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## **INFLUENCE OF IMMIGRATION ON DYNAMICS OF ECONOMIC GROWTH AND ON CONDITION AND STANDING OF PUBLIC FINANCE OF SPAIN**

### **Introduction**

At the turn of the 20th and 21st century, Spain was one of the key target countries of immigration, not only in the European Union, but in the entire world as well. In the years of the highest inflow of immigrants (1997–2007), number of foreigners increased from about 600 thousand to over 4.5 million, i.e., it went to 10% of the Spanish population. Economic crisis resulted in the slow-down of immigration; nonetheless, foreigners are still an important part of the society – 11% (5 million) in 2014<sup>1</sup>. Immigration into Spain was mainly the immigration for work; that is why foreigners in this country are very active occupationally (almost 80%). It finds its reflection in the labor market and exerts its impact on the volume and structure of national income, and on condition of public finance in Spain.

Flow of earning immigration exerted significant impact on the volume and structure of national income of Spain. On the basis of data on the share of immigrants in the entire working population and the level of their wages as compared to that of the native population in terms of the ratio of their productivity, one may estimate approximate contribution of foreigners to GDP generated every year. In 2000, foreigners generated about 2.7% of GDP, but in 2011, their share accounted for over 9% of Spanish GDP. In the years of the highest flow of immigrants and rapid economic development (2000–2007), their share in GDP increased over 3.5 times, i.e., up to 10.3%. After 2008, the beginning of economic crisis brought about check in flow and then the outflow of foreigners, consequently their contribution decreased, but it is still relatively important. As for the key sectors of economy, in 2010, foreigners

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<sup>1</sup> The highest number of foreigners was recorded in the years 2010–2012, i.e. over 5.7 million people that accounted to about 12% of the society. Padrón Continuo, INE <http://www.ine.es/jaxi/tabla.do?path=/t20/e245/p04/provi/l0/&file=00000009.px&type=pcaxis&L=0> [access on 1.05.2014].

had the highest share in construction (16.4%), followed by over 9% in services, and over 7% in industry<sup>2</sup>.

In the literature of the subject, various methodologies of estimation of influence of flow of immigration on economic growth and condition of public finance of the host country are applied. However, the respective research involves not only methodological problems, but also difficulties in obtaining indispensable statistical data<sup>3</sup>.

The aim of this paper consists in analysis of impact of immigration on the dynamics of Spanish GDP in the context of, first, direct influence on the level of productivity, employment rate, and demographic factor that results from the share of working foreigners in the creation of national income, and, second, indirect impact resulting from influence on, among other things, functioning of the labor market through mobility or occupational activity, as well as on changes in the volume of demand notified in economy. Next, we are going to present the influence of immigration on the condition and standing of public finance against the background of revenues generated by foreigners and public expenditures borne on immigrated population. Due to the size of this paper and limited availability of data, the analysis will cover the country as a whole, disregarding regional differences.

## 1. Influence of immigration on dynamics of economic growth of Spain

### 1.1. Direct impact of immigration on GDP dynamics

In the literature of the subject<sup>4</sup>, analysis of direct effects of flow of immigrants upon economic growth is based on consideration of influence of immigration on

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<sup>2</sup> See: A. Romiszewska, *Wpływ imigracji na wielkość dochodu narodowego Hiszpanii (Influence of immigration on the volume of national income in Spain)*, (in:) J. Osiński, J. Radziszewska, *Oblicza społeczeństwa obywatelskiego. Państwo. Gospodarka. Świat*, Warszawa 2014.

<sup>3</sup> They concern, among other things, the way of estimation of productivity of immigrants' labor and the issue if and to what extent the level of their wages is its adequate reflection. It is quite difficult to get data concerning the volume of incomes and public expenditures relating to immigration. Seguridad Social, Spanish system of social insurance does not reveal this type of information. As late as in 2008, statistical yearbooks issued by this institution started containing selected information on foreigners such as number of those notified to insurance or those on the dole.

<sup>4</sup> See: Fundación Ideas, *La contribución de la Inmigración a la Economía Española. Evidencias y Perspectivas de Futuro. Informe*, Madrid, Mayo 2011, pp. 59–61; J.I. Conde Ruiz, J. Ramón García, M. Navarro, *Inmigración y Crecimiento Regional en España*, "Colección Estudios Económicos" 09–08, "Serie Inmigración", Cátedra Fedea – Grupo Banco Popular 2008.

GDP dynamics by means of exerting effect upon 2 factors, namely: number of population and per capita GDP. The analysis applied the following equation:

$$\text{GDP} = \text{population} \times \text{GDP per capita}$$

**Table 1. Influence of immigration on the Spanish GDP dynamics through the change in the number of population (in %)**

| Years     | GDP  | GDP per capita | Population |                    |            |
|-----------|------|----------------|------------|--------------------|------------|
|           |      |                | Total      | Spanish population | Foreigners |
| 1996–2007 | 3.8  | 2.7            | 1.2        | 0.3                | 0.9        |
| 2000–2007 | 3.4  | 1.9            | 1.6        | 0.4                | 1.2        |
| 2008–2010 | –2.0 | –3.3           | 0.9        | 0.4                | 0.5        |
| 2008–2012 | –1.4 | –2.2           | 0.6        | 0.3                | 0.3        |
| 2000–2010 | 2.0  | 0.5            | 1.5        | 0.4                | 1.1        |
| 2000–2012 | 1.6  | 0.3            | 1.3        | 0.4                | 0.9        |
| 1996–2012 | 2.3  | 1.2            | 1.1        | 0.3                | 0.8        |

GDP – average annual growth of real GDP

GDP per capita – average annual growth of real per capita GDP

Population – average annual growth of Spanish population

Source: Own elaboration on the basis of data of INE and Eurostat<sup>5</sup>.

As it may be seen from calculations contained in Table 1 presenting changes in GDP, GDP per capita, and in population, foreigners increased the number of the entire population and consequently had significant impact on the rate of economic growth in the years 1996–2012. In the period under analysis, annual growth of the native population remained almost unchanged (0.3–0.4%), but the scale of growth of population and its impact on GDP dynamics were mostly determined by changes in the number of immigrants. In the years of rapid economic development of Spain (1996–2007), almost 24% (0.9/3.8) of increase in GDP could be attributed to the increased share of foreigners in the Spanish population, and in the period of high flow of immigrants (2000–2007) it accounted to over 35% (1.2/3.4). Economic crisis brought immigration to stand. Then, even a little lower share of immigrants in the population mitigated the effects of decrease in per capita GDP. It was the most visible in the first years of the crisis (2008–2010), when thanks to immigrants the average annual decrease in the real GDP was by 0.5 percentage points lower, instead

<sup>5</sup> Padrón Continuo INE, <http://www.ine.es/jaxi/menu.do?type=pcaxis&path=%2Ft20%2Fe245&file=inebase&L=0> [access on 18.09.2013]; Eurostat Database, <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do> [access on 18.09.2013] See: Fundación IDEAS, *La Contribución...*, op.cit., p. 58.

of 2.5–2%. In the longer term, account taken of both the years of rapid economic development and the years of crisis as well, increased share of foreigners in the population had substantial impact on GDP dynamics. Over 56% (0.9/1.6) of GDP growth in the years 2000–2012 and almost 35% (0.8/2.3) in the years 1996–2012 may be attributed to the share of foreigners in the growth of population in Spain.

**Table 2. Influence of immigration on economic growth in Spain in the years 1996–2012 according to Bloom and Williamson methodology<sup>6</sup>**

| Years     | Population (a) | Occupationally active population excluding immigrants (b) | Real GDP per capita (c) | GDP per capita excluding immigration (d=aX+bY) |
|-----------|----------------|---|-------------------------|--|
| 1996–2007 | 1.2            | 0.10  | 2.7                     | -1.85  |
| 2000–2007 | 1.6            | 0.09  | 1.9                     | -2.55  |
| 2008–2010 | 0.9            | 0.21  | -3.3                    | -1.13  |
| 2008–2012 | 0.6            | 0.23  | -2.2                    | -0.58  |
| 2000–2010 | 1.5            | 0.11  | 0.5                     | -2.34  |
| 2000–2012 | 1.3            | 0.12  | 0.3                     | -1.98  |
| 1996–2012 | 1.1            | 0.12  | 1.2                     | -1.64  |

a – average annual growth of population (in %),

b – average annual growth of occupationally active population excluding immigrants (in %). It is assumed that the share of immigrants in the total growth of population corresponds to their share in growth of occupationally active population. It is based on the assumption that percentage of foreigners in the working age is higher than in the case of the native population<sup>7</sup>,

c – average annual growth of real per capita GDP (in 2005 prices) (in %),

d – average annual growth of per capita GDP excluding immigration (in %). Bloom and Williamson coefficients, X = -1.7, Y = +1.9.

Source: Own elaboration on the basis of data of INE and Eurostat<sup>8</sup>.

<sup>6</sup> D. Bloom, J. Williamson, *Demographic Transitions and Economic Miracles in Emerging Asia*, “NBER Working Paper Series”, Working Paper 6268, 1997; see: calculations made for Spain for the years 1995–2005 by: La Caixa, *Economía Española...*, op.cit., p. 118. Padron Continuo INE, Eurostat Database, <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do> [access on 18.09.2013].

<sup>7</sup> Though in the case of Spain, level of occupational activity of immigrants is also higher than that of the native inhabitants, one should mention, as well, that the above adopted assumption does not fully reflect the real situation. In the period under analysis, significant growth of occupational activity of Spanish women took place. E.g., in the years 1996–2007, immigrants were responsible for over 70% of the average annual growth of population, but the activation of Spanish women resulted in the fact that immigrants were responsible for only about 50% of growth of occupationally active population. See: data of INE – Padrón Continuo and EPA. Notwithstanding these inaccuracies, simulation made according to Bloom and Williamson methodology is quite useful as it makes it possible for us to approximately calculate the GDP per capita in the given period assuming that there is no inflow of immigrants to the country; it also significantly contributes to the analysis performed in this paper.

<sup>8</sup> EPA 1996 [http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto\\_05/rde/px/l0/&file=02007.px&type=pcaxis](http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto_05/rde/px/l0/&file=02007.px&type=pcaxis); [http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto\\_05/rde/px/l0/&file=01005.px&type=pcaxis](http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto_05/rde/px/l0/&file=01005.px&type=pcaxis) [access on 20.10.2013] EPA 2012 <http://www.ine.es/jaxiBD/tabla.do?per=03&type=db&divi=EPA&idtab=64> [access on 20.10.2013].

Another element of immigration influence on GDP dynamics consists in changes in per capita GDP. Performance of simulation according to Bloom and Williamson methodology<sup>9</sup> makes it possible for us to carry out approximate evaluation of effects of immigration as to the shape of per capita GDP in a given period of time account taken of foreigners' influence on growth of occupationally active population and on population of the state as a whole. The analysis (Table 2) shows that without the flow of immigrants, hypothetical real per capita GDP of Spain in the years 1996–2012 would have decreased by 1.6% on the average, while in reality it was growing by about 1.2%. The strongest influence of immigration on the dynamics of per capita GDP could be observed in the years when Spain experienced high inflow of foreigners and rapid economic growth, at the same time. Thanks to immigration, average annual changes in per capita GDP were higher by about 4 percentage points and attained positive values. In the years of crisis (2008–2012), the per capita GDP without immigration would have been by over 1.5 percentage points higher (–0.58%) on the average than it was in reality (–2.2%). However, if we perform calculations according to the assumptions of the simulation, it will turn out that in the years 2008–2010, the hypothetical per capita GDP without immigration would have been higher by over 2 percentage points than that attained in reality (–1.13% instead of –3.3%).

In order to perform more detailed analysis of influence of immigration on dynamics of per capita GDP it is necessary to analyze influence of immigration on its three components, namely: productivity of labor, employment rate, and demographic factor. It is presented by the equation below:

$$\text{GDP per capita} = \text{productivity of labor} \times \text{employment rate} \times \\ \times \text{demographic factor};$$

thus:

$$\frac{PKB}{n} = \frac{PKB}{n_p} \times \frac{n_p}{n_{16-64}} \times \frac{n_{16-64}}{n}$$

where:

$n$  – number of population,

$n_p$  – number of employed,

$n_{16-64}$  – number of people in working age (16–64 years).

<sup>9</sup> D. Bloom, J. Williamson, *Demographic Transitions and Economic Miracles in Emerging Asia*, “NBER Working Paper Series”, Working Paper 6268, 1997; see: calculations made by: La Caixa, *Economía española y contexto internacional. Informe semestral*, 1/2006, p. 118.

Influence of immigration on productivity is a matter of dispute in the scientific circles. On one hand, quite often immigrants, due to limited occupational experience, language barriers, and relatively recent start in the labor market of the host country, are concentrated in sectors of low level of productivity and innovation, and they perform unskilled work in spite of their higher than required professional qualifications. It brings about the decline of general productivity of all productive resources in the economy. On the other hand, however, it is stressed that immigration favors increase of productivity of better skilled employees<sup>10</sup>, including immigrants who also get new skills and professional qualifications with the passage of time<sup>11</sup>.

According to the calculations made on the basis of data of Eurostat (Table 3<sup>12</sup>), in the years 2000–2010, immigration had a negative impact on the level of productivity of labor in Spain and brought about the decline in the average annual growth by over 0.2 percentage point down to 0.5%. One should also pay attention to the fact that in the years of rapid economic growth, average annual growth of labor productivity was negative (–0.37%) due to significantly lower (–0.51%) index of productivity of foreigners than it was in the case of native population (0.14%). However, in the period of economic crisis (2008–2010), labor productivity substantially increased as compared to the previous period (from –0.37% per year to 1.75%) thanks to the pronounced growth of labor productivity of both foreigners and native population (from –0.51% and 0.14% per year in the years 2000–2007 to 0.69% and 1.05% annually in the years 2008–2010 respectively). The discussed phenomenon – decline (or low value of growth) of labor productivity in the years of business prosperity till 2007 and its growth in the years of crisis, both in relation to the entire economy and observed in Spain in the case of native population and foreigners, is true not only

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<sup>10</sup> This is also connected with vertical mobility on the labor market and with the theory of substitution and complementarity. Immigration may result in occupational promotion of employees-members of native population and their transfer to the more productive sectors of economy. Jobs in sectors of low productivity are taken by foreign labor force. See: results of analysis of vertical mobility of Spanish population: M. Pajares, *Inmigración y mercado de trabajo*, Observatorio Permanente de la Inmigración, Ministerio de Trabajo e Inmigración, Informes 2009–2010; A. Romiszewska, *Mobilność wertykalna imigrantów (Vertical mobility of immigrants)*, (in:) *Nowe trendy w naukach humanistycznych i społeczno-ekonomicznych* 3, tom III, M. Kuczera (ed.), Creative Science – Monografia 2012, CREATIVETIME, Kraków 2012.

<sup>11</sup> A. Melguizo, M. Sebastián, *Inmigración y economía: un enfoque global*, “Economía Exterior”, no. 28, 2004; M. Sebastian, *Inmigración y Economía Española: 1996–2005*, Oficina Economica del Presidente, Madrid 2006; J.F. Jimeno, *Desempleo, productividad y otros factores reales*, (in:) *Estudios en homenaje a Luis Ángel Rojo: políticas, mercados e instituciones económicas*, C. Sebastián Gascón, J. Pérez Fernández, P. Tedde de Lorca (ed.), Vol. 1, 2005, pp. 325–340; BBVA, *Los efectos económicos de la Migración en el país de destino. Los beneficios de la migración mexicana para Estados Unidos*, Documento de Trabajo, no. 11/17, Mexico 2011, pp. 6–7.

<sup>12</sup> Presentation of influence of immigration on changes in productivity in the years 1996–2012 was not possible for the author of this paper on the date of its elaboration due to the lack of access to the data of Eurostat and INE that were indispensable for respective calculations.

for Spain, but it was also characteristic of economies of many highly developed countries, though to different extent<sup>13</sup>. It should be attributed not only to the rapid development of construction in the years 1995–2007, but also to the related process of accumulation of capital and general decline in efficiency<sup>14</sup>. Significant changes in labor productivity of foreigners in Spain may be justified by their high share in employment in sectors of low productivity, particularly in the rapid developing construction (till 2007). Economic crisis brought about the breakdown of this sector accompanied by the sharp decrease in employment. Due to this, index of labor productivity in this sector and in the entire Spanish economy grew immediately<sup>15</sup>. Though sectors with the highest employment of immigrants in Spain show the lowest growth of productivity, one should remember that the reasons of this phenomenon are not fully clear. It may result from decline of costs of labor because of the high flow of foreign labor force and stimulate development of labor-intensive sectors, and at the same time, it may lead to decrease of labor productivity. On the other hand, one should remember that lack or negligible share of working foreigners in sectors of high productivity that are most often connected with high technologies, may be due to the lack or low demand for work, including work rendered by immigrants, especially when their human capital is not up to the mark<sup>16</sup>.

In the case of immigrants, employment rate (Table 3) was much higher than that of native population. Analysis of elements influencing per capita GDP shows that employment was also the one that had the strongest impact in the period of business prosperity 2000–2007 and economic breakdown (2008–2010) investigated separately. In the years 2000–2010, high average annual indices of growth of foreigners

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<sup>13</sup> E.g., Italy. In comparative analyses of changes in labor productivity, one should pay special attention to their reasons in particular countries. E.g., in the case of Spain, in the years 1995–2007, growth of GDP was accompanied by a relatively higher growth of the number of employed; on the other hand, in Japan, growth in productivity resulted from relatively negligible changes (decrease) in GDP and parallel decrease in the number of people employed. See: results of comparative analysis of changes in productivity in Spain and in other highly developed countries in the years of economic prosperity (1995–2007) and in the years of current crisis: M. Mas Ivars, *La productividad en las economías desarrolladas: el desigual impacto de la crisis*, “Cuadernos Económicos de ICE”, no. 84, 2012; D. Palacio Marques, *Efectos de la productividad, envejecimiento, empleo e inmigración sobre la sostenibilidad del sistema público de pensiones en España: propuestas de reformas*, 2011, pp. 125–143.

<sup>14</sup> See: M. Mas Ivars, *La productividad...*, op.cit. Decrease in labor productivity in Spain in the years 1995–2007 occurred in all economic sectors except for agriculture, fishery, and power engineering. Rapid development of construction and decrease in productivity in this sector had negative influence on general level of productivity.

<sup>15</sup> For the sake of comparison, the average annual growth of labor productivity in construction in the years 1995–2007 amounted to –1,4%, but after the break on the market in the years 2007–2011 it grew up to 10%. For more details see: *ibidem*, p. 22.

<sup>16</sup> J.I. Conde Ruiz, J. Ramón García, M. Navarro, *Inmigración y Crecimiento Regional en España*, Colección Estudios Económicos 09–08, Serie Inmigración, CÁTEDRA Fedea – Grupo Banco Popular, p. 4.

employment (1.04%) had strong positive effect upon negative values observed in the case of Spanish people (-0.83%) and, thanks to it, brought about positive average growth of over 0.2% per year as well as improved the dynamics of per capita GDP in the period under analysis. Beneficial influence of high index of foreigners' employment was the most apparent in the years of business upturn (2000–2007) when it was growing by almost 1.8% per year and, at the same time, making grow indices of the economy as a whole from 0.5% to 2.3% recorded in the case of the Spanish population. In the years of economic crisis (2008–2010), the rate of decrease of index of foreigners employment was lower (-1.4%) than that of Spanish population (-3.15%) and resulted in the decline of general rate of growth of this index by - 4.18% per year. One should note, however, that the share of immigrants in the negative development of indices of dynamics of employment in the period under analysis is not crucial, account taken of its significant decline among the native population.

The phenomenon should be interpreted, first of all, as the effect of the visibly higher index of foreigners' employment and their growing share in the total population of Spain. In the years of business prosperity, difference between the level of index of immigrants' employment and Spanish people accounted for about 15 percentage points<sup>17</sup>. In the following years, it was gradually decreasing due to the growth of unemployment. In 2010, it decreased down to 6 percentage points<sup>18</sup>. At the same time, higher indices of immigrants' employment, even in the period of crisis, made this value grow in relation to the entire population of the country by about 1 percent point<sup>19</sup>.

Demographic factor considered in the longer term, i.e. for the years 2000–2007 and 2000–2012, had a relatively lower impact on dynamics of per capita GDP. However, in both periods under analysis, and contrary to other elements, this influence was always negative and it was the strongest in the years of crisis. Thus, over the entire period, foreigners were significantly soothing the consequences of negative values of indices of the native population (over 1% per year), the latter being due to the process of ageing and decreasing child-bearing of Spaniards. It was the most apparent in the years of business prosperity (2000–2007) when the flow of immigrants was quite substantial. Then, the high index for foreigners (1.32%) almost wiped out adverse effects of its negative values noted for the native population (-1.36%). Likewise, in the years 2008–2010, when crisis resulted in gradual check of flow of immigrants to Spain,

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<sup>17</sup> E.g., in 2007, the rate of employment of foreigners amounted to 66%, and that of native population to 52.5%.

<sup>18</sup> 53% in the case of foreigners and 47% in the case of native population. In 2012, the difference was even smaller and accounted for 4% (47.5% and 44% respectively).

<sup>19</sup> See: data of EPA INE [http://www.ine.es/jaxi/menu.do?type=pcaxis&path=/t22/e308\\_mnu&file=ine-base&L=0](http://www.ine.es/jaxi/menu.do?type=pcaxis&path=/t22/e308_mnu&file=ine-base&L=0) [access on 30.10.2013].



the demographic factor of foreigners was soothing negative values of this index for the natives. One should stress that in spite of the relatively low contribution of the demographic factor to the growth of per capita GDP in the years under analysis, the demographic factor without immigration would have had decreased the rate of economic growth of the country by  $-1.33\%$  annually in the years 2000–2010 and  $-1.36\%$  in the years of business uplift on the average.

**Table 3. Influence of immigration on the demographic factor, employment, and labor productivity. Average annual indices of growth (in %)**

| Years     | Labor productivity | Of which: |       | Index of employment | Of which: |       | Demographic factor | Of which: |      |
|-----------|--------------------|-----------|-------|---------------------|-----------|-------|--------------------|-----------|------|
|           |                    | S.        | F     |                     | S         | F     |                    | S         | F    |
| 2000–2007 | -0.37              | 0.14      | -0.51 | 2.30                | 0.54      | 1.75  | -0.05              | -1.36     | 1.32 |
| 2008–2010 | 1.75               | 1.05      | 0.69  | -4.18               | -3.15     | -1.04 | -0.82              | -1.16     | 0.34 |
| 2000–2010 | 0.49               | 0.73      | -0.24 | 0.21                | -0.83     | 1.04  | -0.16              | -1.33     | 1.17 |

S – Spaniards,

F – foreigners.

Source: Own elaboration on the basis of data of Eurostat<sup>20</sup>.

Data of the table above (Table 4), shows that immigration exerted its positive impact on dynamics of economic development of Spain, i.e. increased of the average rates of growth of per capita GDP by about 2 percentage points in the years 2000–2010 and by 2.5 percentage points in the years of business prosperity. In the years of crisis (2008–2010), immigrants' contribution to the deepening decline of per capita GDP dynamics ( $-0.01\%$ ) was negligible as compared to the contribution of the native population ( $-3.26\%$ ). In the period under analysis, immigration was exerting positive influence on the dynamics of economic growth due to the high flow of people in the working age (high values of demographic factor) and higher than the natives' index of employment that is characteristic of earning immigration<sup>21</sup>. At the same time, in the years 2000–2010, and in particular over the years 2000–2007, due to the negative indices of labor productivity, immigration exerted negative impact on the rate of economic growth. Summing up (Table 5), about 3/4 of change in the Spanish GDP in the years 2000–2010 resulted from the presence of immigrants.

<sup>20</sup> EPA 1996 [http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto\\_05/rde/px/l0/&file=02007.px&type=pcaxis](http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto_05/rde/px/l0/&file=02007.px&type=pcaxis); [http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto\\_05/rde/px/l0/&file=01005.px&type=pcaxis](http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto_05/rde/px/l0/&file=01005.px&type=pcaxis) [access on 20.10.2013]. EPA 2012 <http://www.ine.es/jaxiBD/tabla.do?per=03&type=db&divi=EPA&idtab=64> [access on 20.10.2013].

<sup>21</sup> In spite of the negligible ( $-0.4\%$  annually) decrease in this ratio as compared to that concerning native population ( $-3.5\%$  per year) in the years of economic crisis.

In the years of business prosperity, foreigners added over 3 percentage points to the growth of domestic product; at the same time, in the years of economic crisis, their contribution soothed the decline in the GDP dynamics by 0.52 percentage points.

**Table 4. Influence of immigration the per capita GDP dynamics**

| Years     | Average annual growth (in %) |                    |                 |                    |
|-----------|------------------------------|--------------------|-----------------|--------------------|
|           | Per capita GDP               | Labor productivity | Employment rate | Demographic factor |
| 2000–2007 | 2.56                         | –0.51              | 1.75            | 1.32               |
| 2008–2010 | –0.01                        | 0.69               | –1.04           | 0.34               |
| 2000–2010 | 1.97                         | –0.24              | 1.04            | 1.17               |

Source: Own elaboration on the basis of calculations of Tables 1 and 3.

**Table 5. Influence of immigration on the GDP dynamics (in %)**

| Years     | Average annual growth of GDP | Of which: |            |
|-----------|------------------------------|-----------|------------|
|           |                              | Spaniards | Foreigners |
| 2000–2007 | 3.4                          | –0.31     | 3.77       |
| 2008–2010 | –2.0                         | –2.84     | 0.52       |
| 2000–2010 | 2.0                          | –1.05     | 3.09       |

Source: Own elaboration on the basis of data of Tables 1, 3 and 4.

## 2. Indirect impact of immigration on GDP dynamics

Apart from the already discussed direct effects of flow of immigrants, literature of the subject also points to the so-called indirect influence of immigration on the volume and structure of national income, and on the dynamics of economic growth. It consists of, first of all, impact on indices of occupational activity and level of unemployment of the native population, rates of structural unemployment, and labor mobility.

Influence on the level of occupational activity of the native population is one of the major issues of analysis of economic effects of immigration upon the labor market. Changes in the index of occupational activity of the population are also an important factor influencing the volume of national income and dynamics of economic growth. As it may be seen (Table 6), in the years 1996–2012, there was no important change in the occupational activity of masculine population<sup>22</sup>, but in the case of women,

<sup>22</sup> Apart from people of 16–24 years of age due to the longer time of education. In the case of women, the situation is similar.

occupational activity significantly increased, in particular in the group of women over 25<sup>23</sup>. If in 1996, about 60% of Spanish women at the age of 25–55 were active in the labor market, in 2012 this index accounted for about 80%. Investigations show that this phenomenon may be in a large measure connected with the flow of immigrant women to the labor market. High inflow of foreign women of which almost a half undertake their first job as domestic servants, allowed to decrease wages in this sector of economy and to have higher supply of this type of services. This favored entering the labor market by women who had been occupationally inactive so far due to nursing children or elder people. It is estimated that in the years 1996–2008, flow of immigrant women resulted in the 3 percentage point growth of index of employment of women with high professional skills who were involved in nursing children or dependent adults; in the case of women nursing little children, the index increased by 10 percentage points<sup>24</sup>. Thus, flow of immigrants exerted its impact on growth of index of occupational activity in Spain not only in a direct way, through the flow of foreigners to the labor market, but also in an indirect way, i.e. making Spanish women more active.

Another area of indirect influence of immigration on economic growth and thus relating to the labor market is the issue of connection between mobility on the labor market, level of structural unemployment, and unemployment among native population. Occupational mobility is an important factor in the functioning of labor market through shaping its flexibility and more rapid adjustment of supply of and demand for labor. Investigations of the issue show that foreigners in Spain are more vertically, horizontally, and geographically mobile than Spaniards. Flow of immigration had also positive influence on vertical and horizontal mobility of Spanish population; it finds its reflection in transfers between professional groups (professional promotion) and sectors of economic activity where wages are higher and better skills are required<sup>25</sup>. Higher mobility of foreigners in the labor market, in particular

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<sup>23</sup> For more details on the extent of changes in the level of occupational activity of women in different periods of their life, account taken of family life as well, see: M. Sarriegui, *Desigualdades entre mujeres y hombres en el mercado laboral*, <http://pendientedemigracion.ucm.es/info/ec/jec8/Datos/documentos/comunicaciones/Feminista/Larra%F1aga%0Mercedes.PDF>

<sup>24</sup> L. Farré, L. González, F. Ortega, *Immigration, Family Responsibilities and the Labor Supply of Skilled Native Women*, "The B.E. Journal of Economic Analysis & Policy", Vol. 11, Iss. 1 (Contributions), Article 34, 2011. For the sake of comparison, according to the estimates of the Spanish government, 1/3 of increase in occupational activity of Spanish women (by 12.5 percentage points) in the years 1996–2005 may be attributed to the inflow of immigration: M. Sebastian, *Inmigración y Economía Española: 1996–2005*, Oficina Economica del Presidente, Madrid 2006, p. 19.

<sup>25</sup> F. Miguelez et al., *Immigrant career paths and social structure. Case of Spain*, *Cambio*, no. 3, 2012; *Trayectorias laborales de los inmigrantes en España*, Obra Social "La Caixa", 2011, s. 1751; J. Cuadrado Roura, C. Iglesias Fernández, R. Llorente Heras, *Inmigración y mercado de trabajo en España (1997–2005)*, *Informes 2007*, Economía y Sociedad, Fundación BBVA, 2007; F. Oswaldo Esteban et al., *Trayectorias laborales*

the geographical one<sup>26</sup>, together with, first of all, complementary role of foreign labor force on the Spanish labor market impedes growth of real wages of employees and makes the level of structural unemployment decline. According to the estimates of Spanish government, in the years 1996–2005, immigration made the rate of structural unemployment decrease by 2 percentage points<sup>27</sup>. One should also note that no one observed any negative influence of immigrants on the level of employment of the native population, i.e., growth of the level of unemployment in this group that could result in cutting out Spaniards from the labor market. It, first of all, confirms the complementary role of immigrants on the labor market as well as the fact that growth of the number of employed fosters the economic growth<sup>28</sup>.

**Table 6. Ratios of occupational activity of Spanish people by sex in the years 1996–2012 (in %)**

|                   | 1996 | 2012 |
|-------------------|------|------|
| Men               |      |      |
| 16–24 years       | 47.4 | 40.2 |
| 25–34 years       |      | 92.4 |
| 35–44 years       | 92.8 | 94.2 |
| 45–54 years       |      | 90.3 |
| 55 years and over | 26.1 | 27.9 |
| Women             |      |      |
| 16–24 years       | 41.7 | 37.6 |
| 25–34 years       |      | 86.9 |
| 35–44 years       | 58.2 | 83.3 |
| 45–54 years       |      | 74.3 |
| 55 years and over | 8.1  | 16.5 |

Source: Own elaboration on the basis of data of EPA and INE<sup>29</sup>.

*de autoctonos e inmigrantes en España. Entre la convergencia y segmentación. Un análisis de Muestra Continua de Vidas Laborales 2007*, Arxius de Ciències Socials, no. 24, 2011.

<sup>26</sup> Higher geographical mobility of foreigners is an important element of labor market functioning. Contrary to the native population for which change of place of residence is often quite difficult (family and environmental ties, etc.), immigrants are more inclined to such change due to undertaking the job.

<sup>27</sup> In the years 1996–2005, the rate of structural unemployment decreased from 17% to 7.5%. M. Sebastian, *Inmigración y Economía Española: 1996–2005*, op.cit., p. 20.

<sup>28</sup> M. Pajares, *Inmigración y mercado de trabajo. Informe 2010*, op.cit.; M. Pajares, *Inmigración y mercado de trabajo. Informe 2009*, op.cit.; M. Pajares, *Inmigración y mercado de trabajo. Informe 2008*, op.cit.; C. Carrasco Carpio, C. Serrano García, *Inmigración y mercado de trabajo. Informe 2011*, Observatorio Permanente de la Inmigración, Ministerio de Trabajo e Inmigración.

<sup>29</sup> EPA 1996 [http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto\\_05/rde/px/l0/&file=02007.px&type=pcaxis](http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto_05/rde/px/l0/&file=02007.px&type=pcaxis); [http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto\\_05/rde/px/l0/&file=01005.px&type=pcaxis](http://www.ine.es/jaxi/tabla.do?path=/t22/e308/meto_05/rde/px/l0/&file=01005.px&type=pcaxis) [access on 20.10.2013]. EPA 2012 <http://www.ine.es/jaxiBD/tabla.do?per=03&type=db&divi=EPA&idtab=64> [access on 20.10.2013].

In the context of the indirect impact on economic growth, one should pay attention to analysis of influence of immigration on the volume of Spanish GDP, performed by R. Arce Borda<sup>30</sup>. In his *input-output* model, he took into consideration elements that have been previously disregarded and are difficult to measure. First of all, he focused on estimation what would be the influence of flow of foreign labor force to economy (and its concentration in specific sectors) on the volume of production generated by the natives in the remaining sectors. Apart from the issue of the volume of generated production, there is still another one that would give us better picture of the general influence of immigration on economic growth. It is the question of demand not only that notified by immigrants, but also its overall change resulting from increased number of employed, both foreigners and Spaniards. The key conclusions that appeared due to the application by Borda of the model of Gosh and Leontief for the year 2009 were the following:

- first, total influence of immigration on economic growth brought about growth of GDP by 13.2%, of which direct influence on GDP accounted for 9.75% and that on the volume of production (Gosh's effect) amounted to 8.5%, and finally influence through the change in the volume of demand (Leontief's effect) accounted for 4.1%,
- increase in employment (legal and illegal) of immigrants correlated with the growth of employment of the native population; employment of 3 immigrants brought about employment of 1 Spaniard, on the average,
- in the years 2000–2009, thanks to the employment of foreign labor force, over 1.5 million of new jobs for the natives were created<sup>31</sup>.

## 2. Influence of immigration on the condition and standing of public finance in Spain

Apart from the labor market and economic growth, the influence on the condition and standing of public finance of the state is one of main areas of analysis of economic effects of immigration to the host country. In Spain, the issue is widely discussed in public, it is also interesting for the scientific circles where in its analyzed mainly in the context of influence of immigration of functioning of the welfare

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<sup>30</sup> R. Arce Borda, *El Impacto Económico de la Inmigración en España, 2000–2009: Antes y Después de la Crisis*, „Revista de economía”, 854, 2010, pp. 23–25.

<sup>31</sup> *Ibidem*, pp. 28–30.

state. However, there are only a few publications concerning this important issue<sup>32</sup>. The literature investigates, first of all, its effects resulting from social insurance paid by those legally employed (Spanish Seguridad Social), volume of revenues from indirect taxes and from personal income taxes (Spanish IRPF – Impuesto sobre la renta de las personas físicas). As far as expenditures are concerned, the analysis is based on social benefits, including health protection and education.

### 2.1. Influence of immigration on volume and dynamics of revenues of public finance sector

Contributions paid by immigrants to Seguridad Social, the system of social insurance in Spain, is the largest source of revenues of public finance sector in terms of volume. One should remember, however, that apart from their direct share, i.e., volume of financial resources paid in connection with legal employment in Spain, immigrants exert their impact on Seguridad Social in an indirect way, namely through influencing the situation of the native population on the labor market. i.e., level of occupational activity, employment, and mobility that may be connected with professional promotion and higher wages, and consequently higher payments from Spaniards to Seguridad Social<sup>33</sup>. Unfortunately, in both cases there are difficulties in estimating this influence. In the first case, they consist in difficult availability of detailed data collected by Seguridad Social<sup>34</sup>, in the second, they are due to methodological problems. Nevertheless, one may observe certain tendencies that exert their impact on the volume of revenues of Seguridad Social connected with immigration.

First, as it has been already mentioned, level of foreigners' wages in Spain is lower than that of the native population<sup>35</sup> that results in relatively lower revenues of the

<sup>32</sup> Por. Fundación Ideas, *La contribución...*, op.cit., pp. 64–68; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar en España*, Colección Estudios Sociales, no. 31, La Caixa 2011; M. Sastre García, T. Pérez Barrasa, L. Ayala Cañón, *La contribución de los inmigrantes al IRPF*, Presupuesto y Gasto Público 61/2010, Secretaría General de Presupuestos y Gastos, Instituto de Estudios Fiscales, 2010.

<sup>33</sup> In this paper, positive influence of immigration on the situation of native population on the labor market in Spain was stressed several times. It concerns growth of occupational activity, particularly that of women, and occupational promotion as well. Due to the fact that on the Spanish labor market, foreign labor force plays, first of all, complementary role, there is no evident influence of immigrants on growth of unemployment among Spanish people. See: M. Pajares, *Inmigración...*, 2010, op.cit.; M. Pajares, *Inmigración...*, 2009, op.cit.; M. Pajares, *Inmigración*, 2008, op.cit.; J. Cuadrado Roura, C. Iglesias Fernández, R. Llorente Heras, *Inmigración y mercado de trabajo en España (1997–2005)*, Informes 2007, Economía y Sociedad, Fundación BBVA, 2007. However, estimation of indirect influence of immigration on the volume of receipts from the Spanish population to Seguridad Social is difficult due to methodological problems and no access to statistical data.

<sup>34</sup> Ministerio de Empleo y Seguridad Social does not publish this type of data.

<sup>35</sup> Differences in remunerations of foreigners and native population increased from about 20% in 2002 to 30% in 2011.

system in relation to payments obtained from Spaniards. Second, attention should be paid not only to the absolute number of foreigners notified to Seguridad Social, but also to the change of their share in relation to the entire immigrated population in Spain.

High flow of immigrants to Spain was accompanied by the growth of the number of foreigners notified to social insurance from 630 thousand in 2002 to almost 1.7 million in 2012. In terms of absolute values, the highest number was recorded in 2008, i.e., over 2 million people. Relation of the number of foreigners notified to Seguridad Social to the total of immigrated population was also growing till the beginning of economic crisis. It grew from 32% in 2002 to almost 44% in 2007, then it significantly decreased down to 32% in 2012. However, one should also mention that similar phenomenon occurred in the case of Spaniards<sup>36,37</sup>. As it is quite difficult to obtain data on the volume of system's revenues from foreigners, one should note that in 2005, according to the estimates of Spanish government, they accounted for 7.4%<sup>38</sup> of all respective revenues of public finance, and at the same time, they accounted for 35% of public revenues from foreigners<sup>39</sup>. Relatively low percentage share of Seguridad Social revenues from foreigners as compared to their share in the case of Spanish population and total of those employed is due, first of all, to the higher index of illegal employment and low wages.

Taking into account the country of origin of immigrants, one may clearly see that foreigners from the EU countries and from Switzerland have the lowest indices due to the fact that earning money is not the main reason of their immigration. People from Portugal and Poles are the exception<sup>40</sup>. As far as immigrants from the

<sup>36</sup> In 2002, almost 39% growth (by over 1 million people) up to 42% in 2007, and decrease down to 36% in 2012. It has been observed that growth of number of those declared to social insurance in both groups under analysis, as well as decrease of this index in the case of immigrants due to the economic crisis. It confirms the complementary role of foreign labor force in the Spanish labor market. See: Antuñano Maruri I., Ochando Claramunt C., Soler Guillén Á., *Inmigración, mercado de trabajo y Seguridad Social: evidencia empírica española e implicaciones de política económica*, „Revista del Ministerio de Trabajo e Inmigración”, 81, 2009, p. 24. One should also compare changes in the level of unemployment in the group of immigrants and native people in Spain resulting from the economic crisis: Medina E., Herrante A., Vicéns J., *Inmigración y Desempleo en España: Impacto de la Crisis Económica*, Información Comercial Española. „Revista de Economía”, Retos Económicos Derivados de la Inmigración Económica en España, Nr 854, Mayo–Junio 2010.

<sup>37</sup> Data based on Anuario de Estadística de Ministerio de Empleo y Seguridad Social, yearbooks of 2002–2012 and Padrón Municipal INE. See also: I. Antuñano Maruri, C. Ochando Claramunt, A. Soler Guillén, *Inmigración, mercado de trabajo y Seguridad Social...*, op.cit., pp. 23–24; C. Carrasco Carpio, C. Serrano García, *Inmigración y mercado de trabajo. Informe 2011*, Observatorio Permanente de la Inmigración, Ministerio de Trabajo e Inmigración, pp. 55–58.

<sup>38</sup> Similar estimates were presented for 2009 (7.5%) R. Arce Borda. Por. R. Arce Borda, *El Impacto Económico de la Inmigración en España, 2000–2009: Antes y Después de la Crisis*, op.cit., p. 30.

<sup>39</sup> M. Sebastian, *Inmigración y Economía Española...*, op.cit., p. 28.

<sup>40</sup> In 2007, it amounted to 82% and 71% respectively.

third countries are concerned, Ukrainians, people from Peru, Colombia, and Ecuador hold the highest indices<sup>41</sup>.

Indirect taxes, in particular VAT, are another source of revenues. In 2005, VAT revenues from foreigners accounted for 6.8% of all discussed revenues and for 16% of the total of public revenues from foreigners<sup>42</sup>. It is stressed in the literature of the subject that lower revenues from indirect taxes paid by foreigners, as compared to those paid by the native population, are due to, first of all, such factors as: lower wages, unilateral transfers of money to the countries of their origin, and different consumption patterns (higher share of primary goods levied with lower tax rates). Similar to the previous case, one should remember that immigration due to its impact on the situation of Spaniards on the labor market may also have an indirect influence on the level of consumption of the latter group, and consequently on revenues from indirect taxes<sup>43</sup>.

Personal income taxes (Spanish IRPF) are the third important source of public revenues obtained from immigrants. According to the 2005 data, IRPF paid by foreigners constituted 3.2% of tax revenues from natural persons in Spain and 8% of public revenues generated by immigrated population<sup>44</sup>. In this case, as well, lower wages and illegal work are indicated as the main reasons of relatively low income tax revenues paid by foreigners as compared to those obtained from the native population.

## 2.2. Influence of immigration on the volume and dynamics of expenditures of public sector

According to the Spanish legal regulations, people living in Spain, notwithstanding their citizenship, have equal access to social benefits, such as unemployment benefits, pensions, or health protection<sup>45</sup>. However, investigations performed by Encuesta de Condiciones de Vida on the basis of micro-data, i.e. comparative analysis of enjoying social benefits by natives and immigrants<sup>46</sup> show that in the case of meeting the same conditions, foreigners' families will less probably obtain the benefits at all and

<sup>41</sup> I. Antuñano Maruri, C. Ochando Claramunt, Á. Soler Guillén, *Inmigración, mercado de trabajo y Seguridad Social...*, op.cit., pp. 25–26.

<sup>42</sup> M. Sebastian, *Inmigración y Economía Española...*, op.cit., p. 28.

<sup>43</sup> Fundación IDEAS, *La Contribución...*, op.cit., pp. 64–65.

<sup>44</sup> M. Sebastian, *Inmigración y Economía Española...*, op.cit., p. 28. Similar results for the period 1996–2005 – 3% of the total revenues – were obtained from IRPF by: M. Sastre García, T. Pérez Barrasa, L. Ayala Cañón, *La contribución de los inmigrantes al IRPF*, op.cit.

<sup>45</sup> One should remember that their volume or other conditions depend on meeting other criteria, e.g., years of payment of premiums.

<sup>46</sup> In the analysis, immigrants mean foreigners from outside the EU-25.



more probably their benefits will be lower than in the case of Spanish families. It is also worthwhile mentioning that according to R. Muñoz de Bustillo i J.I. Antón Pérez, against the background of other EU countries, system of social insurance in Spain is not very attractive for prospective immigrants and is not the key factor of their decision on immigrating into that country<sup>47</sup>.

Due to the fact that immigrants in Spain are mostly young people<sup>48</sup>, and in the period under analysis, from the point of view of public expenditures on immigrant population, pensionary benefits<sup>49</sup> were of negligible importance as they were enjoyed by less than 1% of foreigners. In the years 2000–2007, pensionary benefits paid to foreigners did not exceed 0.2% of all benefits of this type as their share in the total of public expenditures on immigrants did not exceed 5% and was slightly dropping<sup>50</sup>.

Immigration in Spain is mainly of an earning character so it is quite important to investigate amounts of public expenditures on unemployment benefits paid to foreigners. In 2012, unemployment benefits were enjoyed by 343 thousand foreigners, i.e. 11.7% of all beneficiaries. In the literature of the subject, it is stressed that in spite of equal access to this type of benefits immigrants enjoy them less frequently and their benefits are lower. In the years 2000–2009, both in the case of native population and foreigners, the share of unemployed enjoying benefits was still growing (from 44% to 78% and from 14% to 50% respectively); however, as it may be seen, there is still significant difference between both groups. There are three main reasons for this disproportion and lower benefits (on the average, by 25% in relation to native population), namely: segmentation of foreigners on the labor market, shorter time of payment of contributions, and lower wages. Concentration of immigrants in the sector of services, in particular those connected with household assistance and in self-employment, makes them belong to groups of employed covered with other, less advantageous than those general ones, terms of insurance against unemployment<sup>51,52</sup>.

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<sup>47</sup> R. Muñoz de Bustillo, J.I. Antón Pérez, *Inmigración y Estado de bienestar: el caso de España*, Información Comercial Española. Revista de Economía, Retos Económicos Derivados de la Inmigración Económica en España, no. 54, Mayo–Junio 2010.

<sup>48</sup> About 80% of them are in the working age; the average age of an immigrant is about 32 years.

<sup>49</sup> In Spain, people over 65 are entitled to them.

<sup>50</sup> J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración en el sistema de protección social*, Consejo Económico y Social, Madrid 2010; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 153–155; Fundación IDEAS, *La Contribución...*, op.cit., p. 65.

<sup>51</sup> In Spain, special terms of payment of social insurance premiums by different groups of employees are gradually standardized. In 2002, agricultural workers were included into Regimen General; since 1.01.2013, the system also covers people employed in household services.

<sup>52</sup> P. Tobes Portillo, M. Angoitia Grijalba, *La Cobertura de los Inmigrantes ante el Desempleo*, Información Comercial Española. Revista de Economía, Retos Económicos Derivados de la Inmigración Económica en España, no. 854, Mayo–Junio 2010.

In 2000–2007, unemployment benefits for foreigners accounted for about 10–13% of the total of public expenditures on immigrated population in Spain. At the same time, the share of benefits paid to unemployed foreigners in their total was steadily growing from 1% to over 6%<sup>53</sup>.

Spanish legislation ensures equal access to free of charge public health protection to both natives and foreigners<sup>54</sup>. Comparative analyses show that public health protection covers foreigners in the same way as it is in the case of Spaniards. Negligible differences consist in the fact that foreigners enjoy emergency services more frequently and they enjoy GPs and specialists services more seldom. At the same time, as young immigrants prevail in the total number of foreigners<sup>55</sup>, average expenditures on per capital health protection borne by the state are lower in the case of foreigners than those borne in the case of Spaniard. They are also lower than it would result from their share (disregarding the age structure) in the Spanish population<sup>56</sup>. In the years 2000–2007, expenditures on health protection had the highest share (over 40%) in public expenditures on immigrants. Moreover, percentage of expenditures on immigrated population in the total amounts spent on health protection increased from 1% to 5%<sup>57</sup>.

Education is another quite important area. In Spain, flow of immigrants was accompanied by growth in the number of children (about 15% of the immigrated population). In the school year 2010/2011, over 10% (781 thousand) of children in school age (excluding universities) were foreigners<sup>58</sup>. In the years 2000–2007, expenditures on education, similar to expenditures on health care, had the highest share (about 35–40%) in public expenditures on immigrants. At the same time, the

<sup>53</sup> J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, pp. 153–155, Fundación IDEAS, *La Contribución...*, op.cit., p. 66.

<sup>54</sup> According to Ley Orgánica 4/2000, system of health care is also free of charge for foreigners who have no right of residence in Spain on condition that they were registered at Padrón Municipal, they are juvenile, or they are pregnant women. One should mention, as well, that registration at Padrón Municipal does not require checking the legality of their stay in Spain.

<sup>55</sup> Statistically, the highest costs of health protection are connected with, first of all, people of 0–4 years of age and those over 65.

<sup>56</sup> R. Muñoz de Bustillo, J.I. Antón Pérez, *Inmigración y Estado de bienestar...*, op.cit. See also: *El impacto económico de la inmigración extracomunitaria en la Comunidad Autónoma del País Vasco*, Gobierno Vasco, Vitoria 2008, pp. 91–96.

<sup>57</sup> J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 153–155; Fundación IDEAS, *La Contribución...*, op.cit., p. 66.

<sup>58</sup> *Las cifras de la educación en España. Curso 2010–2011*, Ministerio de Educación, Cultura y Deporte 2013

percentage of expenditures on immigrants' education in the total educational expenditures in Spain was all the time growing (from 1% to 6%)<sup>59</sup>.

### 2.3. Estimation of influence of immigration on balance of public finance in Spain

Estimation of influence of immigration on condition and standing of public finance involves methodological difficulties and problems connected with availability of respective statistical data. As it has been already mentioned, in the literature of the subject, influence of immigration is considered, first of all, in the context of functioning of the welfare state. Static approach dominates in these investigations, but more and more often one may find analysis that approaches the issue in the dynamic and long-term way. Thus, there are forecasts of future influence of immigration on condition of the state finance, in particular in such areas as pensionary system, account taken of changes both in the intensity of flow of immigrants as well as in the age structure of the immigrated population in Spain.

Analyses show, that in the years 2000–2010, revenues of public finance connected with the presence of immigrants in Spain exceeded the costs. According to the estimates of the government, the share of foreigners in the total of public expenditures amounted to 5.4%, and their share in revenues accounted for 6.6%. A half of the surplus of public finance may be attributed to revenues from immigrants. The situation may result from retirement contributions paid by foreigners (8,000 million EUR) accompanied by their very low enjoyment of pensionary benefits (400 million EUR)<sup>60</sup>. In 2008, surplus of revenues over expenditures connected with foreigners was estimated at about 2 million EUR<sup>61</sup>. In 2010, according to the calculations of Fundación IDEAS, it amounted to about 3 million EUR<sup>62</sup>.

In spite of the pronounced positive effects of immigration upon the condition of public finance, one should remember that in the case of Spain immigration is a relatively new phenomenon. Thus, one may expect that such features as young age and lower, in comparison with the native population, share of children and people

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<sup>59</sup> J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 153–155.

<sup>60</sup> M. Sebastian, *Inmigración y Economía Española: 1996–2005*, Oficina Económica del Presidente, Madrid 2006, pp. 23–25.

<sup>61</sup> J. Dolado, P. Vázquez (ed.), *Ensayos sobre los efectos económicos de la inmigración en España*, FEDEA, Madrid 2008, s. 14. According to the calculations by Otero J.V. et al., in 2008, revenues from social insurance alone paid by foreigners were higher than all public expenditures connected with them by 1.5 million EUR. See: J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.

<sup>62</sup> Fundación IDEAS, *La Contribución...*, op.cit., p. 67.

of post-working age in this group will be gradually decreasing. It is also worthwhile mentioning that in the years 2000–2007, in spite of the persistent surplus of revenues over public expenditures as well as lower share of foreigners in expenditures as compared to their share in the population as whole, percentage of public expenditures on foreigners was still significantly growing, from less than 1% in 2000 to almost 4% in 2007<sup>63</sup>. Thus, one may assume that public expenditures on foreigners will be growing along with growing similarity of the structure of immigrated population to the structure of the native population<sup>64</sup>.

Considering the process of ageing of European societies, including that of Spain, immigration is of special importance in the context of functioning of pensionary systems. In the case of Spain, flow of foreigners improved the relation between the number of people who pay pensionary contributions and number of pensioners from 2.2 in 2000 to 2.5 in 2010<sup>65</sup>. In this way, till the moment when immigrants become pensioners (first flow about 2030), they will substantially stabilize this system. It is also noted that after 2030, not all foreigners will enjoy pensionary benefits in Spain, and their amount will be lower than natives' benefits due to differences in wages<sup>66</sup>.

## Conclusion

On the basis of the analysis, one may state that flow of immigration was very advantageous from the point of view of dynamics of economic growth in Spain. Simulation of generation of hypothetical per capita GDP indicates that without the flow of foreigners the years 1996–2012 would have been the period of its regular decrease, and even in conditions of business prosperity it would have attained about – 2.5%

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<sup>63</sup> Por. J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 153–155.

<sup>64</sup> It is worthwhile mentioning here the simulation performed by J. Otero et al. Assuming different scenarios of inflow of immigration to Spain, growth of public expenditures connected with foreigners, rate of economic growth, and ageing of Spanish population, they estimated that till 2025, the surplus of revenues over expenditures on immigrants should have remained and the average public expenditures on a foreigner should have exceeded 60% of expenditures on a Spanish citizen. See: J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 152–153.

<sup>65</sup> In 2010, foreigners accounted for 10.2% of all payers of contributions.

<sup>66</sup> F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 150–152; C. González, I. Conde-Ruiz, M. Boldrin, *Immigration and social security in Spain*, FEDEA Documento de Trabajo 2009–26, Madrid 2009; J. Dolado, P. Vázquez (ed.), *Ensayos sobre...*, op.cit., pp. 79–97; M. Palacios Marques, *Efectos de la Productividad, Envejecimiento, Empleo e Inmigración sobre la Sostenibilidad del Sistema Público de Pensiones en España: Propuesta de Reforma*, Gobierno de España, 2011, pp. 97–113.

per year. In the period under analysis, immigration had a major positive impact on the dynamics of economic growth by means of relatively high ratio of demographic factor wiping out the effects of negative values characteristic of the native population resulting from the process of ageing of the Spanish society. In the longer term (years 2000–2007 and 2000–2010), one may also notice positive influence of immigration on economic growth through its impact on the index of employment that was much higher than that of the native population, especially in the years of business prosperity. As far as influence of immigration on dynamics of economic growth is concerned, one should also mention the relatively low level of indices of labor productivity of foreigners that resulted in the decrease of the value of this coefficient in the entire economy, as well as its characteristic decline in the years of business prosperity and growth in the years of crisis. As it was stressed in this paper, the case of Spain was not isolated among other countries. Moreover, several concepts and arguments that explain this phenomenon were also presented. Negative consequences of decline in productivity were wiped out by the already mentioned high indices of employment and demographic factor.

Moreover, immigration had an indirect positive influence on the rate of economic growth, first of all through the stimulation of occupational activity of Spanish women, as well as on the increased elasticity of the labor market that resulted in the creation of new jobs and growth of demand.

As far as the influence of immigration on the condition of the balance of public finance of Spain is concerned, one may state that in the period under analysis revenues were substantially higher than expenditures connected with foreigners. However, one should point out a few features characteristics of this issue. First, the share of receipts generated by foreigners in the total public revenues was lower than it could have resulted from their proportion in relation to the entire population and all employees. It may be due both to the lower level of wages of foreigners, and to the higher percentage of those employed illegally and those employed in sectors subject to different rules of payment of social insurance contributions<sup>67</sup>. Second, in spite of the fact that public expenditures on foreigners remained on a relatively low level (lower than revenues), they were nevertheless growing. Thus, one may come to the conclusion that the above observation is characteristic of the situation where immigration is a relatively new phenomenon (in the case of Spain, since the mid 90's of the 20th century, intensified after 2000) and it is, first of all, of an earning nature, and most immigrants are young people. One may also assume that expenditures on foreigners

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<sup>67</sup> It concerns, first of all, those employed as domestic servants. Since 1.1.2013, they are covered with general rules (Regimen General) Seguridad Social.

will be even more growing with the passage of time, though, as it was already mentioned, according to the estimates<sup>68</sup>, till 2025–2030, when the first wave of immigrants will start drawing their pensions, they should not exceed 60% of expenditures on the native population. Immigration exerted positive impact on stability of the Spanish pensionary system as it significantly increased the relation between people who pay contributions and those who draw their benefits. However, neither it is a „panaceum” for the system nor the solution to the problem of ageing of the Spanish population<sup>69</sup>, though in the short term it improves demographic situation of the state.

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## Abstract

At the turn of 20th and 21st century, Spain was one of target countries of earning immigration not only in the European Union, but in the entire world as well. This paper aims at analyzing the influence of immigration on the dynamics of Spanish GDP in the context of its direct influence on the level of productivity, employment rate, as well as the demographic factor that results from the share of working foreigners in the creation of national income, and the indirect impact resulting from its influence on, among other things, functioning of the labor market through mobility or occupational activity, as well as on changes in the volume of demand notified in the economy. Next, we are going to present the influence of immigration on condition and standing of public finance against the background of revenues generated by foreigners and public expenditures borne on immigrated population. Due to the size of this paper and difficult availability of data, the analysis will cover the country as a whole, disregarding regional differences.

Keywords: Spain, immigration, GDP, labor market, productivity, employment, public finance

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<sup>68</sup> Por. J.V. Otero, R. Casado, P. Tobes, *Impacto de la inmigración...*, op.cit.; F. Moreno Fuentes, M. Bruquetas Callejo, *Inmigración y Estado de bienestar...*, op.cit., pp. 152–153.

<sup>69</sup> For more details on the impact of immigration on the process of ageing of Spanish society, see: A. Romiszewska, *Imigracja a proces starzenia się społeczeństwa Hiszpanii (Immigration vis the process of ageing of the Spanish society)*, (in:) *Zmieniający się świat. Perspektywa demograficzna, społeczna i gospodarcza*, J. Osiński, M. Pachocka (ed.), Oficyna Wydawnicza SGH, Warszawa 2013.

## **L'influence de l'immigration sur la dynamique de la croissance économique et la situation des finances publiques en Espagne**

Au tournant du 20e et 21e siècle, l'Espagne a été l'un des pays cibles de l'immigration croissante, non seulement dans l'Union européenne, mais aussi dans le monde entier. Ce document vise à analyser l'influence de l'immigration sur la dynamique du PIB espagnol dans le contexte de son influence directe sur la productivité et le taux d'emploi, ainsi que le facteur démographique résultant de la part des étrangers travaillant dans la création du revenu national, et l'impact indirect résultant de son influence sur le fonctionnement du marché du travail grâce à la mobilité ou l'activité professionnelle, ainsi que sur les changements dans la demande dans l'économie. Ensuite, nous présentons l'influence de l'immigration sur l'état des finances publiques dans le contexte des revenus générés par les étrangers et les dépenses publiques pour la population immigrée. En raison de la portée de ce document et de la disponibilité limitée des données, l'analyse porte sur le pays dans son ensemble, sans tenir compte des différences régionales.

Mots-clés: l'Espagne, l'immigration, le PIB, le marché du travail, la productivité, l'emploi, les finances publiques

## **Влияние иммиграции на динамику экономического роста и состояние государственных финансов Испании**

На рубеже XX–XXI веков Испания стала одной из главных принимающих стран для иммиграции не только в Европейском союзе, но и в мире. Целью статьи является исследование воздействия иммиграции на динамику ВВП Испании. Анализ проводится в контексте ее прямого влияния на уровень производительности, занятости и демографический фактор, что указывает на вклад работающих иностранцев в ВВП, и ее косвенного влияния через рынок труда, в результате воздействия на уровень мобильности и экономическую активность населения, и изменения спроса. Представлено влияние иммиграции на состояние государственных финансов, учитывая связанные с ее присутствием доходы и расходы. Из-за ограниченного объема статьи и трудностей с доступом к данным анализ не охватывает различий на региональном уровне.

Ключевые слова: Испания, иммиграция, ВВП, рынок труда, производительность труда, занятость населения, государственные финансы

