

PROYECTO DE INVESTIGACIÓN

Proyecto Interno Proyecto Semilla Proyecto Junior Proyecto Multi e Inter Disciplinario

Investigación Básica

Investigación Aplicada

DEPARTAMENTO(S) Y/O INSTITUTOS:

1. Departamento de Economía Cuantitativa

LINEA(S) DE INVESTIGACIÓN:

1. Economía del Bienestar

CAMPO DEL CONOCIMIENTO (Ver Anexo A: Detalle de los campos del conocimiento)

Campo amplio	Campo detallado	Campo específico
Ciencias Sociales, Periodismo e información	Ciencias Sociales y Ciencias del Comportamiento	Economía

DISCIPLINA CIENTÍFICA (Marque X, solamente una opción)

Ciencias Naturales y Exactas	
Ingeniería y Tecnologías	
Ciencias Médicas	
Ciencias Agrícolas	
Ciencias Sociales	X
Humanidades	

OBJETIVO SOCIOECONÓMICO (Marque X, solamente una opción)

Exploración y explotación del medio terrestre	
Ambiente	
Exploración y explotación del espacio	
Transporte, telecomunicaciones y otras infraestructuras	
Energía	
Producción y tecnología industrial	
Salud	
Agricultura	
Educación	
Cultura, ocio, religión y medios de comunicación	
Sistemas políticos y sociales, estructuras y procesos	X
Defensa	
Avance general del conocimiento: I+D financiada con los Fondos Generales de Universidades (FGU)	
Avance general del conocimiento: I+D financiados con otras fuentes	

Alcance Territorial (Marque X, solamente una opción)

Institucional		Nacional	X
Parroquial		Internacional	
Cantonal		No definido	
Provincial			



1	Proyecto de Investigación	
	Título (mínimo 10 palabras): Migration Effects on Living Standards of the Left Behind. The Case of Overcrowding Levels in Ecuadorian Households	
	Resumen del proyecto (máximo 200 palabras) This research project aims to investigate the effects of international migration on left-behind household overcrowding levels in Ecuador, a traditional migrating country. To do so, we plan to use the universe of the Ecuadorian population collected in the Census of Population and Dwelling 2010. Using an instrumental variable regression model, we expect to find a negative association between international migration and the overcrowding level of such household. Additionally, we verify the key role of remittances in order to ameliorate the overcrowding in the left-behind.	
	Palabras clave (4-6): International migration, Household overcrowding, remittances, Ecuador.	

2 **Objetivos, limitaciones, hipótesis y resultados esperados de esta propuesta de investigación**

2.1 Objetivos

2.1.1 Objetivo General

- To investigate the effects of international migration on left-behind household overcrowding levels in Ecuador

2.1.2 Objetivos Específicos

- a. To find a significantly negative association between the presence of international migration and levels of overcrowding in the left-behind household.
- b. To verify if remittances, as an integral part of the migration process, will maintain a positive relationship with migration and housing investment and, subsequently, a negative relation with the level of overcrowding.

2.2 Limitaciones (Aspectos que quedan fuera del alcance del Proyecto de Investigación)



- a. Even if we would like to use most recent information, the last data about the universe of Ecuadorian population is from the Population and Dwelling Census of 2010. Thus, we plan to use this database for our empirical analysis.

2.3 Hipótesis (Responden al problema de investigación)

- b. There is a direct effect of international migration on household overcrowding.
- c. Remittances, as an integral part of the migration process, maintain a positive relationship with migration and housing investment and, subsequently, a negative relation with the level of overcrowding.

2.3 Detalle de los resultados esperados (con relación a los objetivos)

- a. It is expected to find a negative effect of international migration on housing overcrowding in the left-behind. Indeed, we expect that this negative effect of international migration is going to be stronger than the potentially positive effect of migration on overcrowding via the creation of extended families and the subsequent rise in overcrowding as a result of the delegation of the care of the children left behind, as reported in the literature.
- b. It is also expected to find that our results point to a positive reverse causality between overcrowding and migration, that is, the higher the overcrowding (or poverty) level is in the origin country, the greater the willingness to emigrate. By considering alternative subsamples of households (those receiving and not receiving remittances), we expect to find that even if the household has a recent migrant, if he/she does not send remittances, the left-behind household does not present a statistically significant improvement in terms of a reduction in its level of overcrowding.

3 Relevancia de la propuesta de investigación y su relación con la(s) líneas de investigación

In this study, we plan to analyze the effect of emigration on overcrowding in households left behind. We plan to do so by taking as our case study the country of Ecuador, a small developing economy that has experienced an episode of particular interest for our purposes here, namely, a massive migratory wave between the late 90s and early 2000s and it presents high levels of household overcrowding. We plan to use the universe of the Ecuadorian population, as collected in the 2010 census, to investigate the impact of international emigration on household overcrowding. In our view, the best way to approach this phenomenon is given by modelling using econometric techniques which is the framework research line of this project.

4 Impacto de la investigación

4.1 Impacto Social (máximo 250 palabras)

No Aplica.

4.2 Impacto Económico (máximo 250 palabras)

We plan to explore the key role of remittances relationship international migration-overcrowding relationship, insofar as migrants interact with households left-behind by means of remittances, we think that even if the household has a recent migrant, if he/she does not send remittances, the left-behind household does not present a statistically significant improvement in terms of a reduction in its level of overcrowding. If we are able to verify this assumption, we would suggest incentives or alternative methods of usage of remittances, so left-behind households improve their social and economic well-being.

4.3 Impacto Político (máximo 250 palabras)

Based on the empirical evidence that we expect to find, we will be able to make policy recommendations. In that line, we may be able to suggest that a good way to improve the living conditions of citizens in developing



countries is to facilitate the conversion of remittances from abroad into housing investments, as improvements to living quarters represent the first step towards improving quality of life and human capital accumulation. Moreover, policy makers need to be aware of the poverty trap in which many households find themselves, since episodes of international migration would certainly be more frequent without present financial constraints. In fact, improving living conditions at the point of origin would reduce the willingness to migrate and, subsequently, reduce the negative implications of international migration, such as effects of the brain drain and the problems caused by family destructuring.

4.4 Impacto Científico (máximo 250 palabras)

Even though literature is showing an increasing interest in the effects of migration on the households and countries left behind, the relationship between international migration and overcrowding has not being explored yet. By means of this research, we plan to stablish a pioneer study about the topic that may open other lines of research.

5	Productos esperados
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Tipo de Producto:	Marcar con una "X"
a. Publicaciones científicas y/o patente (obligatorio);	X
b. Disertación a la comunidad politécnica;	X
c. Trabajo de titulación de acuerdo a lo que establece el Reglamento de Régimen Académico y la Normativa Interna de la EPN;	
d. Aplicación tecnológica construida o implementada;	
e. Perfil de proyecto de mayor impacto científico, técnico, pedagógico o de innovación.	

6	Descripción, metodología y diseño del proyecto
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6.1 Descripción, metodología y diseño del proyecto (Máximo dos carillas)

In developing countries, housing improvements require substantial investments, which can be achieved either thanks to higher incomes driven by enhanced local economic growth, or to inflows of money from emigrants that send remittances home. Indeed, the literature is showing an increasing interest in the effects of migration on the households and countries left behind. Studies suggest that there are two main channels for identifying these effects. The first channel is direct, and includes family reunification (Brunner and Pate, 2016 [1]; Jasso and Rosenzweig, 1995[2]), the negative effects on the school attendance of children left-behind (Amuedo-Dorantes and Pozo, 2010[3]), and a brain drain (Ngoma and Ismail, 2013 [4]; Croix and Docquier, 2012 [5]). The second channel is indirect, insofar as migrants interact with households left-behind by means of remittances.

In this study, we analyze the effect of emigration on overcrowding in households left behind. We do so by taking as our case study the country of Ecuador, a small developing economy that has experienced an episode of particular interest for our purposes here, namely, a massive migratory wave between the late 90s and early 2000s (Piracha and Saraogi, 2012) [6] and it presents high levels of household overcrowding (INEC, 2010) [7]. We use the universe of the Ecuadorian population, as collected in the 2010 census, to investigate the impact of international migration on household overcrowding. Our findings show that, once reverse causality is controlled for, there is a significantly negative association between the presence of international migration and levels of overcrowding in the left-behind household. In other words, households with international migrants present lower levels of overcrowding levels in the households left behind.



We plan to part from the idea that our key variables, overcrowding and international migration, are clearly related: overcrowding being less frequent in households with international migrants than is observed on average. What is not clear, though, is the direction of causality in this relationship and the selectivity of the processes involved. Is it in fact the case that migration reduces overcrowding? Or is it rather the case that less crowded households are the ones with a higher number of international migration episodes?

To address these questions, we propose the use of models that allow us to control for factors that influence both migration and overcrowding [8]. Moreover, we consider the possibility of endogeneity in the relationship. The aim of employing this strategy is to determine whether a significant influence exists, and, if so, the sign of this association. Our empirical model comprises an instrumental variable regression in which overcrowding depends on migration. Clearly, however, a series of additional controls are included in the equation. Thus, we can propose the following instrumental variable regression:

$$\text{Overcrowding}_i = \varphi + \beta X_i + \gamma \text{Migration}_i + u_i \quad (1)$$

where

Overcrowding is the household density (number of people per bedroom) in household i ;

Migration is a dummy variable that takes a value of 1 if at least one member of the household has migrated abroad in the ten-year period prior to data collection, or 0 otherwise;

X_i is a set of control variables. It includes information about the householder, the dwelling, geographical characteristics, household structure and observable environmental factors;

u_i is the stochastic error term of the model.

We approach overcrowding as a continuous measure of the number of people sharing a bedroom, as do Solari and Mare (2012) [9] in their study of the effects of overcrowding on children's wellbeing. They aim to capture the degree of crowding in a home by using a continuous measure. In this way, these authors consider that the effects of crowding on a child's wellbeing may begin to manifest themselves in a child when a high ratio of people per room is reached; thus, a continuous measure enables them to capture these possibilities (Solari and Mare, 2012). In our case, we believe that household density should enable us to observe in greater detail the effects of migration on it.

We assume that migration is endogenous to overcrowding. Endogeneity may arise as a result of an omitted variable problem and we seek to avoid this by employing a broad series of controls, included as X_i in our methodological approach. In line with Painter and Yu (2010) [10], who relate migration and overcrowding at the migrants' point of destination (and not at origin as is our case here), we consider a list of demographic variables, including the householder's sex (with female as category of reference), age (measured in years), age squared, ethnic group (a categorical variable with mestizo as category of reference, where the other possible options are black, mulatto, Montubio, indigenous, white, African-Ecuadorian and other), and marital status (a categorical variable that includes married, separated, free union, divorced, widowed and single). We also consider a socioeconomic variable of the householder, in this instance, schooling (measured in the number of years of formal education and which can also be considered as a proxy of income). In the case of the dwelling itself and the geographical characteristics of its location, we consider its tenancy regime (a qualitative variable including householder owned and fully paid, owned but not fully paid, ceded, exchanged for services, rented, and antichresis as possible categories), its location1 (1 if the dwelling is in an urban area or 0 if in a rural area), and also the province's fixed effects (a qualitative variable with Azuay as category of reference).

Additionally, we include variables of household structure: the proportion of both women and the elderly in the household (%) are included as regressors. We also consider that the immediate environment may have an effect on the probability of overcrowding, so we included the population density of the canton (number of people per square kilometer).

A second potential source of endogeneity is reverse causality. We use two instruments to address this problem. The first instrument, *Distance*, provides information about the distance between the parish in which the



household is located and the nearest international airport (Quito, Guayaquil, or Cuenca). The nearer the household is to an international airport, the easier it is to emigrate. The second variable refers to previous internal migration experience, *Internal_exper*. Essentially, it is defined as the proportion of household heads (husband and/or wife) that were born in a different province from the one in which they currently live. This variable takes a value of 0 if neither the household head nor his/her partner were born in a different province from the one in which they currently live; 0.5 if one of them was born in a different province to the one in which they currently live; or 1 if both were born in different provinces to the one in which they currently live. This variable captures previous (internal) migration experiences, which may affect the decision to migrate abroad. We expect that, having considered all the other controls, these two variables will not be correlated with the disturbance term of the main equation. In this regard, recall that we include the province's fixed effects and the population density of the canton, which must capture the vast share of the association between overcrowding and territorial characteristics. This leaves the distance to the nearest international airport with just residual importance, and as a variable with a greater influence on international migration than on overcrowding. The same is true of the household's previous migration experience: we would expect this variable to affect further migration episodes, but not to be correlated with overcrowding once the other household characteristics are controlled for.

References

[1] Brunner, L., and Pate, J. (2016). Promoting entry of high-quality workers through US immigration policy. *Applied Economics*, 1-15.

[2] Jasso, G., & Rosenzweig, M. (1995). Do Immigrants Screened for Skills Do Better than Family Reunification Immigrants? *International Migration Review*, 29(1), 85-111.

[3] Amuedo-Dorantes C, Pozo S (2010) Accounting for remittances and migration effects on children's schooling. *World Development* 38:1747-1759.

[4] Ngoma, A., & Ismail, N. (2013). The Impact of Brain Drain on Human Capital in Developing Countries. *South African Journal of Economics*, 81(2), 211-224.

[5] Croix, D., & Docquier, F. (2012). Do brain drain and poverty result from coordination failures? *Journal of Economic Growth*, 17(1), 1-26.

[6] Piracha, M., & Saraogi, A. (2012). The determinants of remittances: Evidence from Moldova. *Oxford Development Studies*, 40(4), 467-491.

[7] Instituto Nacional de Estadísticas y Censos (2010). *Censo Nacional de Población y Vivienda*. Ecuador.

[8] Jazwinski (1998). Crowding. Available: <http://condor.stclud.msus.edu/~jaz/psy373/7.crowding.html>.

[9] Solari, C. D., & Mare, R. D. (2012). Housing crowding effects on children's wellbeing. *Social Science Research*.

[10] Painter, G., and Yu, Z. (2010). Immigrants and Housing Markets in Mid-Size Metropolitan Areas 1. *International Migration Review*, 44(2), 442-476.

7 | Infraestructura, equipos y fondos adicionales.

7.1 Infraestructura y equipos

- Indicar la infraestructura y equipos **disponibles** para la ejecución del proyecto, con la ubicación actual de los mismos

Infraestructura	Equipos	
	Nombre del Equipo	Ubicación del Equipo
Oficina ubicada en el sexto piso del Edificio de Administración Central. Ala norte.	Computador personal de escritorio	Oficina ubicada en el sexto piso del Edificio de Administración Central. Ala norte.

7.2 Breve justificación del equipo requerido



- *Justificar la infraestructura y equipos **solicitados** para la ejecución del proyecto e indicar el departamento en el cual se ubicará dicho equipamiento.*

7.3 Fondos Adicionales

No aplica.

DECLARACIÓN FINAL

TIPO DE PROYECTO

Proyecto Interno Proyecto Semilla Proyecto Junior Proyecto Multi e Interdisciplinario

TIPO DE INVESTIGACIÓN

Investigación básica Investigación aplicada

TÍTULO DEL PROYECTO

Migration Effects on Living Standards of the Left Behind. The Case of Overcrowding Levels in Ecuadorian Households

DECLARACIÓN DEL DIRECTOR DEL PROYECTO

El equipo de investigadores, representado por el Director del Proyecto declara lo siguiente:

- Que el presente proyecto es una obra original de este equipo de investigadores y por tanto, asumimos la completa responsabilidad legal en caso de que un tercero alegue la titularidad de los derechos intelectuales del proyecto, exonerando a la EPN de cualquier acción legal que se derive por esta causa.
- Que el presente proyecto no ha sido presentado en ninguna convocatoria de otra institución pública o privada solicitando el financiamiento total del presupuesto. El incumplimiento será causal para que la propuesta sea descalificada de la convocatoria de la EPN.
- Que todos los bienes adquiridos en el proyecto permanecerán bajo la custodia y responsabilidad del director de proyecto.
- Que aceptamos que si el proyecto genera algún producto o procedimiento susceptible de obtener de derechos de propiedad intelectual, de los cuales se deriven beneficios, éstos serán compartidos entre los investigadores y la EPN.
- Que aceptamos conocer y cumplir con la normativa vigente para la gestión de proyectos de investigación.




Firma del Director del Proyecto
Nombre: Juan Pablo Díaz Sánchez
C.I.: 1804033361

DECLARACIÓN DEL JEFE DE DEPARTAMENTO

Esta propuesta ha sido avalada por el Consejo del Departamento de Economía Cuantitativa, en sesión del día 28-02-2019 mediante resolución No. CDEC-2019-25

Las instalaciones, incluyendo personal, edificios, equipo y recursos financieros están a disposición del proponente y sus colaboradores de acuerdo con las especificaciones que se encuentran en esta propuesta.



Firma del Jefe del Departamento
Nombre: Julio Medina Vallejo
C.I.: 1704195203

*Se debe adjuntar el acta en el que conste la resolución que avala la propuesta de proyecto