

Research Article

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The Contribution of Migration to Economics Growth. Evidence from Spain

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Abstract: Productivity is crucial for economic growth. In a time of challenges such as the population ageing, a growing migration flows and slowdown of the economy it is very important to know the impact of migrant workers in productivity and development. Therefore, this paper studies relevant migration theories and the evolution of migration flows, productivity and their effect on economic growth. We analyse the contribution of immigrants' workers to productivity, to the employment rate and to the demography of Spain in the last 10 years, a country where the last crisis deeply changes the migration patterns and economic conditions. The results show that, in this case, the impact of immigration on the level of development was small but positive.

Keywords: immigrant workers in Spain, labour productivity of immigrants, labour input, total hours worked, GDP growth

JEL Classification: F22, J24

1 Introduction

Immigration in any country can contribute decisively to the population's growth, to the Gross Domestic Product (GDP), to the number of employed workers, and to the productivity of the different activity sectors (Rolfe, Rienzo, Lalani, Portes, 2013; Caldera, Mulas, Maroto, Candela, 2011; Herrarte, Medina, Vicéns, 2005; Vicéns, 2005).

Likewise, productivity is a fundamental factor for long-term economic growth and to improve the well-being (Mihi-Ramírez, Rudzionis, Kumpikaite, 2014, Herrarte et al., 2005). However, in many advanced economies, such as Spain, productivity growth is experiencing an economic downturn that could lead to a new paradigm of structural slowdown (not cyclical) with low productivity growth and with disastrous consequences for the welfare, as well as an increase in inequality (OECD, 2016).

Particularities of the immigration of a country affect economic growth to a greater or lesser extent (Miranda-Martel; Mihi-Ramírez; Arteaga-Ortiz; Kangasniemi, 2017; Mas, Robinson, Serrano, 2009), so it is relevant to analyse the impact of immigrants on productivity in different activity sectors.

Accordingly, this article aims to analyse the evolution and features of labour productivity in Spain in the case of immigrant workers, taking into account its effects on the population, GDP and employment

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in the different business sectors. Spain is an excellent example of how changes in migration flows affect productivity and the economic growth. This country turned from a massive immigration and high labour force before the last economics crisis to a country with a deep level of unemployment and a new and growing emigration age in the last years (Mihi-Ramírez, 2013).

Regarding methodology, a review of previous research works on migrants' productivity showed that our analysis should include 3 factors: productivity, the employment rate and the demographic factor.

This paper is structured as follows: first, we explain the features of immigrant workers in Spain, taking into account the most relevant migratory theories and other issues such as the evolution of the number of immigrant workers and their distribution by activity sectors. Next, this paper analyses the contribution to the GDP growth of Spain from the perspective of immigrants' productivity to general Economy.

2 Immigration and productivity

Firstly, it is worth to define immigrant: it means a person who moves to a different country than his usual residence for a period of at least one year, so that country of destination effectively becomes his new country of residence (OECD, 2017). Thus, in this paper we will focus on long-term immigrants in Spain.

The neoclassical theory of economic migration (Borjas, 2005; Hicks, 1932) argues that differences in the labour market between different regions cause people to move from regions or countries with low employment rates to others with high employment rates. That can be observed in Spain. If we analyse employment rate of immigrants by regions (called "Autonomous Communities"), we can see that regions with the highest employment rate in 2016 are Madrid (62%) and the Balearic Islands (58.5%), where job opportunities are greater, especially in the services sector (Figure 1).

The lowest employment rates of immigrants in Spain, according to the National Institute of Statistics of Spain, (I.N.E., 2017), are in Extremadura (35%) and Galicia (45%). In these regions productivity is also lower, and also economic activities are concentrated in agriculture. According to neoclassical theory, the lower probability of finding employment in these regions implies that the number of immigrants is also lower (Mihi-Ramírez, 2013), as can be seen in Figure 1.

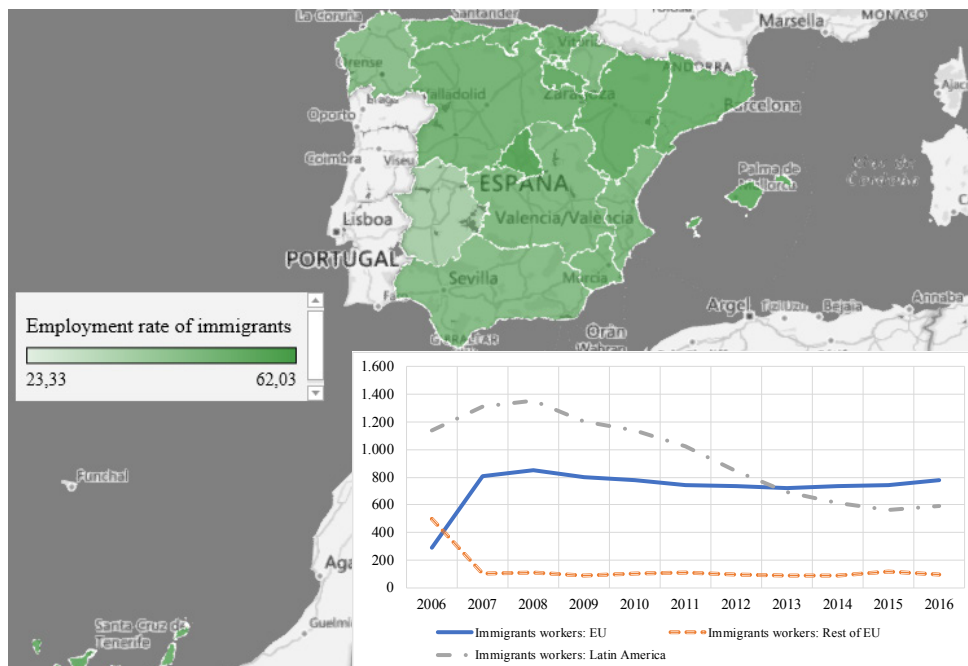


Fig. 1. Evolution of immigrant workers in Spain. 2006-2016 (in thousands of people). Source: Adapted from the National Institute of Statistics (I.N.E., 2016)

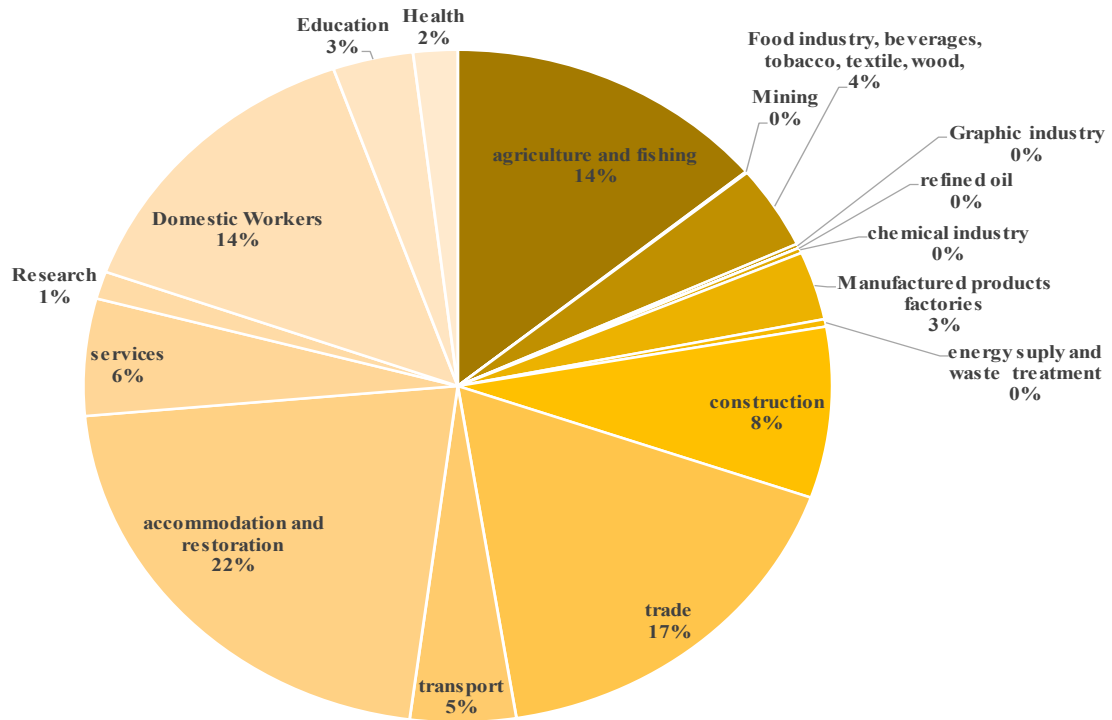


Fig. 2. Immigrant workers by productive sector in Spain. Year 2016, (%). Source: Adapted from National Institute of Statistics of Spain, I.N.E. (2016)

According to the OECD (2016), immigrants' productivity is a driver of economic growth and standard of living. GDP growth depends on the increase in the productivity of the labour factor (Requeijo, 2012: 140). Figure 2 shows immigrants per cent in the main activity sectors of Spain in 2016. Immigrant workers in Spain are concentrated in the tourism sector (22%), trade (17%), domestic workers (14%) and agriculture (14%). In general, local workers are not willing to perform certain types of jobs, which are then covered by immigrant workers. The push-pull migratory theory explains this situation: immigrant workers who perform similar jobs in their countries of origin, but with worse economic and working conditions, are attracted to those countries where these conditions are better (Wang, 2010; Mourre, 2009; Mazzarol, Soutar, 2002).

3 Methodology

Regarding to the contribution of migrant workers to economic growth, this paper analyses the impact of migrants' productivity on Economics growth, taking into account methodology of several studies that aimed to estimate the productivity of migrant workers. The results are also analysed based on the most relevant migratory theories.

First, we should address that the Economic National Accounts does not directly show the effect of labour productivity on the wealth of a country, in this case reflected in Gross Domestic Product (GDP) growth. Furthermore, it does not make any distinction between national or foreign workers (Conde, Garcia, Navarro, 2008). However, due to the importance of migratory flows in Spain, there are some studies that have tried to estimate the impact of immigrant workers on GDP.

In this sense, Amuedo-Dorantes and De la Rica (2008) analysed the contribution of immigrant workers to productivity based on a production function adapted from the research by Borjas (1995). Also, Conde et al. (2008) studied the effects of immigration on incomes per capita of the Autonomous Communities

based on three factors: the demographic factor, the employment rate and the productivity. Arce and Mahia (2010) also measured direct and indirect effects of productivity using an input-output analysis with data on migratory flows from Madrid. Likewise, Vicéns (2005) carried out a similar analysis measuring salaries, remittances, distribution of the population and immigrant employment in the Community of Madrid using the Delphi method. Arce and Mahia (2010), Amuedo-Dorantes and De la Rica (2008), Conde et al. (2008), and Vicéns (2005) remark the relevance of the economic impact of immigration, as well as the fact that it must take into account that immigration exerts various economic effects on the growth of the Gross Domestic Product (GDP). In this sense Conde et al. (2008: 8) analysed three factors that determine it thoroughly: 1) immigrant workers productivity (Pr) measured as the ratio of output per unit of employment; 2) the employment rate of immigrant (TE), which corresponds to the ratio between migrants workers and migrant working-age population aged 16-64, and 3) the demographic factor (FD), ratio between the working-age population in the case of immigrants and the total migrants population. We use data of the last seven years from the Spanish Tax Agency (Ministry of the Treasury, AEAT) and from the Ministry of Employment and Social Security of Spain. Calculation of these 3 factors show the following results (Table 1 and Figure 3):

4 Results and discussion

Regarding the first factor, the immigrant productivity (Pr), Arce and Mahia (2010) estimated that the productivity of immigrant workers for the Community of Madrid in 2007 represented 7.3%. After analysing the evolution of productivity according to the statistical data provided by the AEAT and the Ministry of Employment and Social Security of Spain (2017), it can be generally observed that, in line with the economic cycle, there is a fall in the first years of the crisis and a stagnation in recent years (see Figure 3). Taking into account the neoclassical approach, the main motive of immigration is the opportunity to get a job (Borjas, 2005, 1995, Hicks, 1932), but with the economic recession in Spain there was a strong reduction in the labour market that has led to a slow but dramatic drop in the effective incorporation of immigrants as a workforce (Caldera et al., 2011).

With regard to the migrants' employment rate (TE), it is key to state that, first of all, the neoclassical approach also showed how an increase in unemployment drives emigration (Kurekova, 2011; Martinoia, 2011).

Heid and Larch (2012) also found that immigration was higher towards countries with lower unemployment rates. This fact would fit in with the perspective of considering such movements in terms of factors that push to emigrate (due to inactivity back home) or of external factors that attract immigrants to a destination (such as the expectation of a better future in the host countries).

Therefore, we could say that, in this case, the great collapse of the labour market (especially intense in the case of immigrant workers in Spain) had a strong negative impact on employment and its contribution to the growth of per capita income, although it is true that in recent years it has recovered. However, regarding the total balance for the crisis period, we could say that it remains slightly negative (see table 1 and figure 3).

Table 1. Contribution of immigrant workers to the growth of per capita income in Spain, 2009 to 2015. Source: Estimation based on the model of Conde et al. (2008) and based on the statistics of the Spanish Tax Agency (Ministry of the Treasury, AEAT) and the Ministry of Employment and Social Security of Spain (2017)

Year	Pr	TE	FD	Total, contribution to growth of GDP per capita
2009	10.02	-14.79	-2.66	-7.42
2010	-3.65	5.34	-1.61	0.08
2011	3.14	-1.57	-0.83	0.73
2012	6.95	-5.78	-2.30	-1.12
2013	6.54	-0.42	-4.26	1.87
2014	0.87	8.82	-0.38	9.32
2015	0.28	6.14	2.02	8.45
Mean	3.45	-0.32	-1.43	1.70

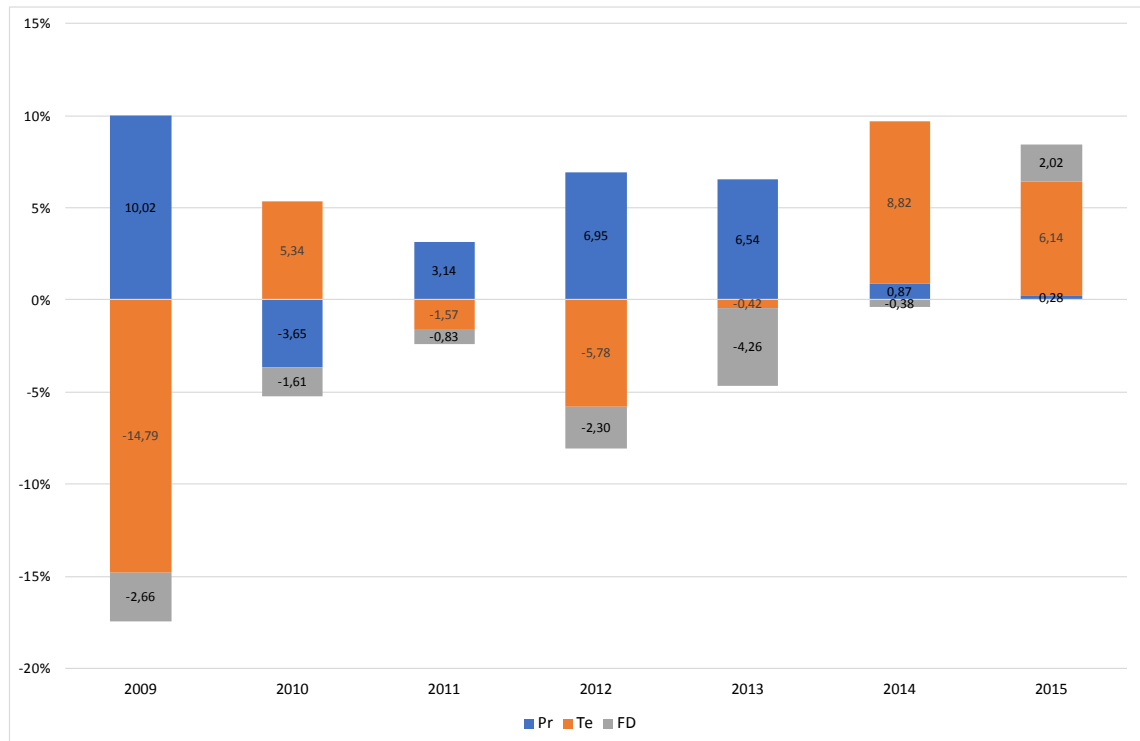


Fig. 3. Contribution of immigrant workers by GDP components to the growth of per capita income in Spain, 2009 to 2015. Source: Estimation based on the model of Conde et al. (2008) and based on statistics from AEAT (2017) and the Ministry of Employment and Social Security of Spain (2017)

Regarding the demographic factor (FD), it is widely known that the demographic profile of Spain has undergone great changes, especially since the 1980s, from a total population of about 33 million to around 46 million inhabitants (Mihi-Ramírez, 2013). Among the causes of this growth are (Mihi-Ramírez, 2013; Polacheck, 2007; Herrarte et al., 2005):

- an important and extensive phase of economic growth from the 90s to 2007,
- its geographical proximity to North Africa,
- its cultural and traditional proximity to Latin America, reinforced by the common language, religion, immigration policy in Spain, the tightening of US immigration policies, and the community and social networks of Latino immigrants,
- the aging of the population in Spain,
- the low labour mobility of the Spanish population,
- and the need for foreign labour in certain productive sectors (agriculture, construction, etc.).

The majority of immigrants arriving in Spain are of working age. Moreover, a large part of them is between 20 and 40 years old, an age where there is more competition in the labour market between nationals and foreigners (Conde et al., 2008, Herrarte et al., 2005). In this respect, Hatton and Williamson (2002) showed that developing countries, especially with a larger proportion of younger populations are more likely to send migrants to other countries.

Mayda (2009) employed the human capital model developed by Sjaastad (1962) to explain this phenomenon: a potential emigrant will have a greater incentive to emigrate if he/she is younger, since the net present value of the potential benefits (updated by the future benefits) is expected to be greater the longer the remaining work life is.) In general, what is worth for a young worker will not necessarily be worth it for an older worker. Older workers have less time to achieve a higher income stream that compensates for the costs of migration (Sjaastad, 1962). In other words, emigrants are more likely to be young, as is the case

of those hosted in Spain, which have important benefits in the labour market and in the economy (Ingham, Chirijevskis, Carmichael, 2009). Accordingly, we could say that drastic fall of immigration in Spain in recent years, besides an increase in the emigration of qualified young Spaniards, constitutes one of the main problems with important and negative long-term consequences for the Spanish economy. Indeed, the contribution of the demographic factor to the growth of GDP per capita (Table 1) shows minor variations over the last few years, although it is the component with the highest total negative balance.

Adding the effects of the three components, we could say that the total contribution of immigration to GDP growth is small, although slightly positive (Table 1).

5 Conclusions

In this work, we have analysed labour productivity, a fundamental element of economic growth, and its relationship with migration flows for the case of Spain, taking into account the most relevant migratory theories.

The evolution of migratory flows in Spain is unequal in the different regions of Spain, and varies, as indicated by various migration theories, depending on the configuration of various economic factors, such as the level of employment and wages. Therefore, the impact of immigrant workers will also be different depending on whether the region or the industrial sector has more or less immigrant population. Thus, the service sector, and especially Tourist and Trade, concentrate a greater number of immigrant workers, being Madrid and the Balearic Islands the regions that concentrate more immigration.

The effect of immigration on GDP growth can be estimated by analysing three factors that determine it: productivity, the employment rate and 3) the demographic factor. In the analysed period 2009-2015 productivity of the immigrants has fallen because of the recession, although in the last years it has rebounded slightly. With regard to the employment rate, the recession caused a sharp drop in immigrant employment that has not yet recovered. Finally, regarding the demographic factor, although immigration has changed the demographic profile of Spain, especially since the 1980s, it is observed that in recent years it has hardly experienced any changes, currently presenting a negative balance. To sum up, the joint effect is small but positive in recent years.

So we can conclude that the contribution of immigrants to the GDP in Spain is limited and, although the recession has had a strong negative impact on this group, it is also true that their versatility and ability to adapt allows them to recover faster than local workers and to relocate to other sectors of activity which is reflected in greater increase in their productivity as soon as they have seen the first signs of economic recovery.

References

- Amuedo-Dorantes, C., & De La Rica, S. (2008). Does Immigration Raise Natives' Income? *National and Regional Evidence from Spain*. IZA Discussion Paper, 3486, 1–32.
- Arce, A., & Mahía, R. (2010). [An Estimation of the Economic Impact of Migrant Access on GDP: The Case of the Madrid Region](#). *International Migration*, 51(1), 1–24.
- Borjas, G. (1995). The Economic Benefits of Immigration, *Journal of Economic Perspectives*, 9(2), 3–22.
- Borjas, G. (2005). *Labor Economics* (3rd ed.), New York: McGraw-Hill.
- Caldera, J., Mulas, C., Maroto, R., & Candela, M. A. (2011). La contribución de la inmigración a la economía española. Evidencias y perspectivas de futuro, Working paper, Madrid, *Fundación IDEAS*.
- Conde, I., García, J. R., & Navarro, J. (2008). Inmigración y Crecimiento Regional en España. Madrid. *Colección Estudios Económicos 09-08: Serie Inmigración*.
- Hatton, T. J., & Williamson, J. G. (2002). What fundamentals drive world migration? *National Bureau of Economic Research Working Paper* 9159.
- Herrarte Sánchez, A., Medina Moral, E., & Vicéns Otero, J. (2007). Cambios en la situación laboral de la población española ante el incremento de la inmigración. *Ekonomiaz: Revista vasca de economía*.
- Heid, B., & Larch, M. (2012). Migration, Trade and Unemployment. *Economics: The Open- Access. Open-Assessment E-Journal*, 6(4), 1–42.

- Hicks, J. R. (1932). *The theory of wages*. London: Macmillan.
- Ingham, B., Chirijevskis, A., & Carmichael, F. (2009). Implications of an increasing old-age dependency ratio: The UK and Latvian experiences compared. *Pensions An International Journal*, 14, 221–230.
- Kangasniemi, M., Mas, M., Robinson, K., & Serrano, L. (2009). The economic impact of migration. Productivity Analysis for Spain and the United Kingdom. *Documentos de Trabajo Fundación BBVA*, 1–27.
- Kurekova, L. (2011). Theories of migration: Conceptual review and empirical testing in the context of the EU East-West flows. Paper prepared for Interdisciplinary conference on Migration. *Economic Change, Social Challenge*. April 6-9, University College, London, Central European University, Retrieve from Internet, 30.11.2017: http://cream.conferenceservices.net/resources/952/2371/pdf/MECSC2011_0139_paper.pdf
- Martinoia, M. (2011). European Integration, Labour Market Dynamics and Migration Flows. *The European Journal of Comparative Economics*, 8(1), 97–127.
- Mayda, A. M. (2009). International Migration: A Panel Data Analysis of the Determinants of Bilateral Flows. *Journal of Population Economics*, 23(4), 1249–1274.
- Mazzarol, T., & Soutar, G. N. (2002). Push-pull factors influencing international student destination choice. *International Journal of Educational Management*, 16(2), 82–90.
- Mihi-Ramírez, A. (2013). The 180 Degree Turn about Economic Migrants Flow: an Analysis of the Case of Spain and Latin-America. *Public policy and administration*, 12(1), 9–21.
- Mihi-Ramírez, A., Rudzionis, A., Kumpikaitė, V. (2014). European economic migration flow, earnings and unemployment in decade of 2000. *Procedia-Social and Behavioral Sciences*, 110. 122–129.
- Ministry of Employment and Social Security (2017). Statistics on migration. Retrieve from Internet 30.11.2017: http://www.empleo.gob.es/es/estadisticas/Inmigracion_emigracion/index.htm
- Miranda-Martel, M. J., Mihi-Ramírez, A., & Arteaga-Ortiz, J. (2017). How the Level of Economic Growth and the Constituent Elements of Innovation Attract International Talent? *Inzinerine Ekonomika-Engineering Economics*, 28(2), 187–197.
- National Statistics of Spain, I.N.E. (2017). Statistics of national accounts and the labor market. Retrieve from Internet, 15.10.2017: <http://www.ine.es>
- Mourre, G. (2009). *What explains the differences in income and labour utilisation and drives labour and economic growth in Europe? A GDP accounting perspective*. Economic Papers 354. Brussels, European Commission.
- Organization for Cooperation and Development (OECD) (2016). *OECD Compendium of Productivity Indicators 2016*. Paris: OECD Publishing.
- Organization for Cooperation and Development (OECD) (2017). *International Migration Outlook 2017*. Paris: OECD Publishing.
- Polacheck, S. W. (2007). *Earnings Over the Lifecycle: The Mincer Earnings Function and Its Applications*. State University of New York at Binghamton and IZA. Bonn, Germany, Discussion Paper 3181.
- Requeijo, J. (2012). *Economía mundial* (4ª edición). Madrid, McGraw-Hill Interamericana.
- Rolfe, H., Rienzo, C., Lalani, M., & Portes, J. (2013). Migration and productivity: employers' practices, public attitudes and statistical evidence. *National Institute of Economic and Social Research*, OECD.
- Sjaastad, L. A. (1962). The Costs and Returns of Human Migration. *The Journal of Political Economy*, 70(5), 80–93.
- Vicéns, J. (2005). Datos básicos de la inmigración en la comunidad autónoma de Madrid. Resultados de una experiencia Delphi. Madrid, *Instituto L.R. Klein* – Centro Gauss, Universidad Autónoma de Madrid.
- Tax Agency of Spain, Ministry Economics, AEAT. (2017). Wages and labor market statistics. Retrieve from Internet, 10.15.2017: http://www.agenciatributaria.es/AEAT.internet/datosabiertos/catalogo/hacienda/Mercado_de_Trabajo_y_Pensiones_en_las_Fuentes_Tributarias.shtml
- Wang, Z. (2010). Self-Globalization – a New Concept in the Push-and-Pull Theory. *Sustainability, development and Global Citizenship: for Education and Citizenship 2010 Conference*. London, 15–17.