this range of experience. Nonetheless, it also means that some of the policy innovations developed by the “settler” are *sui generis* and cannot therefore be compared with equivalent policies among other countries, simply because they do not exist.

The ultimate aim of the IMPALA Project is to code all developed (OECD) economies with experience of net immigration over the fifty years between 1960 and 2010.¹² The European Union is coded as a separate case.¹³ These countries receive the majority of international migrants: of the estimated 191 million international migrants in 2005, for instance, over 60 percent resided in these countries (according to estimates provided by the United Nations Population Division in 2007). Significantly, this group includes cases that can be subsumed under well-known typologies of immigration regimes. These include Western democracies, English speaking settler societies founded by European emigrants, and European countries that experienced mass immigration after World War Two (Freeman 1997); settler, guestworker and postcolonial regimes (Joppke 1999) and, finally, “countries of immigration,” “reluctant countries of immigration” and “recent countries of immigration” (Cornelius et al. 2004). While there is a clear liberal democratic, Western focus in this case selection, it is the belief of the IMPALA consortium that these countries at present provide the most easily available data on immigration policy outputs.

With regard to federal systems of government, IMPALA focuses on coding national level policy outputs, while noting sub-national issues in the codebook associated with relevant countries. Codebooks may be used by future researchers to identify the need for further exploration of sub-national variation, but for the time being, they also reduce the complexity

¹² That is, Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

¹³ With respect to the EU, we have decided to code national laws: i) mentioning explicit rules for EU nationals where appropriate as a separate track, and code those laws in terms of questions that include explicit reference to EU laws where appropriate; ii) code EU law as if it were a country, with respect to the same coding system, methodology (in terms of categories, subcategories, tracks, and questions per track); iii) include, if possible, treatment of bilateral agreements (certainly between national countries with such, including those addressing EU-specific rules. For European nations, we also distinguish between EU and Third Country National entry tracks in order to capture the different rules governing entry and naturalization for these two groups. EU countries with accession arrangements are not included in the country sample.

of the final database construction. This approach has been adopted in other public policy fields (i.e. Keck et al 2009, 17).

Reliability and Transparency

To maximize reliability and transparency, the IMPALA coding process relies on documents, coded following a standardized procedure, with citation at every level, using coders skilled in law, policy and archival research. The coding is based on explicitly-referenced and cited acts of parliament and other legal documents rather than experts' memories or opinions, increasing the reliability (as well as validity) of the coding. Second, these documents are coded following systematic coding questions that vary by track-of-entry but that apply to all countries and years. The questions capture rules establishing the numbers and types of immigrants that can enter a country, and the conditions under which immigrants can enter, live and work, and their legal rights. Third, the questions are worded and designed to be easily answered in terms of the legal text. Most questions (and associated codes) are binary, providing "yes/no" responses that simply indicate the presence or absence of specific measures (e.g. whether asylum seekers are detained while applications are pending). In other cases, the coding gathers quantitative data on variables such as number of admissions allowed each year for specific applicants, the duration of stay allowed, waiting periods, and the like. All such questions can be explicitly and in almost all cases answered from reading the legal documents. Fourth, all such coding is explicitly referenced for every question, providing transparency and reliability checks at the finest level of detail with respect to immigration policy and law.

Fifth, coding reliability has been enhanced through the employment of quality coders conversant in statutory interpretation and preferably, also migration law, in each state being

coded. A migration law expert is consulted in each of the pilot countries to ensure that the immigration law in that jurisdiction is well understood and reflected in the coding. Finally, a detailed code book has been developed for each category and country. The book includes definitions of each entry track, points on methodology and explanation of key concepts. The codebook increases coder reliability and maximize the transparency of the coding process for future users of the database.

Aggregation

The IMPALA Project adheres to a methodological principle of “post-coding aggregation.” Rather than starting with predetermined definitions of key concepts, the IMPALA Project instead takes the approach of coding national law and policy relating to the “background concept” of immigration policy. It defines indicators at a level of generality closest to the source materials utilized—namely national statutes, regulations and policy procedures. As a result, many IMPALA indicators are defined at the level of each entry track (or visa class) existing in each country annually, rather than at the more general level of the country-year. The decision over how these tracks will be aggregated to construct composite measures is decided at a second stage, once the “universe” of visa tracks and categories becomes known through the initial coding process.

That second stage involves a range of transparently derived algorithms for combining the raw coded information into track-specific and multi-track measures of stringency and of bias. The method is facilitated by scaling answers to questions relevant to stringency as taking-on higher values for higher stringency. For instance, the binary “yes-no” questions are scaled as 1 for higher stringency and 0 for less. The simplest measure of stringency could be sum the values in a given track-country-year – ignoring quantitative or qualitative information whose

implications for stringency are less obvious, and without weighting of aspects of law more or less relevant to such stringency. But such an approach, of course, is only the simplest, certainly not most accurate method of aggregation and weighting to judge stringency. More complicated methodologies consider the bilateral dimension of our database, accounting for instances where immigration laws and policies are quite often discriminatory across origin countries, particularly as we go back in time. The second stage aggregation will involve a range of such more complicated methods that will be transparent and open to scrutiny and debate, and that can be used or ignored as data users see fit. We intend to provide future users with guidelines on how to aggregate the data and to build indicators of entry restriction for each field of migration.

The result is a comprehensive coding of national immigration policy regimes at a considerable level of detail. Despite some cost to parsimony, we believe that this approach makes considerable gains. It is a method that minimizes data loss. It comprehensively captures the variation in complexity of different immigration policy systems, which is itself of important theoretical and conceptual relevance. It increases transparency, as any composite measure can be easily deconstructed to observe precisely which policies for which visa categories determine the score for each country and year. Finally, this approach grants future data analysts the ability to decide how best to aggregate information to produce measures specific for their projects. Some users will look for detailed legal wording relative to a particular kind of immigrant in a particular country in a particular year. Others will look to build one or another measure general stringency of policy. Still others will look to identify the degree of bias in rules with respect to the favoring or targeting of particular kinds of immigrants and immigrant characteristics. The IMPALA database and its form of

dissemination can serve all such approaches, and enrich a wider range of research objectives as well as improving the reliability and content validity of measures (see further Challen 2011: 132).

CONCLUSION

In this article we have explored the primary methodological challenges to measuring migration policies comparatively. There are: identifying the conceptual scope and of regulations across many categories of law, policy and regulation in different national and temporal settings; developing systematic, reliable and valid measures of the content of such complex and diverse regulations, laws and policies; and aggregating this information to measure general policy stringency and bias without losing sight of the nuance of legal content specific to time and place. We have outlined new ways to address these challenges, as devised by the IMPALA consortium in its data collection exercise. The IMPALA Project addresses these methodological challenges by making explicit and transparent use of formal immigration laws and regulations relevant to a set range of entry tracks, from labour migration to the treatment of refugees and asylum seekers. The laws and policies are coded by answering track-specific questions that capture reliable, transparent and valid measures of the nuanced substance and stringency of policy. The data is used to develop a range of transparent algorithms to aggregate the many nuanced, track-specific answers into measures of stringency and bias. These features give users intrinsically nuanced and relevant measures of law and policy, but also the tools to develop their own measures of stringency and cross-group bias in laws and policy.

Overcoming the main methodological challenges to measuring immigration laws and policy - through the approach of the IMPALA Project articulated here, or through other approaches - will improve investigation into a number of crucial questions in the field of migration studies. For the first time, we will be able to identify clusters of immigration policy output regimes, assess variation in national policies, and trace processes of convergence/divergence in migration regimes across countries and across time. Further, we will be able to differentiate various sub-policies and analyze their determinants, but also to what extent policies for one track of entry are related to other tracks of entry. The IMPALA database will allow for the comparative impact assessment at both aggregate and indicator level of the effectiveness of immigration policies. Overall, we expect that the ability to make easy comparisons across different policy realms and countries will set new benchmarks. It will help in the identification of best practice and sub-optimal policy choices across a range of areas. An important objective of the IMPALA Project is improve how immigration policy is discussed across borders. It is envisaged equally that the database will work to enhance the sophistication of the policy discourse more generally in this most significant and politically charged area of public administration.¹⁴

¹⁴ For a discussion of the claims made about the efficacy of policies in the area of asylum and border control in Australia see Crock and Ghezelbash 2011.

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Table 1 Relevant IMPALA categories

<i>Economic migration</i>	<i>Family reunification</i>	<i>Student migration</i>	<i>Humanitarian migration</i>	<i>Citizenship</i>
Regulations for workers, investors, entrepreneurs	Regulations for partners, children, parents and extended family members	Regulations for university, school, vocational and language students	Regulations for asylum seekers, refugees, subsidiary protection, temporary protection, residence permits for personal reasons (such as domestic violence), medical reasons and for victims of human trafficking.	Acquisition and modes of loss of naturalisation

Bilateral migration captures whether there is a preferential treatment for a particular origin country, compared to the general policy.