



PROCEEDINGS

of the XXVIII Meeting of the Economics of Education Association

Las Palmas de Gran Canaria, 27-28 June 2019

Sara M. González-Betancor
Margarita Fernández-Monroy
Lucía Melián-Alzola
(Eds.)

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PRESENTACIÓN

La Asociación de Economía de la Educación (<http://www.economicsofeducation.com>) fue fundada en Barcelona el 30 de marzo de 1992, con objeto de agrupar a profesionales e investigadores que centren su interés y dedicación en temas relacionados con el campo de la Economía de la Educación. Es una asociación sin ánimo de lucro, de carácter voluntario y sus fines son los siguientes:

- a) Promover y difundir los estudios de Economía de la Educación y formar y perfeccionar expertos en esta materia.
- b) Promover contactos e intercambios profesionales, confrontando los trabajos e investigaciones sobre el tema entre las diversas personas e instituciones interesadas en el mismo, tanto nacionales como de otros países.
- c) Organizar, por sí sola o en colaboración con otras organizaciones o entidades, congresos o reuniones y otras actividades científicas de Economía de la Educación.
- d) Editar publicaciones relacionadas con la materia y mantener o promover la formación de bibliotecas especializadas sobre la misma.
- e) Promover la formación de una base de datos estadísticos homogénea y procurar su mantenimiento y actualización.
- f) Cualquier otra función relacionada con el campo específico de la Economía de la Educación, quedando excluido todo ánimo de lucro.

PRESENTATION

The Economics of Education Association (<http://www.economicsofeducation.com>) was founded in Barcelona on March 30th 1992, with the aim of grouping academics who, together with researchers, directed their efforts primarily to issues related to the Economics of Education. It is a non-profit organization, performed on a voluntary basis and it serves the following purposes:

- a) To promote and disseminate studies of Economics of Education, as well as provide training and retraining of experts.
- b) To encourage professional contacts and exchanges, sharing the work and research on the subject among the various individuals and institutions interested in it, both in Spain and abroad.
- c) To organize -alone or in collaboration with other organizations or entities- conferences or meetings and other scientific activities on economics of education.
- d) To publish literature related to the subject and maintain or promote the creation of specialized libraries.
- e) To promote the development of a homogeneous statistical database and ensure it is maintained and updated.
- f) Any other function related to the specific field of Economics of Education, with non-profit purposes.

Desde 1992, las Jornadas de Economía de la Educación han venido celebrándose bajo la dirección de la Asociación de Economía de la Educación (AEDE). En el año 2019 se eligió la Universidad de Las Palmas de Gran Canaria como sede de las XXVIII Jornadas de la AEDE, en las que hubo espacio para la reflexión y el debate de temas tales como el vínculo entre educación y mercado laboral, los determinantes del rendimiento académico, la evaluación de políticas educativas, la producción, eficiencia y productividad del sistema educativo, los rendimientos de la educación y su impacto económico, o la financiación y gestión de la educación, así como otros aspectos más generales relacionados con el género y el bienestar en el contexto educativo.

Al interés académico del encuentro se ha unido el compromiso de los organizadores, con el apoyo del Instituto de Estudios Fiscales y del Cabildo de Gran Canaria, en transferir a la sociedad y a los gestores públicos las principales reflexiones y resultados que en materia de educación se deducen de las comunicaciones y debates de estas Jornadas. Este libro electrónico contiene los resúmenes de las ponencias presentadas durante la celebración de las XXVIII Jornadas de la AEDE.

Since 1992, the Economics of Education Association (AEDE) has annually organized the Economics of Education Meeting. The Universidad de Las Palmas de Gran Canaria (ULPGC) was chosen to host the XXVIII AEDE Meeting in 2019. At the Meeting there was time for reflection and debate on issues such as the link between education and the labour market; the determinants of academic performance; the evaluation of educational policies; the production, efficiency and productivity of the education system; the performance of education and its economic impact; or the financing and management of education; as well as other more general aspects related to gender and well-being in the educational context.

The academic interest of the Meeting comes together with the commitment of the organizers and the support of the Instituto de Estudios Fiscales to transfer the main ideas and reflections in terms of education to the society and public managers.

This electronic book compiles the abstracts of the papers presented during the celebration of the XXVIII AEDE Meeting.

INTRODUCCIÓN

Las XXVIII Jornadas de Economía de la Educación se desarrollaron en la Universidad de Las Palmas de Gran Canaria durante los días 27 y 28 de junio de 2019. El presente libro de actas recoge los resúmenes de todos los trabajos presentados en ellas. Se trata del primer libro de actas de estas jornadas tras la decisión de la Asamblea de Socios de 2018 de no continuar editando la colección de *Investigaciones de Economía de la Educación*, que venía compilando una selección de las comunicaciones presentadas durante las jornadas anuales desde el año 2006.

A las XXVIII Jornadas asistieron 86 investigadores, presentándose un total de 73 comunicaciones, de naturaleza tanto teórica como aplicada, distribuidas entre 20 sesiones paralelas. Éstas versaron sobre los siguientes temas: eficiencia en educación; educación superior; función de producción educativa; políticas educativas; determinantes del rendimiento educativo; educación y mercado laboral; satisfacción y bienestar; educación y género; la tarea docente y rendimiento educativo y capital humano. El tema con un mayor número de sesiones paralelas fue el de educación superior, con un total de 4 sesiones con dicha temática.

Con respecto al idioma de las presentaciones, 37 fueron en lengua inglesa y 36 en castellano, manteniéndose así la tendencia de internacionalización de las Jornadas de AEDE experimentada durante los últimos años. Aproximadamente el 45% de los investigadores provenían de centros

INTRODUCTION

The XXVIII Meeting of the Economics of Education Association was held at the University of Las Palmas de Gran Canaria on 27 and 28 June 2019. This book of proceedings gathers the summaries of all the papers presented. This is the first book of proceedings after the decision of the 2018 Members' Assembly not to continue editing the collection called *Investigaciones de Economía de la Educación*, which had been compiling a selection of the papers presented during the annual meetings since 2006.

The XXVIII Meeting was attended by 86 researchers presenting a total of 73 papers, both theoretical and applied in nature, distributed among 20 parallel sessions. They dealt with the following topics: efficiency in education; higher education; educational production function; educational policies; determinants of educational performance; education and labor market; satisfaction and well-being; education and gender; the teaching task and educational performance, as well as human capital. The topic with the greatest number of parallel sessions was higher education, with a total of 4 parallel sessions.

With respect to the language of the presentations, 37 were in English and 36 in Spanish, thus maintaining the trend of internationalization of the AEDE Conference experienced in recent years. Approximately 45% of the researchers came from foreign research centres, spread over 18 countries in America, Europe and Asia.

de investigación extranjeros, repartidos entre 18 países de América, Europa y Asia.

Peter Dolton (University of Sussex) y Sylke V. Schnepf (European Comission's Joint Research Centre Ispra) fueron los conferenciantes invitados en esta edición. El profesor Dolton hizo una ponencia inaugural en la que presentó una revisión de las estimaciones de rendimiento educativo y aportó nuevas evidencias con información de 35 países. La doctora Schnepf, por su parte, se encargó de la segunda ponencia de las jornadas, en donde compartió con los asistentes unas reflexiones y críticas sobre el nivel de fiabilidad y precisión de las bases de datos educativas que miden, entre otras cosas, el rendimiento académico.

Queremos cerrar esta introducción haciendo llegar nuestro agradecimiento al conjunto de personas y entidades que han hecho posible el éxito de las XXVIII Jornadas de Economía de la Educación. En primer lugar, a la Universidad de Las Palmas de Gran Canaria y, más concretamente, a la Facultad de Economía, Empresa y Turismo y al Departamento de Métodos Cuantitativos en Economía y Gestión, por su generosa financiación y apoyo organizativo. En segundo lugar, al Consejo Social de la Universidad de Las Palmas, por su apoyo a través de la concesión de las becas de colaboración para la ayuda en la organización, así como por facilitarnos el acceso a la retransmisión en *streaming* y grabación de las dos ponencias mediante la contratación del servicio de la OpenULPGC. En tercer lugar, al Cabildo de Gran Canaria, por su ayuda económica a través de la subvención a entidades sin fines de lucro que realizan proyectos de carácter singular. En cuarto lugar, al Instituto de Estudios Fiscales, por su apuesta por estas Jornadas

Peter Dolton (University of Sussex) and Sylke V. Schnepf (European Commission's Joint Research Centre Ispra) were the guest speakers in this edition. Professor Dolton gave a keynote lecture in which he presented a review of educational performance estimates and provided new evidence with information from 35 countries. Dr. Schnepf was in charge of the second keynote lecture of the meeting, in which she shared with the attendees some reflections and criticisms on the level of reliability and precision of the educational databases that measure, among other things, academic performance.

We would like to close this introduction by expressing our gratitude to all the people and organisations that have made the success of the XXVIII Meeting on the Economics of Education Association possible. First, to the University of Las Palmas de Gran Canaria, especially to the Faculty of Economics, Business and Tourism and to the Department of Quantitative Methods in Economics and Management, for their generous funding and organisational support. Second, to the Social Council of the University of Las Palmas, for its support through the collaboration grants for students to help in the organization, as well as for facilitating access to the streaming and recording of the two lectures by hiring the OpenULPGC service. Third, to the Cabildo de Gran Canaria, for its economic aid through the subsidy to non-profit organisations that carry out projects of a singular nature. Fourth, to the Institute of Fiscal Studies, for its commitment to this Conference for so many editions. Fifth, to the Scientific Committee of the Conference, for its rigorous and punctual

desde hace ya tantas ediciones. En quinto lugar, al Comité Científico de las Jornadas, por su rigurosidad y puntualidad en el trabajo de evaluación de más de 130 resúmenes y de 100 comunicaciones. En sexto lugar, a la Junta Directiva, por su acompañamiento y asesoramiento durante la organización y desarrollo de las Jornadas. Finalmente, al Comité Organizador. Hemos formado un gran equipo, en donde cada uno ha aportado su grano de arena, para que todos y todas hayamos podido disfrutar de estas Jornadas. Sin la colaboración de este equipo estas Jornadas no hubieran sido tan exitosas.

Sara M. González Betancor

Coordinadora del Comité Organizador de
las XXVIII Jornadas de AEDE

evaluation of more than 130 abstracts and 100 communications. Sixth, to the Executive Committee, for their backing and advice during the organization and development of the Conference. Finally, to the Organizing Committee. We have formed a great team, where each one has contributed to make everyone enjoy this Meeting. Without the collaboration of this team the Meeting would not have been so successful.

Sara M. González Betancor
Chair of the Organizing Committee of the
XXVIII AEDE Meeting

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**CAPÍTULO 1:
Demanda, financiación y equidad**

**CHAPTER 1:
Demand for schooling, educational finance and
equity**

Socioeconomic segregation of students

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School segregation may be questioning the equity of the Spanish educational system. In this research, we analyse the school segregation by socioeconomic status using the Hutchens Index. Specifically, we decompose the effect of attending public vs semiprivate schools in terms of segregation. The analyses is based on data collecting information from the population of Andalusian students attending 5th grade. We found significant differences in the level of segregation between both schools types. Particularly, the results show that students from high socioeconomic and cultural status are more segregated in public schools, while students from a low socioeconomic and cultural status are more segregated in semiprivate schools. These differences provide evidence of the inequity of the education policy, which should

rethink funding mechanisms as a means to fight against inequality.

KEYWORDS: school segregation; socioeconomic level; public schools; semiprivate schools; Hutchens Index.

Acknowledgements:

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Efectos de la segregación en la educación del Ecuador

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La presente investigación aborda la segregación desde el punto de vista del efecto que tiene en el aprendizaje de los estudiantes de diferentes características de sus compañeros, que pueden ser por nivel socioeconómico, el grupo étnico con el que se identifica el estudiante y el tipo de escuela a la que asiste, con el objetivo de medir el impacto que tienen en los logros del aprendizaje, con esto aportar elementos de juicio para tomar acciones en la política pública de la educación y enfocarla en las jurisdicciones y

grupos sociales donde se presentan los mayores inconvenientes educativos. Encontramos que en el país la composición de la institución educativa influye en los resultados del aprendizaje de los diferentes grupos sociales analizados, impacto que se manifiesta de forma completamente diferente en cada grupo.

PALABRAS CLAVE: segregación escolar; Ecuador; composición escolar; logros académicos.

An evaluation of the educational impact of college campus visits: A randomized experiment

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We hypothesize that a lack of experience with college poses a non-trivial barrier to college access for historically underrepresented students. We study whether visits to a college campus during the eighth grade can reduce these psychological barriers to college access. Using an experimental design, we study whether college visits affect students' knowledge about college, postsecondary intentions, college-going behaviors, academic engagement, and ninth grade course enrollment decisions. We recruited 885 students across 15 schools who participated in our project during the academic year 2017-2018. We randomized students within schools to either a treatment or control condition. Students in the control condition receive an information packet about college.

Students in the treatment condition receive the same information and visit a flagship university three times during their 8th-grade academic year. Students assigned to participate in these campus visits demonstrate higher levels of knowledge about college, higher levels of effort while completing the survey, a higher likelihood of having conversations with school personnel about college, and a decreased desire to attend technical school. Additionally, treated students are more likely to enroll in advanced math and science/social science courses in 9th grade.

KEYWORDS: college access; randomized experiment; campus visits; psychological barriers.

Efectividad de medidas de política educativa para fomentar la demanda de educación universitaria de calidad en Colombia

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Este documento tiene como objetivo analizar los potenciales efectos causales del programa Ser Pilo Paga en Colombia sobre los incentivos al estudio de los jóvenes colombianos en general y en particular los que cumplen con las condiciones para ser elegibles para el programa. Las condiciones para ser elegibles son: (1) estar en los niveles más bajos del Sisben (índice socioeconómico utilizado para recibir subsidios y programas sociales), (2) obtener un puntaje alto en la prueba Saber 11 (examen de Estado que se realiza al finalizar el bachillerato y que permite el acceso a la universidad), (3) elegir una universidad acreditada de alta calidad. El programa Ser Pilo Paga empezó en el año 2014 y financió el acceso a universidades acreditadas de alta calidad por el Ministerio de Educación Nacional a aproximadamente 10.000 jóvenes colombianos por año, hasta el año 2017. Los datos provienen de la base de datos del Icfes que contiene los resultados de la

prueba y algunas características socioeconómicas de los jóvenes. Los principales resultados muestran un efecto positivo del programa en los resultados de los puntajes de los jóvenes que presentaron la prueba después de la aparición del programa en comparación con los del año 2014. Adicionalmente, se muestra evidencia de que la probabilidad de ser elegible para el programa estaba condicionada por características propias de los individuos como el género, características de la familia como la educación del padre y de la madre, características del hogar como el número de miembros en el hogar y características del colegio como su ubicación rural o urbana y la naturaleza oficial o no del plantel y otras características del entorno como la región donde se reside.

PALABRAS CLAVE: educación; demanda; universidad; equidad; Colombia.

Linguistic skills and the intergenerational transmission of language

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We investigate the pattern of intergenerational transmission of language in a bilingual society. We consider the case of Catalonia, where the two main speech communities, Spanish and Catalan, are of similar sizes, both languages are official, and each one enjoys the protection of a different layer of government. However, whereas all native Catalan speakers are bilingual, only a fraction of native Spanish speakers are fully proficient in Catalan. In this environment, transmission decisions are far from trivial. We provide a simple theory showing that changing the costs of acquiring a second language affects language skills as well as the language parents speak to their children. Empirically, we exploit the natural experiment generated by a language-in-education reform that introduced Catalan–Spanish bilingualism at school to estimate the causal effects of language skills on intergenerational transmission. Results show that the increased proficiency in Catalan among native Spanish speakers induced by the reform augmented their propensity to speak Catalan to their offspring. The causal effect of

the policy-induced increase in language proficiency on language transmission is not confounded by spurious trends, potential changes in language identity, and linguistically mixed partnership formation.

KEYWORDS: language; intergenerational transmission; language proficiency; language-in-education reform.

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Competencias de comunicación oral en la educación superior: eficacia comparada entre España y Alemania

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Salazar (2017) asegura que existen aspectos muy importantes que deben considerarse vitales para la gestión de empresas turísticas. La competencia de comunicación oral es una habilidad directiva cada vez más demandada entre las empresas a la hora de seleccionar a sus futuros directivos en el sector turístico. El objetivo de este trabajo es analizar las diferencias existentes en una muestra de 174 estudiantes de Grado de Turismo de Fachhochschule de Kempten (Alemania) y de la Universidad de Las Palmas de Gran Canaria (España). A través de los estadísticos T de Student e índice de Levene, para cada uno de los

cinco factores obtenidos, una vez reducida la escala de 35 ítems a través del análisis factorial, se detectaron diferencias significativas por nacionalidad. Como resultado se obtiene que los estudiantes alemanes tienden a sentir una mayor naturalidad ante las presentaciones orales. Por lo que el sistema de educación superior en España debería orientar las unidades didácticas para mejorar las competencias de comunicación oral obtenidas por los egresados.

PALABRAS CLAVE: competencias educativas; comunicación oral; miedo; ansiedad.

CAPÍTULO 2:
Gestión y planificación de la educación

CHAPTER 2:
Management and educational planning

A multidimensional scaling approach to profiling the knowledge transfer activities of Public Research Organizations

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Government investment in R&D and innovation takes a variety of forms, but the most relevant publicly-funded research performers in most countries are universities and public research organizations (PROs). Like universities, PROs are facing increasing demands for their activities to be impactful and efficient, because of the required value for money in public investments. This includes increasing demands for the public research sector to engage in knowledge transfer to industry. While there is a large and growing literature on knowledge transfer from public research, most studies in this stream focus on universities. Hence, the specificities of the knowledge transfer activities of PROs remain under-researched. In this communication, we present preliminary results from a Multidimensional Scaling

analysis on a dataset of 33 PROs in the United Kingdom from 2011/12 to 2016/17. We develop profiles of PROs' knowledge transfer activities according to their knowledge transfer outputs (patents, spinoffs and shares of private income) and resources – in particular knowledge transfer infrastructures (outsourced research commercialization and/or services and incubators) and knowledge transfer inputs (publications per employee and shares of core and competitive public income). We find strong links between the PROs' knowledge transfer profiles and their age, size and knowledge field.

KEYWORDS: public research organizations; multidimensional scaling; subject mix; knowledge transfer; profiles; stakeholders.

Educación y desigualdad social. Análisis comparativo de los municipios del estado de Sinaloa (Méjico)

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El principal motivo que alentaba –aún ahora-, a las y los jóvenes a estudiar una carrera universitaria era la esperanza de acceder a mejores condiciones de vida, relacionadas con mayores oportunidades laborales, mejores ingresos y bienestar. En México, y de manera particular en el estado de Sinaloa, se observa que esta expectativa social y profesional no se traduce en una realidad. Las y los jóvenes egresados de la educación superior enfrentan la dificultad de acceder a un empleo y a salarios bien remunerados, en parte como resultado de la falta de vinculación entre las instituciones educativas, la empresa privada y el sector público, lo que impide que la oferta educativa sea de acuerdo a las necesidades del mercado laboral. Esta falta de vinculación inhibe la constitución de sistemas regionales de innovación, desaprovecha el capital social y obstaculiza los principios de gobernanza.

En el ámbito social, la educación es una variable que se ha estudiado desde la desigualdad y desde el enfoque de desarrollo económico regional y

local. En el estado de Sinaloa se ofertan carreras universitarias sólo en trece de los dieciocho municipios del Estado. Respecto a las condiciones de pobreza, once municipios cuentan con más del 50 por ciento de su población en condiciones de pobreza y nueve presentan más del 10 por ciento de sus habitantes en situación de pobreza extrema. Si bien hay avances en materia de desarrollo, la mayor brecha entre los municipios se encuentra en la educación, de acuerdo con el Programa de Naciones Unidas.

En este contexto, el objetivo del presente trabajo es analizar la relación existente entre la educación y distintas variables relativas a la desigualdad y al desarrollo a través de un análisis estadístico descriptivo, lo cual hará posible reflexionar -e intervenir-, sobre la situación que guardan los municipios en el Estado de Sinaloa (Méjico).

KEYWORDS: educación superior; políticas de desarrollo económico regional y empresas.

Reviewing the acquisition of entrepreneurial competences through mobility in Europe

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The European Commission supports the development of entrepreneurial skills through the mobility programme Erasmus for Young Entrepreneurs. Since 2009, this programme offers new entrepreneurs the opportunity to learn on-the-job from an experienced entrepreneur in another European country. This exchange is partially funded by the European Commission. The official reports and previous literature showed positive impact and relevance to the target group to overcome the lack of entrepreneurial culture and spirit and to provide EU cross-border added value. However, it is not clear what entrepreneurial competences are put into practice and its level of proficiency, having a positive effect on the mobility experience of the participants. The aim of this study is to take a close look at the expectations and results after 10 years of implementation of the Erasmus for Young Entrepreneurs mobility programme in the Canary Islands, having into account the EntreComp: Entrepreneurship Competence

Framework. Firstly, reviewed the existing literature, this research follows a qualitative approach through the analysis of official documents, participant surveys, and interviews, measuring and showing the relevance of the five “Into action” competences during the mobility exchange: 1) Taking the initiative; 2) planning and management; 3) coping with uncertainty, ambiguity and risk; 4) working with others, and 5) learning through experience. The analysis shows that the new entrepreneurs have an advanced level of proficiency in those competences and bring positive results.

KEYWORDS: entrepreneurship; Europe; mobility; entrepreneurial competences; young entrepreneur.

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Análisis de las políticas de emprendimiento en la Educación Superior en México

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La contribución del emprendimiento a la generación de empleo y al crecimiento económico demanda el análisis de los factores relevantes del ecosistema emprendedor que permitan orientar las acciones y estrategias de políticas públicas y educativas, al identificar aquellos que facilitan o ponen barreras en el fomento de la cultura emprendedora. Esto es pertinente, dado que el sistema educativo se constituye como el principal responsable de proveer capital humano a la sociedad, es, por tanto, necesario que las universidades adopten métodos de gestión que aseguren la calidad y la pertinencia de los programas de estudio que involucren el desarrollo de competencias que promuevan e impulsen el espíritu emprendedor en sus estudiantes, todo esto vinculado con las

acciones gubernamentales. El objetivo de este artículo es realizar un diagnóstico sobre la Tasa de Actividad Emprendedora (TAE), y su relación con los factores del ecosistema emprendedor y el nivel de Desarrollo Humano (IDH), con base en los datos de los informes del Global Entrepreneurship Monitor (GEM). Los principales resultados obtenidos de la diferencia de medias y del modelo de regresión de Cox Box muestran que la TAE tiene relación negativa con el IDH, siendo mayor en América que en los países europeos, sin embargo, México se posiciona por debajo del promedio, así mismo se identifica los factores que favorecen en mayor medida a la TAE.

PALABRAS CLAVE: políticas públicas; educación superior; emprendimiento.

Hispanics and minorities as an entrepreneurial force in economic development of the United States of America

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It has been established that a country that embraces discrimination against their migrants, is a country that develop economically slowly (Ciutacu, 2012). In many instances the struggles, and hardship experiences of the Hispanic/Latino community is not only a result, but also a reflection of the established policies in the actual political, social, legal and economic system. Urban and economic development can be advanced and promoted if at the minimum we stop labeling Hispanic/Latino s in negative terminology such as illegal immigrants.

In the view of a political system that see the immigrants (especially Hispanic/Latino) as an expense and not an investment, this study would like to propose a different view of the immigrant. The immigrant seen as an entrepreneur can provide the much needed change in vocabulary, in the media and in the government system. The actual terminology, such as illegal immigrants, criminalize and penalize certain sectors of the population (Paspalanova, 2008). However, not

only the population is penalized by the categorization of this segment of the population, the added value of the economic activity generated by the Hispanic/Latino population is also penalized. The punishments include, but are not limited to, low valuation of the companies, low private investments, additional requirements to funding from private and public investors and low image in the customer and public eye.

This proposal aims to investigate the Hispanic/Latino immigrants as an entrepreneurial force. I intend to achieve this through a value analysis of the companies created by Hispanic/Latino entrepreneurs in the USA. The study will also investigate the effect of the social perception and discriminatory vocabulary on the wealth generation of the Hispanic/Latino entrepreneurs. The results could provide a new perspective to change immigration policies towards a more beneficial relationship between government entities, authorities, and immigrants of all races.

Relevancia de las competencias del directivo emprendedor desde las perspectivas del profesorado y el estudiantado: un estudio empírico en la universidad española

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El reto de emprender demanda directivos con competencias diferenciales. Dada la importancia del emprendimiento en el tejido empresarial de un país, como baza para el desarrollo económico y social de los territorios, es necesario estudiar en qué medida y bajo qué condiciones las universidades pueden contribuir a formar directivos que dominen las competencias emprendedoras. A este respecto, una cuestión de sumo interés es analizar si los planes de estudio universitarios de los grados en empresa contribuyen a que los estudiantes adquieran dichas competencias necesarias para ejercer la función de directivo emprendedor. Dado que el éxito de los programas de enseñanza-aprendizaje puede venir condicionado por la relevancia que los actores clave del proceso, esto es, profesorado y estudiantado, conceden a los propios contenidos del programa, la percepción que éstos tengan sobre la relevancia de las competencias emprendedoras adquiere suma importancia para la educación en emprendimiento. Este trabajo analiza y compara la importancia que el profesorado y el estudiantado de los títulos de grado en empresa impartidos en la universidad española otorga a las competencias directivas para el emprendimiento.

Por un lado, los profesores evalúan la relevancia de tales competencias para desempeñar con éxito las funciones de un directivo emprendedor. Por otro lado, los estudiantes completan este diagnóstico reflexionando sobre la importancia de cada una de dichas competencias para su futuro laboral. Una muestra conformada por 278 estudiantes y 62 profesores de un grupo importante de universidades españolas y recogida entre octubre de 2018 y enero de 2019 aporta la evidencia empírica. Los resultados indican que, de las diez competencias analizadas, profesorado y estudiantado coinciden al establecer como importantes las referidas a Compromiso, Relacional y Oportunidad, y al conceder baja relevancia a las Conceptual y Técnica. Estos colectivos divergen en la importancia concedida a las restantes cinco competencias.

PALABRAS CLAVE: educación emprendedora; competencias emprendedoras; universidad; emprendimiento; estudiantes.

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Caracterización de los perfiles de universidades del Sistema Universitario Público Español: un análisis multidimensional

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Las universidades públicas españolas comparten una misma visión y misión (mission-mix). Sin embargo, comienzan a tener perfiles diferentes, provocados no sólo por su contexto socioeconómico y la edad de las mismas, que refleja grandes diferencias entre las más antiguas y las más jóvenes nacidas en la década de los noventa, sino también por las políticas autonómicas que han condicionado su financiación desde la consolidación del proceso de descentralización en materia universitaria. En esta comunicación se realiza un análisis multidimensional de las 47 universidades públicas presenciales con la técnica de escalado multidimensional (MDS) que nos ha permitido agrupar a las universidades públicas en función de distintas características: en primer lugar, las financieras (financiación privada, financiación pública regional y de la Administración General del Estado y otro tipo de financiación,

principalmente europea); en segundo lugar, las características del entorno (PIB pc, desempleo provincial y desempleo juvenil regional) y, por último, pero no menos importante, atendiendo a algunas características de los recursos humanos muy vinculadas a la financiación (país de procedencia de los estudiantes y nivel de estudios del alumnado y categoría del personal). De este modo, se analiza, sin establecer una relación causal, la relación entre los perfiles de financiación y estas dimensiones destacadas, así como, con los resultados de las tres misiones, teniendo en cuenta el tamaño de la institución, que, ha sido aproximado también en función del gasto total de la institución.

PALABRAS CLAVE: financiación universitaria; educación superior; escalado multidimensional; gestión de la educación.

The effect of central government grants on local educational resource use

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In many countries, multipurpose local governments are responsible for the provision of compulsory education. While these governments usually enjoy substantial discretion on the spending side, they often have limited opportunities to affect revenue. General or earmarked central government grants to local governments are important policy tools for national policy-makers to affect both the level and type of educational resources used in schools, and ultimately school performance. An important question is to what extent receiving local governments allocate additional grants in the way intended by the central government.

Utilizing a special grant policy initiated by the Norwegian government in 2015 to increase the teacher-student ratio in primary schools, this paper uses quasi-experimental methods to investigate how earmarked grants in Norway affect educational resource allocation at the local government level. Our results show that Norwegian local governments did not increase the average teacher density in primary schools, despite receiving extra grants. The paper goes on to discuss potential reasons why.

KEYWORDS: central government grants; local school policy; teacher density.

Introduction of performance-based funding in Higher Education: You win a few, you lose a few

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In most countries experiencing structural transformation of higher education system one of the crucial goals is to tie up the amount of public funding of universities with their performance. The aim of this research is to analyze Russian context of performance-based funding reform and to verify how the introduction of the new funding mechanism affects redistribution of the public higher education funding. The data comes from the Monitoring for HEIs performance and covers the period from 2012/2013 to 2016/2017 academic years. Applying time series correlation-based clustering algorithm and providing Anova-tests, groups of universities with different patterns of public funding were distinguished and

qualitatively described in terms of performance. As a result, group of universities who started obtaining more public funding was proved to demonstrate higher performance rather than other groups of universities. At the same time, those universities who started getting less money from the government do not differ significantly in terms of performance from the universities whose public funding did not change during 4 years.

KEYWORDS: financing of higher education; performance-based funding; efficiency; evaluation of reform

Análisis dinámico del Sistema Universitario Público Español usando indicadores sintéticos. Una aplicación del método multicriterio de doble punto de referencia

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El objetivo de este artículo persigue analizar la evolución del rendimiento de las universidades públicas españolas a lo largo del periodo analizado (2012-2013/2013-2014/2014-2015). Para ello, proponemos la aplicación de una técnica de análisis multicriterio, basada en el método de doble punto de referencia para la construcción de indicadores sintéticos. Se trata de un procedimiento novedoso para la elaboración de indicadores sintéticos, con el fin de evaluar el rendimiento de las universidades públicas españolas. Utilizando datos oficiales publicados en la CRUE y el IUNE, analizamos por separado las tres dimensiones básicas del Sistema Universitario, que son docencia, investigación y transferencia, porque nos interesa obtener una visión más precisa de cada una de ellas. La técnica utilizada en este artículo posee una doble ventaja. Por una parte, ofrece la posibilidad de utilizar niveles de referencia, de tal manera que los resultados obtenidos son fácilmente interpretados en términos del rendimiento de la universidad con respecto a estos niveles. Por otro lado, se consideran dos escenarios de agregación: débil, que permite una compensación total entre

los diferentes indicadores, y fuerte, sin compensación. Esta metodología nos permite simplificar el problema, a fin de emitir un juicio comparativo entre las universidades, identificar sus debilidades y fortalezas para cada uno de los periodos analizados, así como analizar la evolución de las universidades públicas españolas. Además, los resultados obtenidos son particularmente útiles porque sirven no sólo para medir la posición relativa de cada universidad, sino también para ofrecer un sistema de alerta para ayudar en la toma de decisiones estratégicas.

KEYWORDS: Sistema Universitario Público Español; análisis multicriterio; indicadores sintéticos; análisis dinámico; ranking de universidades.

Agradecimientos:

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Evaluation and determinants of pre-school effectiveness in Chile

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According to UNESCO, early intervention in quality education is a source of equalization of opportunities. This premise has been assumed by different countries, giving rise to a greater interest in pre-school education, becoming an area of relevant public policy. The academic field has not been exempt from this interest. However, the performance of pre-school education centers has received relatively minor attention from researchers. Consistent with the above, there are no studies that quantify the level of efficiency with which these centres operate. Unlike previous studies in education and in many other fields, the flexibility of DEA or similar models can lead to undesired organizational or social results and are not particularly attractive for agents who expect to have unique weights with which all organizations in the system are evaluated. To do this we propose a method with a greater number of properties than previously defined in the literature such that its definition is the best for the system, eliminating undesirable and arbitrary undesirable results. This study deals with this problem and aims to evaluate the performance of pre-school education centers that serve students of lower socioeconomic status in Chile. In addition to the above, a second stage analysis is carried out using hierarchical segmentation to determine groups of gardens with deficit performance and structural variables that explain these differences. To this end, variables from three large dimensions were used to account for the structural characteristics of preschool

establishments: (i) human capital of the garden and childhood, (ii) organization of the service, and (iii) variables of the environment in which unwraps the kindergarten. The target population to be evaluated is kindergartens that serve families of low socioeconomic status, urban and rural areas throughout Chile, belonging to the INTEGRA Foundation. The database that will finally be included in the study will consist of 676 kindergartens. In this way, the study makes a methodological contribution by proposing an improvement to existing methodologies with high applicability in the practical work of organizations of various kinds, as well as an important empirical contribution when developing a first evaluation of this educational level and determining explanations to the differences in performance found.

KEYWORDS: educational system; efficiency; inequality; Malmquist-Luenberger.

Acknowledgements

We are grateful to four anonymous reviewers whose comments have greatly contributed to improving the quality of the paper. Claudio Thieme and Emili Tortosa-Ausina thank FONDECYT (National Fund of Scientific and Technological Development, grant #1121164 and #1151313) for generous financial support. Víctor Giménez, Diego Prior and Emili Tortosa-Ausina acknowledge the financial support of the Spanish Ministerio de Economía y Competitividad (ECO2013-46954-C3-2-R, ECO2013-44115-P and ECO2014-55221-P). Emili Tortosa-Ausina also acknowledges the financial support of Generalitat Valenciana (PROMETEOII/2014/046) and Universitat Jaume I (P1.1B2014-17). The usual disclaimer applies.

La función rectora de la Secretaría de Educación Municipal de Santiago de Cali, y su efecto en la calidad educativa en el municipio. Un análisis para el periodo 2014-2017

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El presente trabajo, analiza el efecto de la gestión administrativa de la Secretaría de Educación Municipal de Santiago de Cali, sobre la calidad de la educación ofrecida en el municipio, en cumplimiento de las obligaciones otorgadas por la Constitución Política de Colombia y la Ley General de Educación 115 de 1994. Para este propósito, se empleó como proxy de la calidad educativa, la puntuación que obtienen los estudiantes del municipio en las pruebas SABER11, para los años 2014-2017, y para la función rectora, las brechas educativas que se presentan entre los colegios públicos y privados del municipio, para el mismo periodo, estimando lo que la literatura de la Economía de la Educación ha definido como la Función de Producción

Educativa. Como principal conclusión, se tiene que, la Función Rectora de la Secretaría de Educación Municipal, no generó un efecto significativo sobre el mejoramiento de la calidad de la educación, ya que, al encontrarse brechas educativas, entre los colegios públicos y privados, dichas brechas están afectando negativamente el rendimiento de los estudiantes de centros públicos, lo que sugiere desigualdad en la calidad de la educación en Santiago de Cali.

KEYWORDS: guiding role; quality of education; SABER11; strategic planning; educational gaps; Municipal Education Secretariat; Santiago de Cali.

Selecting or rewarding teachers? International evidence from primary schools

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Using data from three waves of PIRLS, this paper examines the effect of teacher quality on fourth-grade students' literacy test scores by exploiting variations induced by reforms in teachers' selection and/or reward schemes. We construct an original data set of relevant reforms taking place at the national level over the last century and affecting the working conditions of primary school teachers, matching them by the year they entered the profession. After showing that teacher experience/age and qualification are significantly correlated with student competencies, we study the correlation between teacher working conditions (including recruitment, pay and retirement policies) and pupil achievement. Our identifying assumption is that the impact of reforms dissipates with the

distance between the reform's introduction and entry into the profession. The results point to a more selective recruitment process and, to a lesser extent, more generous reward policies as effective ways to enhance student performance.

KEYWORDS: student achievements; PIRLS; teacher recruitment process; teacher pay.

Acknowledgements:

Paper presented at the II SISEC conference (Milan, January 2018), EPCS annual meeting (Rome, April 2018), XXX SIEP annual meeting (Padua, September 2018), IX Workshop on Economics of Education (Barcelona, September 2018) and Fondazione Agnelli (Turin, December 2018). We thank all the participants for their helpful comments. All errors are our own responsibility.

Impactos del programa ‘Ser Pilo Paga’ en los precios de matrícula de una muestra de universidades acreditadas en Colombia

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A finales del año 2014 el gobierno de Colombia introduce la política de subsidio a la educación superior “Ser Pilo Paga”, como una estrategia de fortalecimiento del acceso para estudiantes con alto rendimiento académico en condición de vulnerabilidad socioeconómica. Con ayuda de datos de precios de matrícula reconstruidos con registros documentales pecuniarios y técnicas paramétricas, y mediante una metodología de diferencias-en-diferencias, se aproxima el impacto en precios de la política en cuestión en una muestra de 14 instituciones acreditadas en alta calidad de un total de 65, durante el periodo 2015-2018. Los resultados aportan evidencia a favor de que “Ser Pilo Paga” aumentó el precio de

las universidades participantes en una media del 2,3% al 4,3%.

KEYWORDS: precios de matrícula; educación superior; “Ser Pilo Paga”; modelo de diferencias en diferencias; experimento natural.

Agradecimientos:

Los autores agradecen los aportes de Stefannía García, Adriana Restrepo y Kelina Puche, investigadoras de la Fundación para el Desarrollo del Caribe –Fundesarrollo- en Barranquilla, Colombia.

Teacher turnover: What can we learn from Europe?

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The shortage of qualified teachers in primary and secondary education is a very common issue to solve in almost all European countries and in the US. Since the high quality teachers are usually the most likely to leave, a lot of attention has also turned to teacher turnover. To retain the best teachers can be one of the ways how to reduce the lack of qualified teachers. However, everything what we know about teacher turnover we know from the US. Using the data from the Survey of Health, Ageing and Retirement in Europe (SHARE), this paper examines the teacher turnover and its reasons across European

countries. Even if educational systems in European countries follow up similar patterns, they are very different from other points of view including the teachers' position and appraisement. Thanks to SHARE, we can observe the whole occupational trajectories of respondents in 27 European countries. Identifying those who changed their occupation, we can learn more about teacher turnovers and its causes in Europe.

KEYWORDS: teacher turnover; SHARE.

Quasi-experimental analysis of a program of accompaniment to the classroom: Effects on learning in Spanish and mathematics

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In recent years the concern for quality in education has been at the heart of the discussion of education economics, particularly in Chile. Given that the implemented measures have had early improvements, public education policy should extend its efforts, paying particular attention to the design and implementation of the different initiatives. Therefore, the aim of this article is to determine the effect of public policy on the quality of elementary education. The methodology consists of an application experiment of the Classroom Support Program (CSP) with 15,651 children, statistical tests of differences in the mean and econometric estimations of the effect of the CSP through the methods of propensity score matching (nearest neighbor and Abadie and Imbens) and propensity score weighting. The results show that the effect

of the program on the level of expected learning outcomes in mathematics is positive and statistically significant. Therefore, it may be stated that the CSP produces quality improvements in municipal public education.

KEYWORDS: quality of education; public policies; experimental analysis.

Acknowledgements:

The authors are grateful for financing by the Chilean National Council for Science and Technology through Regular Fondecyt project, “Los Efectos del Programa de Intervención en el Aula Sobre los Aprendizajes Esperados en Educación Básica”, Number 1170369.

Estrategias de aprendizaje asociadas al rendimiento académico de los estudiantes en la educación secundaria: un análisis de correspondencias bajo la técnica de escalamiento óptimo

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Esta comunicación se enmarca dentro del programa de investigación la Función de producción educativa y puntualmente la línea de investigación de gestión curricular desde las estrategias de aprendizaje. En este caso, la investigación presentada trata de establecer el grado de eficacia de las estrategias del aprendizaje utilizadas por los estudiantes examinando su posible efecto en los resultados académicos obtenidos por ellos en varios cursos. Para tal efecto se utiliza la metodología del análisis factorial técnica de la estadística

descriptiva de análisis multivalente de datos. Se tomó una población de 255 estudiantes correspondientes los grados de Básica Secundaria a quienes se le aplicó un instrumento muy utilizado para la evaluación de estrategias de aprendizaje con alta fiabilidad y validez para estudios de secundaria.

PALABRAS CLAVE: calidad de la educación; rendimiento académico; análisis multivariante; estrategias de aprendizaje; producción educativa.

CAPÍTULO 3:
Producción educativa y eficiencia

CHAPTER 3:
Educational production and efficiency

School leadership and academic performance

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Enhancing the efficiency of resource allocation to the education system and improving student achievement constitute two overriding goals for the education authorities. Recent -mostly descriptive- evidence suggests that school leaders may play a vital role in accomplishing both objectives. While literature conceptualizing school leadership is abundant, there is a shortage of experimental or quasi-experimental evidence in this field, as the link between leadership and academic achievement is difficult to determine. In this study we focus on the activity of school principals, the more prominent leaders within schools in most educational systems. More specifically, we contribute to the literature by assessing causal

effects of different models of school leadership on the acquisition of cognitive competencies of 15-years-old students for a panel of countries between 2009 and 2015. To the best of our knowledge, this is the first study to present this kind of analysis. We additionally scaffold the previous evidence by performing a within country evaluation of the impact of different school leadership models in Spanish secondary education schools.

KEYWORDS. school leadership; academic performance; PISA; panel.

Acknowledgements:

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¿Una rúbrica vale más que mil palabras? Evaluación de competencias e innovación en el Máster en Profesor/a de Educación Secundaria

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Han pasado veinte años de la declaración de Bolonia y los cambios metodológicos de enseñanza-aprendizaje todavía no se han consolidado, especialmente en el entorno educativo de la formación de docentes de Educación Secundaria, en concreto, en la especialidad de música. La formación que reciben estos futuros docentes se perpetúa en el modelo tradicional tanto en las clases magistrales en el aula, con poca renovación metodológica, como en el sistema de evaluación, que sigue basado en una prueba escrita individual que no evalúa todas las competencias que se deberían desarrollar. Es por ello que se ha realizado una prueba piloto entre los estudiantes (futuros docentes) del Máster en Profesor/a de Educación Secundaria curso académico 2018/2019, siguiendo el método de investigación-acción, con el objetivo de hacer reflexionar a los estudiantes la importancia de enseñar, aprender y evaluar en competencias, e implicar a los mismos en el proceso de evaluación mediante rúbricas para dotar mayor peso a la autoevaluación en

competencias. La recogida de información se ha efectuado a través de cuestionarios inicial y final (pretest y postest), comentarios orales en el aula entre el alumnado y profesorado, cuaderno de campo con observaciones del docente, y calidad de los trabajos realizados por parte de los estudiantes. El análisis de la información nos permite saber el grado de preparación de los futuros docentes en un área relevante como es la música en una sociedad donde cada vez más se está señalando la importancia en el rendimiento escolar en asignaturas relacionadas con el STEAM (Science, Technology, Engineering, Arts and Maths) y cómo fomentar el trabajo cooperativo en la elaboración de rúbricas consensuadas para la evaluación de competencias, resultados que se pueden trasladar a otras áreas de conocimiento.

PALABRAS CLAVE: innovación educativa; competencias; evaluación; rúbricas; formación de docentes; Educación Secundaria.

Are Spanish students receiving proper financial education?

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Worldwide economic phenomena, as the increasing complexity of financial products or the economic crisis, have given to the financial competence a relevant part for the population. In this context, the current research intends to analyse the financial education that secondary education students are receiving in Spain, by the use of PISA 2015 data. Our results show that there is a lot of heterogeneity in the ways that it is taught and that its implementation is still in development in Spain. Furthermore, this education is offered as an optional subject, what causes a selection bias due to less competent and socioeconomically disadvantaged students accessing to it. We have also found that some of the modalities of access to

financial education may have a negative effect on this competence, while others seem to be neutral. Hence, policy measures should be oriented to improve the way this education is offered and accessed by students.

KEYWORDS: financial education; secondary education; Spain.

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El fenómeno de la resiliencia en educación primaria: un enfoque bayesiano a partir de PIRLS 2016

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A lo largo de la última década el fenómeno de la resiliencia, entendida como la capacidad de obtener buenos resultados académicos a pesar de proceder de un entorno socioeconómico desfavorable, ha generado un enorme interés por parte de los investigadores dentro del campo de la economía de la educación y diversos organismos internacionales, aunque hasta el momento la mayoría de los estudios se han centrado en el contexto de la educación secundaria. Este trabajo pretende explorar los factores que caracterizan a los alumnos resilientes en una etapa especialmente sensible en el proceso educativo como es la educación primaria explotando la información disponible en la base de datos PIRLS 2016, en la que se evalúa la comprensión lectora de los alumnos de cuarto curso de primaria a

escala internacional. Esta base de datos ofrece la ventaja de contar con un cuestionario específico para alumnos y familias, profesores y directores, que nos permite profundizar en las habilidades iniciales de los alumnos, pero también en las actividades motivadoras desarrolladas por sus padres y sus profesores. Dado el amplio volumen de información de la que se dispone, utilizamos un enfoque bayesiano con el que resulta posible identificar las variables más relevantes que caracterizan al alumnado resiliente teniendo en cuenta todos los modelos posibles y la incertidumbre existente entre las estimaciones de cada modelo.

PALABRAS CLAVE: enseñanza primaria; resiliencia; análisis bayesiano; política educativa.

A brighter future: The impact of rural school electrification programs on the dropout rate in primary education in Brazil

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School electrification can decrease the gap between rural and urban education. The Brazilian policy focusing on electricity access in school decreased student's dropout rate. Rural electrification programs – like the Light for All – have been successful to increase access to electricity services in Brazil, where 99.3% of the population has access to it. On the public policy viewpoint, the cost-benefit analysis must consider not only the direct impact of the programs but also the positive externalities of it. In this paper, we aim to study the Light for All in Schools (LFAS, "Luz para Todos nas Escolas"), a program focused on providing access to electricity to rural schools. The study aims to measure the effect of access to electricity in rural schools on the dropout rate of

students in primary education. Our goal is to create a dialogue between the studies on the benefits of electricity in vulnerable areas and the studies on education outcomes. Our results show that electrification programs, like the LFAS, have a significant effect on the dropout rate of rural schools. Schools that received electricity by the program before 2013 had an improvement of 16% in the dropout rate in 3 years, and schools that were treated by the program between 2013 and 2016 had an improvement of 27% in 3 years due to the access to electricity.

KEYWORDS: School dropout; rural education; rural electrification; Brazil.

El fenómeno de la resiliencia educativa en la enseñanza primaria

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Este artículo analiza los determinantes del desarrollo de la resiliencia dentro del contexto educativo, entendida como la capacidad de ciertos estudiantes para lograr resultados académicos destacados, a pesar de tener un nivel socioeconómico desfavorable. A lo largo de la última década, este fenómeno ha generado un enorme interés por parte de los investigadores dentro del campo de la economía de la educación, así como de varias organizaciones internacionales, incluida la OCDE. Sin embargo, hasta ahora, la mayoría de los esfuerzos se han centrado en el contexto específico de la educación secundaria. En el presente estudio, por el contrario, ofrecemos una aproximación al estado de la cuestión en educación primaria utilizando información de las

dos oleadas más recientes de las bases de datos TIMSS (2015) y PIRLS (2016), mediante un estudio empírico. En concreto, se analizan los principales determinantes del fenómeno de la resiliencia en cinco países europeos. Los resultados muestran que las habilidades adquiridas por los alumnos antes de comenzar la escuela y el estatus socioeconómico de sus compañeros de clase son los factores más importantes para estimular la excelencia en el rendimiento académico de los estudiantes con desventajas socioeconómicas en todos los países analizados.

PALABRAS CLAVE: resiliencia; enseñanza primaria; PIRLS, TIMSS.

Housing conditions and school attainment: evidence from Norwegian register data

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In this article, we investigate the extent to which housing conditions are associated with educational outcomes for children living in Norway. We focus on children between the ages of 12 and 17 by looking at national level school results in the 5th, 8th and 10th grades. As our explanatory variables, we include different aspects related to housing quality, namely, crowdedness, noise levels, home ownership status (whether a household rents or owns the property) and a number of neighbourhood characteristics. In addition, we control for individual and household characteristics that may also affect educational outcomes. Our sample includes all children in Norway who took the three national level school exams between the years 2015 and 2017. We link the school results data with a number of other official national registers including a novel housing register that has information on key housing characteristics and a newly released noise register that estimates the noise exposure for every address in Norway. Our results confirm that living in a crowded home, in rented accommodation and

exposure to high levels of noise is associated with poorer school results for all three of the national exams. This negative correlation is stronger for older children and especially large for the 10th grade exam, which gives the Grade Point Average (GPA) score that determines entrance into college. Perhaps surprisingly we find a positive association between the proportion of non-western immigrants in the neighbourhood and the results of national tests for the 5th and 8th grade exams. This association is not significant for the GPA results. We also find that while being statistically significant, residential stability does not fully explain the positive association between home ownership and exam results.

KEYWORDS: homeownership; residential stability; academic performance; noise pollution; neighbourhoods.

Acknowledgements:

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Evaluación de un programa de preparación para exámenes: el caso de “Tu Ruta a la Excelencia” en el Distrito de Barranquilla, Colombia

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Las actividades de preparación para exámenes hacen parte de un concepto amplio denominado sistema educativo paralelo (o shadow education) por su tendencia a imitar el currículo del sistema oficial y que, usualmente, se refiere a “[...] actividades académicas, como tutorías y clases extras que ocurren fuera de los canales formales de la educación” (Buchmann, Condron, & Roscigno, 2010, pág. 436). Esta es un área de investigación activa (Ryu & Kang, 2013), no obstante, son pocos los esfuerzos dedicados a esta materia en Colombia y Latinoamérica; un asunto relevante considerados los esfuerzos y recursos privados y públicos que se destinan a los programas que buscan mejorar los resultados estudiantiles en pruebas estandarizadas. Esta investigación ofrece una evaluación sobre la efectividad de una intervención que buscaba afectar positivamente las habilidades de los estudiantes. Las estimaciones mediante Mínimos Cuadrados Ordinarios sugieren un aumento de entre 18 y 37 puntos por asistir a cualquiera de las tres modalidades en que se ofreció, mientras que por Propensity Score Matching (PSM) la diferencia

entre participantes y no participantes es más modesta (de uno a siete puntos). Por otra parte, un aumento en un punto porcentual en la intensidad de la asistencia genera un aumento de 0.34 a 0.38 puntos en la prueba, en promedio. En relación a las modalidades, los estudiantes que más asistían a cualquiera de las modalidades tuvieron incrementos mayores en los puntajes de sus pruebas y aquellos que se beneficiaron más fueron aquellos de colegios de mayor desempeño previo.

KEYWORDS: preparación para exámenes; desempeño académico; Saber 11.

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On the estimation of educational technical efficiency from sample designs: a new methodology using robust non-parametric models

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Average efficiency for comparing the aggregate performance of regions or countries, using the efficiency results of their disaggregated decision making units (DMUs) microdata is popular in the education empirical literature. When it is done, the most frequent path is using a set of inputs and outputs from a representative sample of DMUs, typically schools or high schools, in order to characterize the performance of the population in the analysed education system. Regardless the sampling method, the use of sample weights is standard in statistics and econometrics for approximating population parameters. However, weights information has been unnoticed in the literature on the estimation of production frontiers using non-parametric methodologies in education. The aim of this chapter is to propose a first methodological strategy to incorporate

sample weights information into the estimation of production frontiers using robust nonparametric models. Our results suggest that current sample designs are not thought for estimating neither production frontiers nor average technical efficiency. Consequently, the use of sample weights does not significantly improve the efficiency estimation of a population with respect to an unweighted sample. In order to enhancing future efficiency and productivity estimations of a population using samples, we should define an independent sampling design procedure for the set of DMUs on the population's production frontier.

KEYWORDS: technical efficiency; sample designs; education sector.

The effects of competition and collaboration on efficiency in the UK independent school sector

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We use a two-stage double bootstrap procedure to test whether competition and collaboration (as well as an array of other factors) lead to improved technical efficiency in the UK independent schools sector. These schools have always operated in a competitive environment but collaborative groupings are also observed. The analysis is supplemented by a conditional DEA estimation undertaken as a robustness check given that the separability condition underpinning a two-stage approach is unlikely to hold. Greater efficiency is associated with higher market share, at least at low levels of market share. In addition, there is little evidence of a positive effect on efficiency of collaboration; indeed there is tentative evidence that cooperation may be detrimental to efficient operation. It is intended that findings regarding the efficiency of schools in the independent sector will be of interest to both independent and state schools as Government policy in the UK has over time encouraged schools in the state sector to become more competitive as an initiative designed to reap savings from increased efficiency. In addition, the Government is encouraging greater collaboration between state

schools with a view to gaining benefits from collaboration and sharing of good practice.

KEYWORDS: competition; collaboration; data envelopment analysis (DEA); two-stage double bootstrap; conditional DEA; separability; education.

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Impact evaluation in a multi-input multi-output setting: Evidence on the effect of additional resources for schools

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This paper proposes an innovative approach to evaluate the causal impact of a policy change in a multi-input multi-output setting. It combines varied insights from the econometric impact evaluation techniques and the efficiency analysis. In particular, the current paper accounts for endogeneity issues by introducing a quasi-experimental setting within a conditional multiinput multi-output efficiency framework and decompose the overall efficiency between 'group-specific' efficiency (i.e., reflecting internal managerial inefficiency) and 'program' efficiency (i.e., explaining the impact of the policy intervention on performance). This framework

allows the researcher to interpret the efficiency scores in terms of causality. The practical usefulness of the methodology is demonstrated through an application to secondary schools in Flanders, Belgium. By exploiting an exogenous threshold, the paper examines whether additional resources for disadvantaged students impact the efficiency of schools. The empirical results indicate that additional resources do not causally influence efficiency around the threshold.

KEYWORDS: impact evaluation; efficiency; causal inference; Secondary education.

Comparing the evolution of effectiveness and efficiency gaps in education with PISA: The case of Latin American countries

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The relationship between educational results and economic growth is especially important across Latin American countries. Their low educational achievement has led to a lower economic growth in this area than in other world regions in recent times. In this context, we focus on the measurement of two dimensions central to education: effectiveness and efficiency. We also examine the recent evolution of educational productivity gaps across Latin American countries in the above two dimensions. For this purpose, we rely on OECD-PISA data aggregated at school level and on the cross-group Malmquist index methodology. This methodology was introduced by Camanho and Dyson (2006) and extended by Aparicio and Santín (2018) to compute and

decompose pseudo-panel productivity indexes. The results show that the correlation between school effectiveness and efficiency is very low. Over the period 2006 to 2012, effectiveness improved in most of the countries under study, albeit at the cost of decreasing efficiency. Additionally, we suggest that the simultaneous analysis of effectiveness and efficiency gaps together with their evolution over time is a must in order to benchmark countries and monitor improvements and weaknesses in education systems.

KEYWORDS: effectiveness; efficiency; productivity; Malmquist index; education.

Does risk shape teaching careers? An analysis of risk preferences among teachers in Brazil

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This paper contributes to the literature by investigating the role of risk preferences among future teachers in Brazil. Data were drawn from a survey administered to a representative sample of recent teaching graduates. We test the relevance and compare the predictive power of four measures of risk: (i) a general measure of risk aversion; (ii) a lottery with a hypothetical investment; (iii) a measure of job security; and (iv) satisfaction in relation to different payment models. Results indicate that individuals who choose to become teachers are not unusually risk averse, as some theories have predicted. In a second econometric exercise, we regress occupational choice on our measures of risk and

do not find any association between risk aversion and the decision to become a teacher. The inclusion of observable control variables as covariates may potentially capture some individual preferences associated with risk. Other explanations are further explored in the text. These findings suggest that the teaching profession may attract individuals who are more receptive to alternative payment structures, and call attention to the importance of considering teacher preferences when designing new compensation systems for teachers.

KEYWORDS: occupational choice; risk preferences; teacher compensation.

A robust nonparametric approach to assess secondary school performance in heterogeneous contexts: Some evidence from PISA 2015

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The participation of the majority of nations in international large-scale comparative studies in education has provided researchers with rich and extensive cross-national databases that can be used to assess the performance and effectiveness of different educational systems. The present study proposes an international comparison of education production efficiency using cross-country data on secondary schools from different countries participating in PISA 2015. Given that countries might differ significantly with regard to multiple institutional features as well as the education system structure, we need to account for those heterogeneous conditions under which they are operating when estimating the efficiency measures of school performance. In this way, each school can be benchmarked with other units from different countries with a similar operational

environment. For this purpose, we use a robust nonparametric approach that allows us to “clean” the effect of contextual factors previously to the estimation of efficiency measures. Since this approach needs smoothing in the conditional variables in the middle of the sample and not at the frontier (where the number of units is smaller), it seems to be a better option than other nonparametric alternatives previously developed in the literature. Likewise, by using this novel approach, we will also be able to explore how those contextual factors affect both the attainable production set and the distribution of the efficiencies.

KEYWORDS: education; efficiency; nonparametric methods; cross-country comparison.

Which students apply for and succeed in STEM higher education? An analysis using registration data for the Netherlands

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In this paper we investigate the predictors for success in Science, Technology, Engineering, and Mathematics (STEM) programs in higher education. We estimate a sequential logit model in which students can enrol in STEM education, drop out from STEM higher education, or continue studying until they graduate in a STEM field. We use rich Dutch registration data on high school exam grades to explain the differences in enrolment, success and dropout rates. We find that females are less likely to enrol in STEM-related fields and students with higher high school mathematics grades are more likely to enrol in STEM. With respect to study success we find that

conditional on enrolment, women are less likely to graduate than men in STEM-related fields. In terms of first year drop out rates, women perform better at university of applied sciences STEM programmes. Higher high school grades for both mathematics and Dutch language are associated with higher success rates, but higher grades for English at secondary education correlates with higher first-year dropout rates and lower graduation rates.

KEYWORDS: STEM; higher education; study success.

Feasible peer affects: A large randomized field experiment for the effects of desk-mate grades and gender on student learning outcomes

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Peer effects in education are hotly debated. Most prior work, however, investigates peer effects at relatively high levels of aggregation, by manipulating peer composition at the classroom or school level. By contrast, we investigate educational peer effects at the lowest possible level of aggregation by randomizing desk mates within classrooms. Investigating desk-mate effects is attractive from a policy perspective because seating charts are typically controlled by the classroom teacher and hence amenable to immediate and low-cost intervention. We executed a well-powered, large-scale, pre-registered, randomized field experiment in Hungarian primary school to estimate the effects of students' desk mates' baseline grades and gender on students' own learning outcomes. Our primary pre-registered analyses find no evidence for effects of desk-mate GPA on the average student's GPA or test scores. Our exploratory pre-registered analyses find evidence for small and short-lived effects of desk-mate GPA on teacher-

written tests and students' diligence. We also find effect heterogeneity. Weak students' GPA benefits from sitting next to stronger students, while stronger students are dragged down by weaker desk mates. This suggests that ability-discordant seating may reduce achievement disparities, albeit without increasing mean performance. In contrast to prior research, our pre-registered primary analysis does not find strong evidence that sitting next to a girl affects students' GPA.

KEYWORDS: randomized control trial; field experiment; peer effect; desk mate effect; educational achievement.

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Georreferenciación de la calidad educativa en Colombia, a partir del fenómeno de la aglomeración y segregación académica

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El presente proyecto busca medir el grado de aglomeración de la calidad educativa en Colombia, esto para determinar cómo dicha aglomeración afecta al fenómeno de la segregación académica, entendida como la no socialización (o mezcla) de la población que muestra baja calidad en educación, con la que evidencia alta calidad [nivel de competencias escolares]. La calidad educativa se define como la puntuación obtenida en el Índice Sintético de Calidad Educativa –ISCE–, construido por el Instituto Colombiano para el Fomento de la Educación Superior –ICFES–, con base en los resultados de las pruebas SABER. El objetivo principal del proyecto es entender cómo el proceso de aglomeración de la calidad en educación ha generado segregación académica, georreferenciando la calidad de la educación departamentos de Colombia. Específicamente, se busca identificar cuáles son los principales factores que contribuyen a que se presente el fenómeno de segregación académica.

Para analizar los efectos de la aglomeración de la calidad en educación se propone calcular el ISCE por cada departamento colombiano. La población corresponde a estudiantes de grado 11, se observan sus competencias de matemáticas y lenguaje, empleando los resultados de las pruebas

SABER11, 2014-2017, considerando la metodología propuesta por el ICFES (2016). Posteriormente, se emplearán estos índices como output de un modelo espacial para datos panel, siguiendo la metodología descrita por Anselin et al. (2006), y realizando la agregación del puntaje a nivel de departamento por medio del estimador empírico bayesiano de Lajaunie (1991). Como inputs se incluirán variables sobre las características individuales del estudiante, de su familia y centro escolar; información que se recopilará de las bases de datos del ICFES y del formulario C600 del Departamento Administrativo Nacional de Estadística –DANE–, además de variables relacionadas con el entorno del departamento, contenidas en las bases de datos del DANE y de la Policía Nacional.

PALABRAS CLAVE: georreferenciación educativa; rendimiento académico; econometría espacial; Colombia.

Agradecimientos:

El presente documento hace parte del proyecto de investigación *Georreferenciación de la calidad educativa en Colombia, a partir del fenómeno de la aglomeración y segregación académica*, en el marco del capital semilla 2019, de la Pontificia Universidad Javeriana, Cali, Colombia, con la red de investigación de la Universidad de Zaragoza, España.

Students' relative socio-economic status and big-fish-little-pond: their effect on academic performance

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The positive effect that students' socioeconomic status has on their academic achievement has been studied by many research works. However, the effect that students' relative position (within their school) in terms of socioeconomic status has on their academic progression has not been analysed in such a deeper way. Because of that, this issue is studied using census and longitudinal data for the Spanish region of Andalusia, using a value-added methodology. We find that relative socio-economic status has a positive effect on students' academic achievement, even after controlling by students' socioeconomic status and students' academic achievement relative to their school peers (big-fish-little-pond). This result

highlights the relevance that peers' socioeconomic status has on students' future academic achievement, which remains after controlling by other relevant variables.

KEYWORDS: socioeconomic status; academic progression; primary education; secondary education; peers; value-added model; Spain.

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This work has been partly supported by the Ministerio de Economía, Industria y Competitividad under Research Project ECO2017-88883-R; the Consejería de Innovación, Ciencia y Empresa de la Junta de Andalucía under PAI group SEJ-532 and the postdoctoral contract from the Plan Propio signed by the Universidad de Málaga.

Efecto región y resultados educativos en España

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La literatura en el ámbito de la educación comparada ha tratado de analizar la influencia que tiene el pertenecer a una u otra región/país sobre la medición de diferentes aspectos educativos. El presente trabajo aporta evidencia para España detectando, cuantificando y explicando el ‘efecto región’ que, independientemente de otros factores, está influenciando en los resultados educativos del alumnado de cuarto de primaria en cuatro competencias diferentes. Se trata del primer trabajo que analiza el ‘efecto región’ para la etapa educativa de primaria en España y que realiza un análisis diferenciado para cada una de sus comunidades autónomas, incluyendo a Ceuta y Melilla. A partir de la información recogida en la

Evaluación General de Diagnóstico de 2009 se realiza una aproximación descriptiva de las diferencias entre comunidades autónomas (CC.AA.), se realiza el análisis de la varianza entre regiones y se estiman modelos multinivel de dos niveles, con efectos fijos de CC.AA., así como de tres niveles. Los resultados evidencian la existencia de un ‘efecto región’ que es inferior al ‘efecto estudiante’ pero superior al ‘efecto centro educativo’.

PALABRAS CLAVE: resultado educativo; modelos multinivel; evaluación de diagnóstico; efecto región.

Are efforts to increase the use of ICT in education leading to higher students' outcomes? Analysis from the Spanish Autonomous Communities

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The impact of ICT on educational achievements is a controversial issue, which has gained increasing attention among both policy makers and researchers. ICT may constitute a positive input in the learning process or, instead, these technologies may undermine educational processes by displacing more effective teaching techniques. Policy makers have often been enthusiastic about the positive impact of ICT in teaching and learning, boosting large investments on this issue. However, in general terms, scientific evidence does not support this.

This paper analyses the relationship between the use of ICT at schools and students' educational achievements in maths, reading and science, using data from three different waves of PISA (2009, 2012, 2015) for Spanish regions (Autonomous Communities). In particular, it analyses if in those Autonomous Communities which have carried out further efforts in the introduction of ICT in teaching practices, educational outcomes have improved more than in the others. This analysis

takes advantage of autonomy and variability as regards the use of ICT in teaching practices across Spanish Autonomous Communities, whilst the use of three different waves of PISA allows controlling for unobserved fixed heterogeneity across Autonomous Communities. Complementarily, the paper also focuses on the school level, analysing whether a higher use of ICT in teaching practices at schools is associated with higher or lower educational outcomes.

The results obtained show that an increase in the use of ICT in teaching practices in an Autonomous Community does not render positive effects on PISA scores in none of the three subjects under analysis (maths, reading and science). Besides, in the schools where the use of ICT is more intense, scores in all these three subjects are lower. Taking into account both results, evidence found in this paper provides a pessimistic view on the effects of the increasing use of ICT in educational processes.

KEYWORDS: education; ICT; educational outcomes; Spanish regions; schools.

SIMUDATA: aplicación web para la generación de casos prácticos en base a la información económico-financiera de empresas

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Las Tecnologías de la Información y de la Comunicación (TIC) han permitido el desarrollo de aplicaciones orientadas a la mejora de la docencia. En este contexto es necesario evaluar el impacto que estas actividades tienen en el ámbito de la educación universitaria en los estudios de economía y empresa. Así el presente trabajo

presenta una nueva aplicación para el desarrollo de estrategias educativas adaptadas a las nuevas tecnologías que permite desarrollar éstas en un entorno específico de elaboración y análisis información financiera en los estudios de economía y empresa.

Teachers, ICTs appropriation and school performance in Colombia

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The present article aims at broadening the current discussion involving the role of "Information and Communication Technologies" (ICTs) in student performance. In order to achieve this, the study resorted to available information about "Computadores Para Educar" (Computers to learn) or CPE. The main goal of this research is to examine the effect of the appropriation of teachers in ICTs in institutions intervened by the CPE program on the students' performance on

national standardized tests, for this purpose this research makes use of a unique data set that allows identification of the level of teachers' appropriation of ICTs. Results indicate that the level of ICT appropriation has a positive effect of 0.022 standard deviations on school performance.

KEYWORDS: ICTs appropriation; Computadores para Educar; teacher training; ICTs in education.

CAPÍTULO 4:

Educación y mercado laboral

CHAPTER 4:

Education and labour market

Equipping students with work-based skills: Experiences from a teaching innovation project

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Higher education is under constant review. We do not exactly know how the works of the future will look like, but we have to provide students with those skills that would allow them survive and succeed in this changing context. In this regard, during the past decade higher education institutions have been challenged to find new ways of teaching to face these demands. Establishing a closer collaboration between universities and businesses is seen as essential in order to equip students with the right skills. Different initiatives have emerged. In this study we review different university-industry (U-I) collaboration practices that, through the teaching

mission, permit students working on authentic tasks via consultation with industry partners around workplace problems. Next, we present the experience of the B-SMART project, a project developed by a group of lecturers from the Faculty of Economics and Social Sciences at the Universitat Internacional de Catalunya, funded by the Fundació Puig and the Aula d'Innovació Docent. This project responds to the recent calls for making the educational process a professional and a personal experience.

KEYWORDS: university-industry collaboration; skills; employability; design thinking.

Cultural values and training practices as antecedents of facets of perceived employability among European employees

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Since change in companies is a daily phenomenon that occurs on a global scale and such changes are quite often associated with job loss, employability for those people already employed is increasingly relevant for academics. Stemming from Perceived Employability as a concept to study the phenomenon, we focus on different facets of employability: basic and aspiring employability – that is, the expectation of obtaining and remaining in employment and of ‘upward mobility’, respectively; and internal and external employability – that is, the availability of employment opportunities with the current employer or with another employer. In particular, the current study aims to examine the impact of national cultural values and firms’ training practices, beyond the effect of human capital variables, on different facets of employees’ perceived employability. Linear regression models tested the proposed hypotheses on a sample of 32,339 employees from 31 European countries. Results confirm the importance of national values

of ‘masculinity’ and training practices –i.e., training paid for or provided by the employer, on-the-job training, and training paid for by the employee–, beyond human capital –i.e., individual’s level of education and work experience–, to the perceived employability of European employees. In addition, different effects of such antecedents on the facets of perceived employability are found. Post-hoc analysis also shows that the ‘person-job fit’ is an important issue that moderates the influence of human capital, social values of masculinity and training practices on employees’ employability. Discussion and practical implications of the work are provided.

KEYWORDS: perceived employability; national values; training practices, human capital.

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Social participation and employment status in Spain: A human capital approach

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The economic literature has found hard evidence on the great significance of general and specific human capital to participate in the labour market, get an employment and have a career success characterised by higher wages and more options of getting an upward labour mobility through promotions or better jobs in other firms. Recently, additional factors integrated in the concept of social participation have emerged as key determinants on the labour market success. These factors consider the components that create benefits from the interactions and cooperation within and among the different groups composing a community. Thus, individuals will invest in social capital whether its benefits overcome its costs, similar to the investments decisions made with other productive factors such as human capital. This article contributes to the increasing literature about social capital and its economic effects in Spain by analysing some aspects related to the labour market from a micro-econometric

approach, which overcomes some drawbacks associated with the analysis of social capital from an aggregated perspective. In particular, this paper analyses to what extent the social participation (considered as a relational good), and other aspects of the social capital, increase the probability of participation in the labour market, taking into account different employment status. To the extent possible, this analysis will be focused from a human capital approach since the social participation's effect will be examined grouping individuals according to their educational level. Data used corresponds to the Living Condition Survey (INE), and the methodological approach consists in performing discrete choice models to explain the labour market status, including as regressors different measures of social participation.

KEYWORDS: social participation; human capital; labour market status; discrete choice model.

The effect of a University degree in English on international labour mobility

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LUISS "G. Carli"

I investigate the effect of studying in the English language on international labour market mobility for university graduates from a non-English speaking country. I exploit the introduction of Master of Arts degrees in English when students were enrolled in their Bachelor as an instrument for studying in English. I find that studying in English increases the individual's probability of working abroad by 11.2 percentage points. I also estimate the effect of an English degree on wages, and I find that graduates in English benefit almost a 60 percent increase in wage compared to graduates in the national language. Finally, I provide evidence that the strong effect on wages can be explained because individuals who study in English self-select into more remunerative labour contracts and economic sectors.

KEYWORDS: degree in English; graduates mobility; labour mobility.

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Gender differences in the labor market entry of STEM graduates: Does fertility play a role?

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Females do not work in science, technology, engineering, and mathematics (STEM) occupation, even though they have a degree in those subjects of study. Unlike most other studies on the topic, we include both genders as well as STEM and non-STEM graduates in order to compare, again, unlike most other studies, the non-entry behavior of male and female STEM graduates relative to all other degree fields. Random effects regressions show that female STEM graduates, in general, have a lower field of degree transition advantage to STEM occupations during the first five years of their career compared to their male counterparts.

This effect is most pronounced for engineering and computer science (EngComp) graduates. Fertility, in general, did not prove to contribute significantly to this relative higher female rate of non-transition to STEM or EngComp occupations, but the information if children were born before the graduation shows to be an important control variable. Mediator analysis can explain only some part of the gender difference.

KEYWORDS: job mismatch; university-to-work transition; non-entry rate.

Vocational training choice from a spatial perspective

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Apprenticeships in the dual vocational training system are of high value for regional development in Germany due to their contribution to the production of locally specific human capital. Decisions of imperfect mobile individuals are expected to be influenced by local industry structure and labor market conditions. Nevertheless, due to resource restrictions, individuals' information availability and mobility as well as their (endogenous) preferences and abilities could also depend on family and the wider socioeconomic background with potentially detrimental effects for general and individual welfare. In order to contribute to the understanding of the reasons for observed skill mismatches on local labor markets this paper analyses these determinants of individuals' initial occupational choices. The analysis in this paper in

contrast to most existing studies attempts to explain the horizontal decision between different occupational groups and recognizes the potential relevance of local labor market characteristics for vocational training decisions. The econometrical analysis is conducted with data from the German National Educational Panel Study (NEPS) which is a longitudinal panel study conducted with 9th graders and captures their transition from compulsory schooling to further education, vocational training and entry in the labor market. Due to restrictions in information and mobility, individual preferences' and abilities' influence on the decision for certain occupations differs by local labor market conditions.

KEYWORDS: vocational training; labor market entry.

Knocking on employment's door: Internships and job attainment

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Undergraduate internships have gained popularity among students, universities, government and firms since the creation of the European Higher Education Area. However, empirically based research on the relationship between internships and labour market performance of graduates is still scarce, particularly in Spain. This paper examines whether internships improve employment and employability using the first Spanish University Graduate Job Placement Survey (2014). Based on linear probability models, we disentangle the internship effect on: (i) having had a job after graduation; (ii) the speed to find the

first job; (iii) being employed in the medium and long term; (iv) wage quintiles; and (v) the fit between the first job and the university degree. Our results show that the internship experience smooths the university-to-work transition for Spanish graduates. Moreover, internships effects on employment do not vanish in the medium and long term. We find inconclusive results about the impact of internships on wages.

KEYWORDS: internships; employment; employability.

Determinantes del desempleo en España durante la Gran Recesión

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El desempleo es uno de los principales problemas de la economía Española, con una evolución notablemente peor en los últimos años que en el resto de países comparables. En septiembre de 2017, según datos de Eurostat, la tasa de paro española destacaba en el contexto europeo con un 16,5%, muy por encima de la media del 7,9%, y sólo por debajo de Grecia. Pese a una evolución positiva tras el máximo del 27% en 2013, la economía sigue lejos de la situación de 2007, antes del comienzo de la crisis, en la que el paro bajó hasta el 8,2% y se situaba apenas un punto por encima de la media europea. En cuanto a la tasa de empleo, sin embargo, la diferencia no es tan notable, siendo en España a mitad de 2017 de un 61,1%, frente a una media del 66,7%. En este contexto, es interesante estudiar hasta qué punto las anormalmente altas tasas de paro responden a dificultades generalizadas para encontrar empleo para todos los trabajadores por igual, o si bien existen diferencias entre distintos grupos, de

acuerdo a características como el nivel educativo, el género o la edad, entre otras. El presente trabajo analiza cómo las características individuales de los trabajadores afectan a la probabilidad de que estén parados frente a ocupados, y cómo tales efectos han evolucionado desde el comienzo de la crisis. Para ello, utilizamos datos de la EPA desde 2005 hasta 2017 para estimar modelos logit en los que la variable dependiente es un indicador de desempleo (frente a ocupación), estudiando la evolución de los resultados obtenidos en los distintos trimestres durante los últimos años. Los resultados permitirán identificar los grupos con mayores problemas de desempleo y qué colectivos han encontrado mayores dificultades relativas para acceder al empleo en los últimos años.

PALABRAS CLAVE: desempleo; educación; modelos logit.

Trabajo infantil y adolescente en el Perú, 2012

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GRADE

En este trabajo exploramos los factores asociados a la decisión de asistir a la escuela y trabajar de manera simultánea. Se utilizó econometría que modela ambas decisiones simultáneamente (modelos bi-probit) que permiten tomar en consideración la correlación entre ambas decisiones. Para los análisis, se usa microdatos de las encuestas a hogares, restringiéndose la muestra a los miembros del hogar entre 5 y 17 años. Sin embargo, los análisis se realizan para dos cohortes: 5 a 13 (primaria) y 14 a 17 (secundaria).

Resultados preliminares muestran que solo para el caso de la cohorte de adolescentes (14 a 17 años), la decisión de estudiar y trabajar están correlacionadas, lo que sugiere la existencia de un trade-off entre ambas decisiones, a diferencia de la cohorte de 5 a 13 años. En cuanto a las variables asociadas con las decisiones de estudio y trabajo; en la cohorte de 5 a 13 años sucede que la riqueza familiar no está asociada con la asistencia a la escuela, pero sí, negativamente, a la tasa de actividad económica. En cambio en la otra cohorte

sí se encuentra correlación positiva entre la riqueza y la asistencia a la escuela. Respecto al tamaño del hogar, no se encontró asociación estadísticamente significativa para ninguna de las dos decisiones en ninguna de las 2 cohortes. Por otro lado, la asistencia a la escuela no es significativamente distinta entre áreas rural y urbana en ninguna de las 2 cohortes, pero la participación en actividades sí lo es en los dos grupos de edad. Entre los residentes en áreas rurales es mayor la probabilidad de participar en estas actividades vis-a-vis los residentes de las áreas urbanas. Finalmente, los años de escolaridad del jefe del hogar contribuyen a incrementar la asistencia a la escuela y a disminuir la actividad laboral.

Agradecimientos:

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Private benefits? External benefits? Outcomes of private schooling in 21st Century Britain

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Policy discourse surrounding Britain's unusually well-resourced private schools surrounds their charitable status and their relationship with low social mobility, but informative evidence is scarce. We present estimates of the extent to which private and external benefits at age 25 are associated with attendance at private school in England in the 21st century. We find a weekly wage premium of 17 percent, and a 12 percentage point lower chance of downward social mobility.

By contrast, private schooling is not significantly associated with participation in local voluntary groups, unpaid voluntary work, charitable giving or interpersonal trust.

KEYWORDS: private school; social mobility; charity; volunteering; trust; wages.

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Sobre-cualificación o falta de oportunidades laborales: un análisis sectorial en España

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Las competencias y habilidades conforman el capital humano de una sociedad. El uso inadecuado de este capital, en términos de desajuste de habilidades-puestos de trabajo, podría conducir a su depreciación, repercutiendo en los ingresos de los trabajadores y en su satisfacción en el trabajo. Asimismo, puede influir sobre la productividad y competitividad de las empresas o economías. Todo ello supone que, no basta con mejorar las habilidades y competencias de la fuerza de trabajo, sino que también es necesario lograr un mejor ajuste de estas a los puestos laborales en cuestión. Este hecho es especialmente relevante a nivel industrial, pues la forma en que cada industria se ocupe de estos desajustes nos permite entender su desempeño económico. Pese a reconocer el interés por el desajuste de habilidades-puestos de trabajo, su medición objetiva resultaba un desafío, que se ha resuelto en cierta medida, con la publicación de

los datos internacionales del programa PIACC de la OCDE, al recoger medidas directas de las habilidades cognitivas de los adultos. Por lo tanto, el objetivo de esta comunicación pretende comparar desde un punto de vista sectorial en España, la frecuencia de ese desajuste (en especial, las situaciones de sobrecualificación / sobreeducación, esto es, aquella parte de la población activa/ocupada que cuenta con más educación/destrezas de la requerida en sus puestos de trabajo), al tiempo que evaluar sus efectos específicos sobre la productividad, mediante el análisis comparado de los salarios entre sectores/industrias. Para ello, empleamos la muestra española de la base de datos PIACC, utilizando ecuaciones mincerianas.

PALABRAS CLAVE: sobrecualificación; PIACC; España; sectores productivos.

CAPÍTULO 5:

Capital humano y desarrollo económico

CHAPTER 5:

Human capital and economic development

Universities vs. Colleges: Is heterogeneity in Higher Education desirable?

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In many countries, there is an ongoing debate on the public funding of their growing higher education (HE) system. Our goal is to examine the theoretical justification for the establishment of HE institutions, subsidized or unsubsidized by the government. We study non-stationary equilibria of an OLG economy in a hierarchical education system. Given the capacity constraints of the Universities, we explore the impact of adding new institutions, to be called Colleges, to the HE system, focusing on two issues. Given that Colleges are less productive than Universities, (a) Should the government establish Colleges? (b) Should the government divert budgets from Universities to Colleges? Based on long-run economic growth considerations, we obtain positive answers to both questions. Then, we compare several policies of student subsidies. We show that implementing merit-based subsidies within each institution may cause a shift of students to a lower quality level of education. However, directing subsidies to disadvantaged

students in each institution may alleviate the downgrading of the stock of human capital in the economy. Our results suggest that much caution is needed in the implementation of student subsidies, in order to avoid distortion in the selection of students across heterogeneous institutions. Our model also accounts for several stylized facts over time, (1) the increase in the number of institutions and students; (2) the decline in College admission standards; (3) the decline in public budget per student and the corresponding increase in net student out-of-pocket payments.

KEYWORDS: Higher Education; educational policy; skill formation; educational finance; human capital.

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Educación y desarrollo económico como constructos y sus relaciones no monetarias

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En este documento se presenta una propuesta de modelación para la relación entre diversos aspectos de la Educación y el Desarrollo económico entendidos como variables latentes; se empieza por delimitar las aproximaciones teóricas del marco de los conceptos y las relaciones, pasando por los antecedentes de las aproximaciones sobre la relación Educación y Desarrollo económico: el capital humano (Becker, 1992), la señalización (I. N. Gómez, 2003), el credencialismo (Collins, 1989), algunas concepciones sobre el desarrollo (Sen, 1998) e ideas recientes sobre la estrategia de modelación para identificar lo que es de interés para proponer qué tipo de relación es posible encontrar entre la Educación y el Desarrollo económico. Dada la dificultad en encontrar una medición adecuada de la educación - que trascienda la titulación o los

años de escolaridad, así como del desarrollo económico - que trascienda el crecimiento de la riqueza, del PIB, de los niveles de producción o el alcance de coberturas, en salud y en atención a necesidades básicas, se considerará que se trata de variables latentes (Bollen y Curran, 2006) cuyos valores son en realidad no observables de manera directa y por lo tanto se podrían identificar, mediante una aproximación estructural (Hoyle, 1995) y se intentaría identificar qué supuestos de relaciones funcionales o no se podrían dar entre ellas, dados los avances teóricos en el tema, presentados en (Sen, 2000), (OCDE, 2016), (MEN, 2014), por ejemplo.

PALABRAS CLAVE: educación; desarrollo económico; bienestar; ecuaciones estructurales.

Human capital consequences of missing out on a grammar school education

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A policy that allocates school places to pupils on the basis of ability should level out the playing field for talented children regardless of background. Yet, this argument disregards the fact that pupils with a more favourable background are also more likely to do better in entry tests, reproducing existing advantage and undermining the egalitarian objectives of the policy. This paper disentangles the effect of selection into an academic (rather than vocational) track from that of individual background on human capital accumulation over the life course. The identification strategy relies on a fuzzy regression discontinuity design, based on comparing outcomes for individuals close to entry score cutoffs for grammar schools, selective secondary schools in England. We find that for the marginal student, grammar attendance positively affects educational attainment, likely due to higher-ability

peers, while labour market outcomes, health and risk of developing disease in adulthood are not affected. Instead, a large portion of the observed differences in human capital between pupils who attended different types of school can be traced back to their pre-secondary schooling ability and family background.

KEYWORDS: selective schooling; health; human capital; Fuzzy regression discontinuity design.

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The design of optimal admission policies to higher education: An applied theoretical approach

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We study the college admission problem focusing on the choice of admission exams, by the higher education institutions. We incorporate the effort across admission exams as a choice variable by the student. The university faces a trade-off between increasing the number of admission tests, and thus gaining information about student's ability, and requiring one single test that is strongly related to future labour market performance. We set up a two-stage sequential game in which universities set the admission criteria and students must comply throughout the application process. We solve the game by backward induction. Students take into account the cost of effort in a pure strategy Nash Equilibrium. In an empirical application we study the impact of different admission criteria on student's earning at the Portuguese higher education system. We rely on individual micro data on the population of

applicants to public higher education institutions over a period of eleven years [method to be completed; we find that ... to be completed].

KEYWORDS: University choice; admission tests; job market; selection; returns to education.

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Higher Education and economic growth - A longitudinal study of European regions

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Disparities between regions of the same country are evident especially in terms of economic output and represent an issue that is drawing attention of governments, which aim at understanding the causes of an uneven distribution of economic development (Ezcurra and Rodríguez-Pose 2009). Among the determinants of economic growth, New Growth Economics Theory depicts education as a crucial factor for explaining the economic value of a nation. However, even though the relationship between human capital and economic growth is widely debated, the literature is still lacking in providing insights on role of higher education institutions (HEIs) on economic growth (Valero and Van Reenen 2018). This gap is particularly significant at regional level, where the interregional migration flows can create a significant discrepancy between the human capital that contributes to the regional economy and the one produced by the HEIs in the region. Therefore, our work investigates the impact of HEIs on regional economic growth. To this end, we analyse

284 European regions (NUTS 2), in a time-span of 23 years –from 1995 to 2017. The econometric analyses are based on a theoretical framework that models the potential contributions of HEIs on regional economic growth by means of different channels. The model measures HEIs in a comprehensive way, taking into account both density and size of universities in the region, as well as the research and third-mission performance. In this way, from one hand, we can provide a more complete and accurate evaluation of the contribution of universities; on the other, we will significantly contribute to the literature. In fact, the few contributions that analyse this issue are mainly focused on the presence of universities, overlooking quality characteristics. The findings of the work offer elements useful to decision-makers and governments, providing insights on the link between HEIs and the regional economic growth.

KEYWORDS: higher education; economic development; human capital .

Does an international classroom pay off? A cost-benefit analysis of the internationalisation of higher education

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Internationalisation is a major trend in higher education worldwide. Yet, little evidence is given on the net impact of international students on national economies. This study addresses this gap by estimating benefits against the costs driven by international students in Belgium and its Flemish region in particular. Using a unique combination of various sources of microdata, the results show net positive benefits that exceed costs by a measure ranging between 7.6 (lower bound) to 8.4 (upper bound) times. The effect is mainly driven by a high

retention rate of international students, who are likely to work in the country after graduation. Policy implications about the opportunity to retain international graduates in the long run are given.

KEYWORDS: higher education; internationalisation; cost-benefit analysis.

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CAPÍTULO 6:

Género y bienestar

CHAPTER 6:

Gender and well-being

Women across subfields in Economics: Relative performance and beliefs

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The relative scarcity of female students enrolling in economics has become entrenched over the last decade. We connect this fact with the uneven presence and performance of men and women across different subfields of economics. First, using web scraping and machine learning techniques, we document the presence of women across research areas in the AEA annual meeting. Second, data from administrative records for economics majors show different academic performance by gender across subfields. Finally, a self-statement survey given to economics students reveals gendered preferences and biased beliefs about different subfields and the economics profession.

KEYWORDS: gender; economics subfields; information and beliefs.

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Gender gaps in different grading systems: The role of teacher gender

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Despite the large body of literature that investigates the gender gaps in student achievement there is still no consensus regarding its root causes. In this paper we target a class of explanations that takes into account both the teacher characteristics and the type of assessment. Previous research has identified a gender gap in the difference between teacher grading and scores on national exams at the end of secondary school. We go a step further and look at how teacher characteristics may influence this gender gap. The identification strategy used takes advantage of two rich and extensive datasets. One containing contemporaneous data on student and teacher characteristics that allows us to match each student in a given subject of the curriculum with the respective teacher. The other containing information regarding the scores obtained from

teacher grading and in curriculum based national exams in at least four subjects. Results suggest that although having a male teacher tends to increase the assessment gap for both genders, the impact is smaller for boys.

KEYWORDS: student achievement; gender gap; grading practices; teacher gender.

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Understanding the gender gap on college major choices. The case of Chile

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This paper studies the causes of gender differences in college applications in Chile. We developed a model for college-major application based on the Chilean institutional setting. We group majors into disciplines or areas of study, group traditional universities into three tiers according to their quality and selectivity and we include a fourth group with private universities created after 1981. We consider several factors that affect the paired choice (major, university group). We then estimate a nested logit model to predict the pair (area, university group) to which students apply as their first preference. Our results show that females are 14.8% more likely to apply to health majors, 14.7% less likely to apply to civil engineering and 7.9% less to technology. Also, when we compare female and male students with the same academic results, males tend to apply more to the most selective areas and to the most selective group. Our estimates contribute to the

existing literature by showing that a greater reduction in the gender gap on major choice would occur if more male students adopt female students' preference parameters than if more females adopt males' preference parameters.

KEYWORDS: gender gap; gender preferences; college-major choice; structural estimation; nested logit.

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Ability to sustain test performance and remedial education: Good news for girls

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Growing evidence shows that skills other than cognitive are crucial to understand labor market and other outcomes in life. However, little is known about the role of education in improving these abilities for disadvantaged students in developed countries. In this paper we evaluate the effects of a remedial education program for under-performing students from poor socio-economic backgrounds implemented in Spain between 2005 and 2012. We address two questions: (i) Does the program improve skills in test taking beyond cognitive skills? (ii) Can we expect heterogeneous effects depending on the students' gender? Following recent literature, we consider testing and survey behaviors, for instance decline in test performance, as measures of non-cognitive skills. We use external evaluations of the schools (PISA 2012) and exploit the variation in the

question ordering of the test to compute students' ability to sustain performance throughout it. Our findings suggest that the program had a positive effect on girls' ability to sustain test performance but no impact for boys.

KEYWORDS: remedial education; test performance; program evaluation; PISA.

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La educación superior y su efecto en las brechas del desempeño académico entre hombres y mujeres

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A nivel internacional se ha mostrado la disparidad en los resultados en pruebas estandarizadas desde la educación primaria y cómo éstas permanecen invariables hasta la educación media, donde el desempeño en matemáticas es favorable para los hombres y en lenguaje para las mujeres. Esta desigualdad preexistente en los logros académicos por sexo incide en la selección de la profesión, se refleja en el mercado laboral y contribuye a mantener patrones de desigualdad social entre varones y mujeres. En tal sentido, el objetivo de la investigación es determinar las diferencias en el desempeño académico entre hombres y mujeres, para los estudiantes de educación media en Colombia que ingresan a la educación superior. Lo anterior para establecer si la educación superior abre, mantiene o cierra brechas de género en las competencias de lectura crítica y razonamiento cuantitativo. Se utilizaron datos de individuos que presentaron la prueba estandarizada SABER 11, realizada al finalizar la educación media, luego se identificó a los mismos estudiantes que después

de cuatro a seis años habían culminado la educación superior y presentado la prueba SABER PRO en 2017. Para calcular las brechas de género al entrar y salir de la educación superior se realizó una descomposición Blinder Oaxaca que identificó los componentes relacionados con la dotación individual y con la segregación en la educación. Los resultados evidencian que en la educación media existe una brecha de género en el desempeño de matemáticas entre los individuos que ingresan a la educación superior. Además, que la universidad no cierra dichas brechas e incluso son más grandes en las carreras tradicionalmente relacionadas con los hombres. Los hallazgos muestran la importancia de, no solo alcanzar la igualdad en el acceso, sino también en buscar estrategias que permitan superar los modelos de desigualdad que se producen desde la educación.

PALABRAS CLAVE: brechas de género; desempeño; educación superior.

Segregación educativa: un factor que reproduce las desigualdades en el mercado laboral

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Las diferencias en el mercado laboral debidas al género están ampliamente documentadas. Varios estudios han concluido que un factor fundamental en la segregación del mercado laboral es la segregación horizontal educativa. En este sentido la elección de carrera es un problema que debe abordarse si se desea entender por qué las mujeres, con iguales logros académicos y los mismos años de escolaridad que los hombres, están subrepresentadas en ciertas áreas profesionales generalmente mejor pagadas. En consecuencia, esta investigación busca responder dos preguntas relevantes: ¿Cuáles son los factores que afectan la elección de carrera? y ¿cómo afecta el género las preferencias educativas? Para responder estas cuestiones se estima un modelo logístico multinomial utilizando la prueba estandarizada Saber^{11°}, aplicada por el Estado Colombiano a los estudiantes de último grado de secundaria del país. Los resultados sugieren que

las mujeres tienen un sutil mejor desempeño académico en Lenguaje y los hombres en Matemáticas; además, que son los muchachos de los estratos más elevados quienes obtienen mejores puntajes y que obtener un mayor puntaje en Matemáticas disminuye la probabilidad de elegir carreras diferentes a las STEM. Así mismo, se encontró que la elección de carrera está fuertemente asociada al género del estudiante y a su nivel socioeconómico. Estos hallazgos se constituyen en una primera aproximación al esclarecimiento de las diferencias salariales debidas a la carrera profesional y a la literatura que abarca el tema de la segregación educativa como factor replicador de las desigualdades en el mercado laboral en Colombia.

PALABRAS CLAVE: segregación educativa; género; decisiones educativas; desempeño escolar.

The effect of education on homophobia: An econometric analysis

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This paper addresses the question of whether higher levels of education contribute to greater tolerance of homosexuals. Using survey data for Ireland and exploiting a major reform to education, the abolition of tuition fees for secondary schools in 1968, it is shown that increases in education cause individuals to be significantly more tolerant of homosexuals.

Ignoring the endogeneity of education leads to much lower estimates of the effect of education. Replicating the model with data for the United Kingdom generates very similar results.

KEYWORDS: educational economics; homophobia; tolerance; discrimination; human capital.

How to reach compromises in life satisfaction: A conflicting and multidimensional task

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Recent concerns around the importance of job and life satisfaction on firms' productivity have been brought to the policy debate in the European Union. Irrespective of the numerous scientific publications that have been studying the main determinants of workers' life satisfaction, a gap remains on how to grasp compromises between these. The importance of finding such compromises can be particularly relevant, in face of the multiple factors, seldom intertwined and at the same time conflicting, which have a well-known influence on workers' well-being. Therefore, policymakers should be supported with sound methodological tools to help them shape policies that will further promote workers' life satisfaction. With this reasoning in mind, we have developed a multiobjective interval programming model through the use of econometric techniques, where four different workers' life satisfaction determinants (i.e. satisfaction with education, present work, family life and social life) are viewed as objective functions. Furthermore, we have made a separate assessment of the factors that have an influence on life satisfaction for both genders, because of the discrepancies that might arise with this regard. Overall, we were able to conclude that female workers usually have to devote more time to their work than men to get the highest levels of satisfaction regardless of the features under evaluation. Additionally, having one child is sufficient

to obtain the highest levels of well-being both for female and male workers. One of the possible implications of these findings is that the existing work-family priorities are clearly not in line with the current falling birth rates all over Europe. Thus, new supportive workplace policies should be in place that could change people's priorities regarding their work and family life.

KEYWORDS: life satisfaction; work and family life; multiobjective interval programming; econometric analysis.

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Educación y satisfacción con la vida: un análisis con la *World Values Survey*

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En este trabajo se adopta un enfoque de satisfacción con la vida para analizar si la educación contribuye al bienestar de los individuos, más allá del impacto positivo que ésta puede tener a través de variables como los ingresos o el estado subjetivo de salud. Para ello, se han utilizado los microdatos procedentes de la World Values Survey para dos grupos de países relativos al período 2010-2014. En particular, los individuos seleccionados para el análisis pertenecen a siete países de la OCDE y a los que integran el grupo BRICS. El análisis consiste en modelizar, mediante modelos probit ordenados, la probabilidad de que el individuo se encuentre en un determinado nivel de satisfacción con la vida

en función de su educación, una vez controlada la heterogeneidad individual observada. Además, se incluyen efectos fijos por países en cada uno de los dos grupos considerados. Los resultados indican un efecto positivo de la educación sobre el bienestar, una vez descontado el impacto de la renta y la salud sobre aquél, efecto que se mantiene para el estrato de renta media cuando se segmenta la muestra por niveles de ingresos, poniendo de manifiesto el componente de consumo de la educación.

PALABRAS CLAVE: satisfacción con la vida; educación; ingresos; probit ordenado.

The balance between cognitive and non-cognitive aspects of students' well-being: A quantitative analysis

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The objective of this work is to find a balance among different dimensions of the 8th grade Spanish students' well-being. Firstly, in order to measure the students' well-being, we built four synthetic indexes related to anxiety, motivation, belonging to the educational center and bullying. Then, different models are estimated using as explained variables those indexes and condition on students' sociodemographic characteristics, use of ITCs, hours of study and the performance in maths and reading. Based upon the estimated parameters two multiobjective problems (each one with four objective functions) are defined, for maths and reading respectively; both problems are solved with multiobjective programming using an achievement scalarizing function. The results

allow to characterize the profile of those students who achieve an optimal balance among the different aspects of well-being evaluated.

KEYWORDS: students' performance; well-being; multiobjective optimization.

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Education and subjective well-being: A quantile approach

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Although the relationship between education and subjective well-being (hereafter SWB) has been extensively analysed, still there are not conclusive empirical results on this relationship. Therefore, this paper investigates how education affects SWB at the individual level, with attention to differences across the well-being distribution. To this end, we use the eighth wave of the 2018 European Social Survey (ESS) in 2018 to run a quantile regression analysis to estimate the contribution of education to well-being. Our results show that individuals with the highest education levels (secondary education –ISCED 3 & 4– and tertiary education -ISCED 5 & 6-), on average, do not experience a higher level of well being. We also find that education has a negative and significant effect on the SWB of the happiest

individuals and at the same time doesn't have any significant effect on the SWB of the least happy individuals. Literature points out the higher expectations of people with higher educational levels as a factor to explain this negative result. Our empirical results may show that those individuals with the highest levels of education and at the same time with the highest levels of SWB may have more demanding and stressful jobs. Therefore, it will be important to include in our empirical analysis some other moderating variables such as the type of work performed and the responsibility and supervision at the workplace to clarify our novel contribution.

KEYWORDS: education; subjective well-being; quantile regression.