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*Artículos científicos*

## **España como polo formativo de científicos sociales del Sistema Nacional de Investigadores en el noreste de México**

***Spain as a Training Pole for Social Scientists in the National System of Researchers in Northeast Mexico***

***Espanha como centro de formação de cientistas sociais do Sistema Nacional de Pesquisadores no nordeste do México***

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### **Resumen**

El objetivo de esta investigación fue analizar a España como polo formativo doctoral de científicos sociales del Sistema Nacional de Investigadores (SNI), en concreto para quienes radican en el noreste de México, e identificar patrones más específicos por instituciones de formación y de adscripción, por disciplina y de nivel de reconocimiento dentro del sistema. Para ello, se utilizó una metodología cuantitativa para contabilizar y realizar un análisis de proporciones de los miembros del Área V (correspondiente a ciencias sociales) del padrón del SNI para los estados de Coahuila, Nuevo León y Tamaulipas. Los hallazgos muestran que España es el polo de formación extranjera cuantitativamente más importante, más marcadamente en las universidades públicas estatales. También existe una tendencia de estudiar en ciertas universidades españolas para disciplinas como ciencias económicas o sociología. Por otra parte, se observa que estos científicos sociales con doctorados en España han recibido un reconocimiento mayor en el SNI al de los doctorados en México, pero por debajo del promedio de los graduados en otros países extranjeros. De esta forma, los

resultados obtenidos muestran a España como el polo formativo más importante en el campo de las ciencias sociales en la región, pero sin que la mayoría de los investigadores formados en este país alcancen el nivel de reconocimiento que los formados en otros países con mayor tradición científica.

**Palabras clave:** comunidad académica, ciencias sociales, formación académica, movilidad académica, reconocimiento.

### **Abstract**

The objective of this research was to analyze Spain as a doctoral training pole for social scientists of the National System of Researchers (SNI), specifically for those who live in the northeast of Mexico, and to identify more specific patterns by training and affiliation institutions, by discipline and recognition level of recognition within the system. For this purpose, a quantitative methodology was used to quantify and analyze the ratios of the members of Area V (corresponding to Social Sciences) of the SNI registry for the states of Coahuila, Nuevo León and Tamaulipas. The findings show that Spain is the quantitatively most important pole of foreign training, especially for public state universities; although there are institutions that prefer other —and more traditional— training poles. A preference to study in certain Spanish universities for disciplines such as economics and sociology was also found. Moreover, it was observed that social scientists with Spanish doctorates received greater levels of recognition in SNI than their peers trained in Mexico, but below the recognition granted to graduates in other foreign countries. Thus, results show Spain as the most important training pole in the regional field of social sciences, but most researchers trained in this country reach less recognition than those trained in countries with wider scientific tradition.

**Keywords:** academic community, social sciences, academic training, academic mobility, recognition.

## Resumo

O objetivo desta pesquisa foi analisar a Espanha como polo de formação doutoral para cientistas sociais do Sistema Nacional de Pesquisadores (SNI), especificamente para aqueles que vivem no nordeste do México, e identificar padrões mais específicos por instituições de formação e afiliação, por disciplina e nível de reconhecimento dentro do sistema. Para isso, utilizou-se uma metodologia quantitativa para contar e realizar uma análise das proporções dos membros da Área V (correspondente às ciências sociais) do registro do SNI para os estados de Coahuila, Nuevo León e Tamaulipas. Os resultados mostram que a Espanha é quantitativamente o polo mais importante de formação estrangeira, mais acentuadamente nas universidades públicas estaduais. Há também uma tendência a estudar em certas universidades espanholas para disciplinas como economia ou sociologia. Por outro lado, observa-se que esses cientistas sociais com doutorado na Espanha têm recebido maior reconhecimento no SNI do que doutorados no México, mas abaixo da média de graduados em outros países estrangeiros. Desta forma, os resultados obtidos mostram a Espanha como o polo de formação mais importante no campo das ciências sociais na região, mas sem que a maioria dos pesquisadores formados neste país alcancem o nível de reconhecimento que aqueles formados em outros países com maior tradição.

**Palavras-chave:** comunidade acadêmica, ciências sociais, formação acadêmica, mobilidade acadêmica, reconhecimento.

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## Introduction

Since the 1970s, various efforts began by Mexican federal entities that sought to improve the quality of higher education and research in the country with the development of various programs and public policies, many of them inspired by the practices of developed countries ( Deaf, 2021). In this way, some programs have tried to strengthen the teaching staff in the country's higher education institutions (HEIs) by attracting foreign scientists (Didou, 2010; Didou and Durand, 2013; Morones and De León, 2010) and others have opted for grant scholarships to Mexicans to study postgraduate studies abroad. This responds to the fact that, in the early stages of this improvement process, the low enrollment of national postgraduate courses and the short development time of many of them led to the assumption that professor-researchers trained abroad would more easily align with the pattern of

legitimacy scientific that tried to establish itself (Álvarez, 2004); that is, that they develop empirical research and publish their results in specialized journals. Likewise, these academics trained abroad could have broader collaboration networks and contribute to the internationalization of Mexican science.

Cornu and Gerard (2015) define a training center as "any country that plays an important role in university competition and that, in this way, is characterized by having an important 'attractiveness' associated with a significant volume of diplomas awarded in a field academic or a discipline" (p. 37). The United States has historically positioned itself as the training center par excellence for Mexicans who are taking a postgraduate program abroad (Organization of the United Nations for Education, Science and Culture [Unesco], 2019). However, in recent years, Spain has become the most important pole for Mexicans who want to study in Europe, even above France, which in the past was the most attractive (Trejo, 2020). In addition to this, some collaboration programs have specifically attracted Spanish scientists to Mexico, as is the case of the Program for the Incorporation of Spanish Doctors into Mexican Universities (Pideum). This advance of Spain as a training center is reflected in the composition of the registers of the National System of Researchers (SNI), in which, for example, in 2009, 8.9% of the sociologist members studied in this European country, even for above the United States with 8.3% (Didou y Gerard, 2010).

Although at different times Spanish migration has been relevant in the development of certain disciplines in Mexico, for example, in periods such as the Spanish exile during the Franco regime, the recent growth of Spain as a training destination for Mexican scientists is especially interesting. On the one hand, this country is not considered a scientific power nor does it have a long tradition as a training center for Mexican postgraduate students, unlike the United States or France. However, the long common history with Mexico and the shared language make it the most accessible country to study in European territory; This situation is favored by the various programs that have encouraged a greater number of trips abroad for postgraduate studies in recent decades.

It is important to consider that having studied a postgraduate degree abroad does not have the same meaning and value in the different contexts in which scientific work is carried out. In peripheral countries of the world scientific system, such as Mexico, its real and symbolic value is usually greater than in the central countries. In this sense, Rodríguez (2013a) proposes, after critically reviewing Bourdieu's notion of scientific field, that the

fields located in peripheral areas (which he calls fields-in-network) are organized differently from that described in the theory Bourdian (which takes the French scientific field as a model) and that have a tendency to imitate foreign models of scientific practices due to their need to advance rapidly in their institutionalization, which is especially marked in the social sciences (Rodríguez, 2013b). This, we believe, can give rise to the consolidation of new training poles that were not historically relevant, once they begin to be seen in a different, more attractive way, by scientists in training who are located in the fields-in-net; especially due to its greater ease of access in contrast to poles with greater prestige, coupled with the greater mobility opportunities offered by a context of scientific development policies.

However, in non-central regional spaces within these countries that are peripheral to the world scientific system, the characteristics of the network-fields described by Rodríguez (2013a) can become more acute. Thus, in the states of northeastern Mexico — Nuevo León, Coahuila and Tamaulipas—<sup>1</sup> In the 1990s, research activity in the social sciences was still very limited (Sandoval, 2008; Sordo, 2020). And although from the policies of scientific impulse and the creation of institutional spaces this activity has clearly increased, the social sciences have remained in a constant lack of consolidation and their social legitimacy is permanently under siege (Sordo, 2021). This may intensify the dependence on the arrival of foreign-trained researchers to foster the growth of local social scientific activity.

Considering this panorama, in this work it was decided to analyze the growth of Spain as a training center for social scientists from this same region, specifically for those who are members of the SNI. In addition to counting the diplomas obtained in this European country, there was a special interest in determining the presence that, within the specific social disciplines and the different local HEIs, doctoral academics have in specific Spanish regions or HEIs. This entails a more detailed analysis of the way in which the concept of training poles has generally been used within empirical studies, which has been limited to considering the countries where the degrees are obtained. It should be noted that this work is part of a broader research project in which the participation of researchers trained abroad and its impact on the development of the field of social sciences in northeastern Mexico is analyzed.

The stated objective is to analyze the growth that Spain has had as a training center for the members of the SNI in the social sciences of the northeastern region of Mexico from

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<sup>1</sup> A diferencia de la división regional que hace el Consejo Nacional de Ciencia y Tecnología (Conacyt), aquí acotamos el noreste a estas tres entidades, con base en evidencia de mayor integración regional entre ellas.

1990 to 2019, especially identifying its patterns by IES and disciplinary fields of affiliation, as well as the level of recognition achieved within the system.

## Method

The results presented here were obtained from the SNI register for the year 2019.<sup>2</sup> The approach used was quantitative, predominantly descriptive. Created in 1984, the SNI is one of the central programs of the Mexican scientific system. Although it has undergone some reforms, it basically operates with peer evaluations of the scientific trajectory and production of researchers who apply for entry or permanence, who, if accepted, are assigned to one of the hierarchical classifications, namely: Candidate, Level I, Level II, Level III and Emeritus. Each level also implies obtaining an extra-salary economic stimulus for the researcher. For various authors, the SNI has become the main source of status in Mexican science. Álvarez and González (1998) comment that the SNI has become “a mechanism for assigning status” (p. 60). Hence its importance as a reference for the study of the patterns of the places of training of national scientists.

From the 2019 SNI register, the members of Area V: Social Sciences were identified, and who were assigned to an institution located in the states of Coahuila, Nuevo León and Tamaulipas. Subsequently, the institutions and the years of obtaining the doctorate diplomas of each of these members were recorded. To carry out this registry, we started from partial data provided by the SNI itself, which were later complemented through a process of searching for information in various public sources available online, both institutional (websites of the affiliated institutions, national registry of graduate certificates) and personal of the researchers (registrations in academic sites such as orcid.org, researchgate.net and academia.edu, or personal websites).

From these data, the growth of Spain as a place of training was first reconstructed in a general way and contrasted with the evolution of other training sites of the members of Area V of the regional SNI. To do this, the information was organized by five-year periods, according to the date of obtaining the doctorate diploma, between 1990 and 2019.

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<sup>2</sup> Este trabajo presenta resultados parciales de una tesis de maestría que aborda de manera más amplia la evolución de los polos de formación extranjera de los miembros del SNI del área de las ciencias sociales en el noreste vigentes entre 1999 y 2019.

Subsequently, the presence in the northeast of social scientists trained in Spain by : a) affiliation institutions and b) disciplines.

Additionally, a comparison was made of the levels within the SNI that doctorates have reached in Spain and those who have obtained that degree in other countries. For this comparison, only a restricted segment of the current SNI members in 2019 was considered: those who obtained their degree between 2006 and 2012. For this period, the comparison between graduates in different countries is more valid, since the groups of graduates in Mexico and abroad. Before 2006, the proportion of researchers graduated abroad is markedly higher, which, due to their seniority, gives them an advantage in accessing the highest levels in the SNI. The opposite happens after 2013, when doctorates in Mexico are much more numerous and, therefore, also their presence at the lower levels of the system.

## Results

### The growth of Spain as a training center

In 2019, within the SNI registry, 368 members were registered in Area V (social sciences) assigned to institutions in the northeastern states of the country. Of this group, 45% have doctoral studies abroad. Spain stands out as the main place of training abroad, with 42% of the total members who studied abroad, above the United States, which adds up to 27%. As mentioned before, this is already remarkable if we take into account that Spain does not represent a scientific power, but its predominance as a center of training is even more striking if we consider that, before 1995, no Northeastern social scientist had obtained his doctoral diploma in that European country (see table 1).

**Tabla 1.** Miembros del SNI Área V en el noreste (2019) doctorados en el extranjero por país y periodo de titulación

| Periodo   | Doctorados en el extranjero (N) | España (%) | EE. UU. (%) | Francia (%) | Otros (%) |
|-----------|---------------------------------|------------|-------------|-------------|-----------|
| 1990-1994 | 11                              | 0          | 55          | 0           | 45        |
| 1995-1999 | 14                              | 43         | 36          | 7           | 14        |
| 2000-2004 | 30                              | 37         | 30          | 10          | 23        |
| 2005-2009 | 38                              | 42         | 24          | 5           | 29        |
| 2010-2014 | 35                              | 62         | 14          | 3           | 21        |
| 2015-2019 | 24                              | 54         | 25          | 8           | 13        |

Fuente: Elaboración propia con datos del SNI (Conacyt)

The growth of Spain as a training center began at the end of the 1990s and the beginning of the new millennium. Of the doctorates in Spain in these periods, a significant percentage were assigned in 2019 to the Autonomous University of Nuevo León (UANL) and the Tecnológico de Monterrey (Itesm) (see table 2). The start of the presence of graduate doctors in this country coincides with different national and local processes and events. For example, the beginning of the Pideum in 1995, which encouraged the attraction of Spanish doctors to Mexican HEIs (Morones and De León, 2010), and the Teacher Improvement Program (Promep, currently Prodep), which grants scholarships to professors- researchers mainly from state public universities to study abroad. In the region, the creation of new academic spaces for the exercise of social sciences took place: the Center for Socioeconomic Research (CISE) at the Autonomous University of Coahuila (Uadec), the College of Tamaulipas (Coltam) and the installation of a headquarters of the Center for Research and Higher Studies in Social Anthropology (Ciesas) in the region.

**Tabla 2.** Miembros del SNI Área V en el noreste (2019) doctorados en España como proporción del total de los doctorados en el extranjero, organizados por IES de adscripción y periodo de titulación

| Periodo       | UANL           |            | Itesm          |            | Otras IES de la región |            |
|---------------|----------------|------------|----------------|------------|------------------------|------------|
|               | Extranjero (N) | España (%) | Extranjero (N) | España (%) | Extranjero (N)         | España (%) |
| Antes de 1995 | 8              | 13         | 7              | 0          | 4                      | 0          |
| 1995-1999     | 4              | 25         | 7              | 29         | 6                      | 50         |
| 2000-2004     | 13             | 54         | 12             | 17         | 5                      | 40         |
| 2005-2009     | 16             | 50         | 9              | 22         | 13                     | 46         |
| 2010-2014     | 7              | 86         | 4              | 25         | 24                     | 63         |
| 2015-2019     | 5              | 40         | 5              | 40         | 16                     | 56         |

Fuente: Elaboración propia con datos del SNI (Conacyt)

From the end of the 2000s onwards, Spain positioned itself as the most important training center for members of the regional SNI of social sciences. In this period, notably in state public universities, there was a boom in the rate of graduates in Spain with respect to the total number of graduates abroad, the impact of which we will see in the following section.

On the other hand, if we consider by disciplines, more than 47% of doctorates abroad between 2005 and 2009 registered with the SNI in economic sciences graduated in Spain, a trend that continues in the 2010-2014 period. A similar case occurs with sociologists, where a high percentage has studied in Spain (especially those who work in the communications field); 78% of graduates abroad in the period from 2010 to 2014 studied in Spain (see table 3).

**Tabla 3.** Miembros del SNI Área V en el noreste (2019) doctorados en España con respecto a doctorados en el extranjero en ciencias económicas, ciencias jurídicas y sociología, organizados por periodo de titulación

| Periodo       | Ciencias económicas |               | Sociología        |               | Ciencias jurídicas |               |
|---------------|---------------------|---------------|-------------------|---------------|--------------------|---------------|
|               | Extranjero<br>(N)   | España<br>(%) | Extranjero<br>(N) | España<br>(%) | Extranjero<br>(N)  | España<br>(%) |
| Antes de 1995 | 16                  | 0             | 9                 | 11            | 1                  | 0             |
| 1995-1999     | 14                  | 7             | 9                 | 11            | 2                  | 100           |
| 2000-2004     | 28                  | 21            | 15                | 60            | 8                  | 50            |
| 2005-2009     | 32                  | 53            | 17                | 35            | 12                 | 33            |
| 2010-2014     | 13                  | 46            | 12                | 75            | 10                 | 80            |
| 2015-2019     | 6                   | 33            | 7                 | 57            | 4                  | 50            |

Fuente: Elaboración propia con datos del SNI (Conacyt)

Graduates in Spain from Area V of the SNI who work in HEIs in the region represent very high rates with respect to graduates abroad. The hegemony as a pole of training is such that the members who graduated in Spain during the 2010s add up to a greater number than all the other members who graduated abroad in this same period. It is possible that the rise of this country as a training center is the product of greater ease of access to doctoral scholarships in Spain promoted by programs such as Prodep, combined with accessibility due to the language and the attractiveness of its geographical location.

## State public universities as institutions that privilege graduates in Spain

In order to understand and characterize more precisely how this rise of Spain has been as the favorite training site outside of Mexico for the area of social sciences, it is worth paying attention to its behavior in the different institutions and types of institution to which students belong. social scientists in the Northeast. Thus, we observe that 41% of the members of Area V of the SNI of the UANL studied their doctorate abroad. This trend is also present in other state public universities in the region where less than half of the members have studied abroad. On the other hand, 47% of the UANL staff with studies abroad are trained in Spain, which, at first glance, would make Spain an important training center for members of said university (see table 4).

The opposite is the case at Itesm, where, unlike the UANL, Spain does not appear as a training center that is so relevant for these researchers, since only 20% of the members trained abroad were trained in that country, which stands out more if one takes into account that 71% of its members of Area V of the SNI studied their doctorate abroad (see table 4). This same trend occurs at Udem, where more than half of its members have studied abroad, however, compared to state public universities, a lower percentage has studied in Spain (36%) (see table 4).

This seems to suggest that private HEIs do not consider Spain as an important or prestigious training center for their institutions and have a staff with a greater tendency towards other training centers. It is also possible that some federal public policies focused on public institutions, such as Prodep (which has had a strong impact on practices within state public universities), have encouraged postgraduate studies in Spain through their scholarship allocation processes.

An extreme situation of this trend occurs in the Autonomous University of Tamaulipas (UAT), which has a lower percentage of researchers graduated abroad with 30% of its members of social sciences in the SNI; however, it is the HEI with the highest percentage of graduates in Spain in the entire region, with 94% of the total number of members trained abroad (see table 4). This reflects a great dependence of the UAT on Spain as a training hub. In fact, within the Pideum, the UAT was the HEI with the most incorporations of Spanish doctors throughout the country by said program.

**Tabla 4.** Miembros del SNI Área V en el noreste (2019) con doctorado en el extranjero y doctorado en España, por institución de adscripción

| IES de adscripción               | Miembros del SNI (N) | Doctorados en el extranjero (%) | Doctorados en España como porcentaje de doctorados en el extranjero (%) |
|----------------------------------|----------------------|---------------------------------|---|
| Universidades públicas estatales |                      |                                 |   |
| UANL                             | 128                  | 41                              | 47  |
| Uadec                            | 51                   | 43                              | 37  |
| UAT                              | 56                   | 30                              | 94  |
| IES privadas                     |                      |                                 |   |
| Itesm                            | 62                   | 71                              | 20  |
| Universidad de Monterrey         | 26                   | 54                              | 36  |

Fuente: Elaboración propia con datos del SNI (Conacyt)

### **Spanish HEIs as training poles for disciplinary fields and HEIs of the northeast region**

The HEIs of the northeast region show differentiated trends by including members who studied in certain HEIs in Spain. A notable pattern is the tendency of UANL to have graduates from the Complutense University of Madrid: 32% of UANL graduates in Spain obtained their doctoral diploma from that university. Also, the Complutense of Madrid represents 30% of the members who develop in sociology and who studied in Spain; this regardless of their IES affiliation. A similar case occurs in the Uadec, where 50% of the members trained in Spain graduated from one of the two most important universities in Barcelona (University of Barcelona and Autonomous University of Barcelona), which allows us to identify a more specific region, in instead of a country, as a training center for the Uadec. Likewise, both universities of Barcelona could be considered training poles for members of economic sciences, since together they represent 42% of the total of the members of the northeast who studied in Spain and who currently work in said discipline (see tables 5 and 6).

**Tabla 5.** Principales IES españolas de estudio de doctorado de los miembros del SNI Área V del noreste por IES de adscripción (2019)

| IES de adscripción               | Doctorados en España (N) | Universidad Complutense de Madrid (%) | Universidad de Barcelona (%) | Universidad Autónoma de Barcelona (%) | Universidad de Salamanca (%) |
|----------------------------------|--------------------------|---------------------------------------|------------------------------|---------------------------------------|------------------------------|
| Universidades públicas estatales |                          |                                       |                              |                                       |                              |
| UANL                             | 34                       | 21                                    | 9                            | 3                                     | 15                           |
| Uadec                            | 9                        | 0                                     | 33                           | 22                                    | 0                            |
| UAT                              | 29                       | 10                                    | 10                           | 3                                     | 0                            |
| IES privadas                     |                          |                                       |                              |                                       |                              |
| ITESM                            | 18                       | 11                                    | 0                            | 22                                    | 11                           |
| UDEM                             | 5                        | 20                                    | 20                           | 0                                     | 20                           |

Fuente: Elaboración propia con datos del SNI (Conacyt)

**Tabla 6.** Principales IES españolas de estudio de doctorado de los miembros del SNI Área V del noreste para ciencias económicas y sociología (2019)

| Disciplinas         | Doctorados en España (N) | Universidad Complutense de Madrid (%) | Universidad de Barcelona (%) | Universidad Autónoma de Barcelona (%) | Universidad de Salamanca (%) |
|---------------------|--------------------------|---------------------------------------|------------------------------|---------------------------------------|------------------------------|
| Ciencias Económicas | 32                       | 0                                     | 19                           | 25                                    | 0                            |
| Ciencias Jurídicas  | 20                       | 5                                     | 0                            | 0                                     | 20                           |
| Sociología          | 30                       | 30                                    | 3                            | 3                                     | 7                            |

Fuente: Elaboración propia con datos del SNI (Conacyt)

## Level of recognition in the SNI of members with a doctorate in Spain

The SNI is one of the programs with the greatest weight in establishing the new pattern of scientific legitimacy in Mexico through scientific policies that began in the last decades of the 20th century. Within the Mexican scientific field, the SNI has been a "crucial mechanism in the restructuring, re-hierarchization and international standardization of the national scientific field" (Didou and Gerard, 2011, p. 30). The SNI has become the most important benchmark for the recognition that a researcher has and provides prestige to those who are at higher hierarchical levels within the system (Gil and Contreras, 2018). In regional contexts, seeking to adopt the pattern of scientific legitimacy modeled on the practices of developed countries, academics trained abroad have had an advantage in meeting these new criteria (Sordo, 2021). For this reason, in this section we use the level reached within the system by doctorates in Spain as an indicator of their scientific recognition.

In this way, taking the graduates in Spain in the period from 2006 to 2012,<sup>3</sup> It can be seen that the percentage of members with the lower level (Candidate) represents 14% of graduates in this country, above graduates abroad (10%, considering all countries) and graduates in the United States (9%). Even so, the proportion of researchers with Spanish diplomas who are at the Candidate level is markedly below that of Mexican graduates (21%) who are at the same initial level. On the other hand, in levels II and III (the most prestigious within the System), only 10% of the graduates in Spain are found, below the graduates abroad as a whole, which add up to 16% for these levels. , and even more distant from the graduates in the United States, of which a remarkable 27% have accessed levels II and III. Even so, once again the situation of doctorates in Spain is more favorable than that of doctorates in Mexico when considering this indicator: only 7% of the latter are those that have reached levels II and III (see table 7). This, in the first instance, indicates that those who studied in Spain have a lower chance of obtaining the highest levels within the SNI than the rest of the researchers who studied abroad, especially if we compare them with those who trained in a pole consolidated as the United States is. However, obtaining a doctoral degree in Spain clearly represents better prospects for moving up the SNI levels compared to those who studied in Mexico.

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<sup>3</sup> Como indicamos en el apartado de metodología, esta delimitación permite una comparación más válida entre investigadores titulados en diversos países.

**Tabla 7.** Proporción de miembros del SNI Área V (2019) por nivel y por país de obtención del doctorado

|                             | Miembros del SNI (N) | Nivel Candidato (%) | Nivel I (%) | Niveles II y III (%) |
|-----------------------------|----------------------|---------------------|-------------|----------------------|
| Doctorado en el extranjero  | 51                   | 10                  | 75          | 16                   |
| Doctorado en España         | 29                   | 14                  | 76          | 10                   |
| Doctorado en Estados Unidos | 11                   | 9                   | 64          | 27                   |
| Doctorado en México         | 71                   | 21                  | 72          | 7                    |

Nota: del padrón total de 2019, para el cálculo se consideraron solamente los miembros que obtuvieron su diploma de doctorado entre 2006 y 2012

Fuente: Elaboración propia con datos del SNI (Conacyt)

## Discussion

Previous research such as the one carried out by Didou and Gerard (2010) and Didou and Durand (2013) mentioned that the number of researchers trained in US institutions in scientific research in the Mexican nation was higher in contrast to researchers trained in any other foreign country. during the period 2000-2009. However, Trejo (2020) mentions that in recent years the trend has been inclining to give more prominence to researchers trained in Spain in the scientific field of the nation; 11% of the SNI researchers were born in Spain. However, these investigations do not detail the level of recognition of researchers in contrast to their peers trained in other countries, as well as the preference that exists in public and private HEIs to attract researchers trained in specific poles, the generational change that is has produced over the years and the specific areas of study. The preliminary results presented have shown an important growth in Spain as a training center for the members of the SNI of Area V, especially in state public universities in the region. This suggests that the increase in graduates in Spain in these HEIs may be the result of public policies that include scholarships to study abroad such as Prodep or the arrival of Spanish doctors through programs such as

Pideum. Likewise, the relative ease of entry provided by the language and the fact that Spain is not a scientific power may have a bearing on this trend; This trend is markedly accentuated among the members of the SNI of the UAT, the institution that benefited the most from the Pideum (Morones and De León, 2010), unlike private HEIs that seem to choose to hire members with degrees from other poles.

Evidence was also found that demonstrates how certain HEIs in the Northeast and some specific disciplines have Spanish HEIs (such as the Complutense University of Madrid) or a particular region (as is the case of Barcelona) as their dominant training pole. This, unlike previous research of the same nature in which only countries were singled out as training poles, shows the existence of specific training poles for HEIs in the region and disciplines and suggests an influence that training could exert. offered by Spanish HEIs and some of their specific doctoral programs in the development of regional disciplinary fields and within certain local HEIs.

On the other hand, graduates in Spain have a lower proportion of members at high levels in the SNI than the average of graduates abroad. This indicates that doctorates in Spain, although they certainly show advantages to consolidate their academic careers in Mexico with respect to doctorates in the country itself, respond to a lesser extent to the pattern of scientific legitimacy than graduates in other centers of foreign training.

Some of these first findings are being developed in more detail in the master's thesis from which this article emerges. In this process, in the first instance, a limitation of the results presented here is overcome, since it expands the universe of researchers considered when analyzing the SNI registers in the period 1999-2019. In this way, some of the future research possibilities that are suggested later in this work can be better weighed and, where appropriate, deepened within the research project currently in progress, or in other investigations.

## Conclusions

The results indicate an evolution on the trend of the country which the Northeastern social-scientific field chose as the main pole of training. At first, the United States was positioned as the main pole of attraction; however, in this last decade, Spain has taken a position of greater weight for the choice of country by researchers to develop their doctoral career. This suggests a change in the pattern of legitimacy, and suggests that, for the regional field in question, there is a growing preference for seeking poles with greater flexibility for access to their institutions and for obtaining the titles they grant. This may result in a high number of researchers in the academic field in the region, but a lagging level of consolidation in terms of research and prestige at the national and international level.

Spain as a hub of mobility and Spanish HEIs as hubs of knowledge have evolved positively over time, while countries and institutions with a greater scientific tradition have declined. Added to this is a growing number of researchers trained in Mexico, which, today, already greatly exceeds the number of researchers trained abroad. These dynamics can also be predictable within a field located in a peripheral region within the country, taking into account that in the early stages of social science research in the region, legitimizing agents from abroad were needed to be able to strengthen the field. scientific. As time has passed, the field obtained a certain “consolidation”, for which it has been decided to hire members trained in regions with greater access flexibility in order to grow in the number of researchers.

The assessments about the limited educational quality offered by the HEIs of these latter regions cannot be generalized, since the Complutense University of Madrid, the Autonomous University of Madrid, the University of Barcelona and the Autonomous University of Barcelona have international recognition, as well as some Mexican HEIs. However, as previously mentioned, it is possible that ceasing to demand a certain level in the pattern of academic legitimacy could cause a lag in social science research, for which the development of HEIs in the region would be suggested. through a greater catalog of mobility poles for attached researchers. This could be achieved with the creation of scholarship programs for institutions with a greater scientific tradition, agreements, doctorates in conjunction with highly renowned foreign institutions, and the help of government programs, such as Prodep, to encourage members of the scientific field of science. to choose a greater variety of training poles, but with greater scientific recognition at the international level.

## Future lines of research

As these are preliminary results, those presented here obviously leave open the possibility of being, first, confirmed within the broader research project in which this work is inserted. For this, as mentioned before, the analysis will be extended to the SNI registers for the period 1999-2019 and the information on the places of training of social scientists in the northeast region that are not part of the SNI will be extended.

It is especially relevant, in the context of this broader project, to also address through other methodological strategies, on the one hand, the various support programs that have led to this growth in the presence of graduates in Spanish HEIs and, on the other, how this quantitative increase in influence is translated in theoretical, methodological or thematic terms within specific disciplines or lines of research.

Another issue that is of special interest to delve into future research efforts is that of the evidence found on the advantages for the development of academic careers that doctorates in Spain present with respect to graduates in Mexico, but the unfavorable situation presented by the first in relation to graduates in programs from other foreign countries. One possibility to delve into these results is given by a more detailed analysis of the rankings or recognitions of the HEIs and the specific training programs, or of the differentiated trajectories shown by the academics who obtained their diplomas in them. Another avenue of inquiry emerges from considering individual motivations for choosing doctoral study programs, as well as the institutional strategies of Mexican HEIs that support these choices, and the development expectations (individual and institutional) that accompany them.

Finally, it is considered that the approach presented here can be extended to other Mexican or Latin American regions and to other disciplinary areas. This would make it possible to confirm whether similar patterns of rearrangement of training poles and the prestige associated with them are observed in other spaces, or to determine whether in other scientific and geographical fields other foreign training poles dominate quantitatively, and if these they have been transformed (as has happened in the social sciences in northeastern Mexico) or have remained more stable over time.

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