

- Abstract:**
- We aim to build on professional encounters 2010-2013, and with BA support establish two research projects, three research seminars, and one technical review. Our goals are to advance the methods and understanding of sub-national socio-demographic development in Latin America, to strengthen research networks in Latin America and UK, and to transfer academic knowledge to government planning.
 - We will construct and analyse a database of socio-demographic rates between and within countries: from the International Public Use Microdata Samples, and census and survey data held in REDATAM.
 - We will research and document a sub-national projections system for Venezuelan states and smaller areas, developing a planning-relevant approach to projections in which population, household and labour force projections are integrated.
 - We will convene three seminars on methods and results, at the Latin American Population Association (ALAP), at the Venezuela statistics institute, and in Manchester UK.
 - We will use specialist UK software, and explore cost-effective alternatives.

Partner Region: Latin America and Caribbean

Research project:

One of the main challenges for Latin American demographic understanding is to bring the focus from national to sub-national, to respect and take advantage of the known cultural and economic similarities in areas that cross national borders. The co-applicant's home country Venezuela includes for example the capital metropolis with ageing and low fertility, Andean states of mixed urban and rural development with similarities to neighbouring areas of Columbia, and Amazonian states where the demographic transition has hardly begun. This is the demographic context of the project. The impact of not having sub-national demographic understanding was underscored recently by the under-estimation of required child immunisation resources in the under-developed state of Bolivar due to the use of projected populations based on national trends.

Latin America is also grappling with economic change, affected by the world crisis but less so than other regions (ILO reports), while in some countries experimenting with political and economic models that favour development of traditional demand and in others continuing neoliberal exploitation of global demands. There has not been the hoped-for 'demographic dividend' from reduced fertility – a relatively large proportion of the population in working age for several decades before ageing becomes a larger issue – because unemployment and marginal employment has remained intractable, though unevenly across the continent and within countries.

A sub-national demographic focus is the research theme that unifies and motivates this project, with elements of training, methodological development, exploitation of data and substantive research results. The relationships between population, housing and jobs are key to the importance of demography in planning, and are part of the vision for a wider programme of research that can build on the platform of this project.

We will establish two strands of research (a) sub-national demographic trends in the LA region as a whole, and (b) methods of sub-national demographic projection applied at least to the co-applicants country. We will interact with the regional network of population scientists in academia and government to strengthen its work in this area.

In the UK, Simpson will lead the work, will ensure high quality academic outputs in Latin American studies in the UK, and will connect the LA colleagues with demographic expertise in the UK. A seminar in the third year in Manchester will be organised to showcase progress and share results with the less quantitative UK studies of LA development. Simpson will also lead investigation into the potential of new shared software for sub-national demographic projections, while using and training others in the industry standard software used in Britain, POPGROUP (website: version 4 released January 2014).

In Latin America, Yepez will lead the data collation and analysis giving a high level of quality assurance, and be the main collaborator with the LA network of academic and government demographers that was established in 2010 by the Population Association of Latin America (ALAP) to discuss and improve demographic estimation and projections. Yepez will appoint and supervise the research assistant in Caracas, liaise to ensure the seminar at the ALAP conference in 2016, and liaise with ALAP for appropriate publication of progress reports and results.

**Planned research
outputs:**

Submission of one peer-reviewed journal article in each of the Bulletin of Latin American Research, Revista Latinoamericana de Población, Population and Development Review, and Astrolabio (Argentina, CONICET). In these we will connect the results of our demographic analyses to the socio-economic context.

We will work with ALAP to host a website on the project and related materials, where we will post progress papers in Spanish and English prior to their development and submission to journals. Working Papers will also be published in the series of CCSR at Manchester University, and the Universidad Central de Venezuela.

The Latin American database of demographic rates for provinces will be made available to other researchers as a resource.

The research seminar at the ALAP conference (2016, 20 people) will include training. The UK research seminar (2017, also 20 people) will involve LA studies specialists (see 'Other participants'). The seminar at the Venezuela national statistics institute (2016) will discuss results and strategies for development of the research.

It is expected that both applicant and co-applicant will give additional research seminars while visiting each other's institutions.

At the BSPS conference 2017, we will propose a special session on Latin American demographic developments, and contribute to it.

The outputs of this project will be considered as a basis for further and broader collaboration, supporting new research funding applications.

Plan of action:

Approximately sequential stages, but overlapping:

1. Review Latin American population studies publications in English, Spanish and Portuguese on: cross-national demographic reviews with sub-national granularity; sub-national demographic projections; population statistics used in strategic planning.
2. Collation of a time series for countries and their provinces from the International Public Microdata Samples (cf Esteve et al. PDR 2012 using IPUMS for cohabitation in LA provinces); estimation of demographic and related rates.
3. Visit of Simpson to Caracas to review data collation and analysis plans, begin analysis and plan detail of project.
4. Collation of a similar time series of other relevant census and survey data for countries and their provinces with the support of UN regional office CELADE, including that office's data bank REDATAM.
5. Technical review of available demographic software, its suitability for small areas, and the potential for cost-effective improvements or synthesis. Building on the ALAP review of PRODEX, RUPEX and POPROUP (2012).
6. Analysis of LA data (2 and 4 above) to characterise the evolution of demographic, economic activity and household headship rates in different parts of the region, to identify cross-national similarities in demographic trends, and similarities between neighbouring provinces of different countries.
7. Drafting of papers from this analysis for circulation prior to seminar (10 below).
8. Collation of Venezuelan demographic, labour force and household statistics for 25 Venezuelan Entidades (states), and smaller areas within one state where

strategic investments are planned.

9. Visit of Simpson to Caracas and ALAP.

10. Seminar attached to the ALAP conference (venue tbc) summer 2016. We will offer a mix of training and sharing our own results from work above, promoting a common practical approach. We expect 20 participants in the seminar, or more if we can find funding beyond that applied for here. ALAP have offered collaboration which would result in other key contributions at the seminar, and our contributions in the conference itself. This will be a key event in which we would gain valuable feedback on draft papers and their conclusions.

11. Analysis of Venezuela sub-national data (item 8) and formulation of scenarios for future fertility, mortality and migration, economic activity and household representative rates, taking into account historical trends, socio-economic scenarios, and possible convergence of sub-national experience. The LA analysis and discussion of it at ALAP will inform the construction of scenarios.

12. Demographic projection for Venezuela subnational areas. Exemplar of planning scenarios and the use of demographic projections to explore the impact of local investment in housing or jobs. Seminar at INE, Venezuela.

13. Drafting of papers from Latin America and Venezuela analyses.

14. UK Conferences: Society for Latin American Studies April 2017 (paper on socio-demographic relationships within Latin America), and British Society for Population Studies September 2017 (session to be proposed on Latin American demography, including paper from project).

15. Visit of Yepez to UK 2017. Conferences, and seminar aimed at Latin American studies audience.

16. Drafting papers and e-book for publication from this and earlier work presented at ALAP seminar.
Development of plans for further and wider collaboration.

17. Final writing and publications.

**Plans for publication /
dissemination:**

As above under planned research outputs:

Submission of one peer-reviewed journal article in each of the Bulletin of Latin American Research, Revista Latinoamericana de Población, Population and Development Review, and Astrolabio (Argentina, CONICET).

We will work with ALAP to host a website on the project and related materials, where we will post progress papers in Spanish and English prior to their development and submission to journals. Working Papers will also be published in the series of CCSR at Manchester University, and the Universidad Central de Venezuela.

The Latin American database of demographic rates for provinces will be made available to other researchers as a resource, and deposited in the UK Data Archive, with which the applicant is familiar from previous deposits. This digital resource is not the primary product, but has been marked below as it will be one significant product.

Digital resource: Yes

Start Date: 01/03/2015

End Date: 28/02/2018

**Support of BA School
or Institute
Required/Granted:**

**Language competence
(if applicable):** Fluent Spanish - sufficient for all verbal and written communication - requiring editing support for teaching materials and publication.

Other participants: Yepez in Venezuela will be aided by Luis Geronimo Reyes, Director General of the Venezuelan National Institute of Statistics (INE). Between 2014-2018 he presides over the Asociación Latinoamericana de Estadísticas and will be able to facilitate both Venezuelan and wider regional co-operation.

Asociacion Latinoamericana de Poblacion (ALAP): support has been offered in principle by the network of estimation and projection within ALAP, including from Prof Leandro Gonzalez (CONICET, Argentina), Prof Paulo Jannuzzi (IBGE, Brazil), Dr Guiomar Bay, Senior Researcher of the UN Latin America Demography Centre (CELADE) with various academic appointments. The applicant and co-applicant are founder members of this network.

Latin American specialists and projections specialists in the UK will be engaged to support the co-applicant's discussions and the seminar in Britain in 2017. At the University of Manchester, Armando Barrientos, Professor in Poverty and Social Justice and a member of the Centre for Latin American and Caribbean Studies will support that engagement. We have also had contact with Sylvia Chant, Professor, London School of Economics; Colin Clarke, Emeritus Professor of Geography, University of Oxford; Mariachiara Di Cesare, Centre in International Education, University of Sussex; Cathy McIlwaine Senior lecturer, Queen Mary College London; Maxine Molyneux, Professor and Director of the Institute of the Americas, London School of Advanced Studies; Tiziana Leone, Senior lecturer LSE, and Emeritus Professor Phil Rees at Leeds University, who have expressed interest in the work and can be expected to engage with its results.

**Added value of
collaboration:**

The combination of developing both research and international partnerships that the BA IPM offers is utterly suited to our current collaboration at this particular time. We believe that it will allow research of top quality in an under-studied area of great potential, and establish sufficient momentum to promote further research both in the UK and in the region.

Yepez has developed since her return five years ago to Venezuela after doctoral study abroad, into a foremost statistician in her country and the region, gaining her University's prize for outstanding contribution (Orden José María Vargas, 2011). She is a Laureate of the Prix Fernand Braudel from IHEAL in Paris 2012, and won a separate European award for Professors and Researchers from Latin American Universities 2013-2014. She is research co-ordinator for the school of sociology at UCV. She has experience of the REDATAM and IPUMS databases from which much of our data will come.

Yepez' research focus on the demographic dynamics of Latin America coincides with the region's immersion in the demographic transition at different rates in countries undergoing a great variety of experiences, some temporary and others long-lasting

Both co-applicant and applicant were founding members of the population projections network of the Population Association of Latin America in 2010, resulting in the publication of an e-book on the challenges of population projections in Latin America in 2013 (Estimaciones y proyecciones de población en América Latina, desafíos de una agenda pendiente).

Simpson is a senior academic demographer in the UK with specialism in sub-national projections, with fluent Spanish and currently able to take on the unusual challenge of research and development work that this opportunity demands.

In September 2013, Simpson co-taught a two-week course on demographic projections with the chief demographer of CELADE Giomar Bay and the US Census Bureau retiree Edward Arriaga who has long supported Latin American population studies. The seminar was arranged by the co-applicant and funded by UNFPA and the Venezuelan National Institute of Statistics. A proof-of-concept extraction of data was undertaken for the course, showing the potential of official Venezuelan data, and the possibility of estimating migration flows between sub-national areas.

Venezuela took the presidency of Mercosur in July 2013, whose member countries account for 81% of the GDP of Latin America. One of Mercosur's priorities for 2014-15 is to work on integration of the governmental statistical work of its member countries, a priority for which the Venezuelan INE has taken the lead. Our project will feed into and benefit from recognition of the importance of harmonised and high quality demographic data for planning across Latin America.

**Endangered or
Emerging Subject
Area:**

The project is rooted in quantitative skills. By introducing its methods and results to Latin American and Caribbean studies in the UK, it will encourage appreciation and use of quantitative analytical skills in a discipline that has tended to be qualitative in its approaches and strengths.

This impact will strongly occur during (a) the preparation for and the implementation of the UK seminar funded through this project, as its aim is to get the widest possible participation from UK Latin American and Caribbean studies, and (b) the publication of results in UK journals of Latin American and Caribbean studies.

**Ethical approval
obtained:**

No