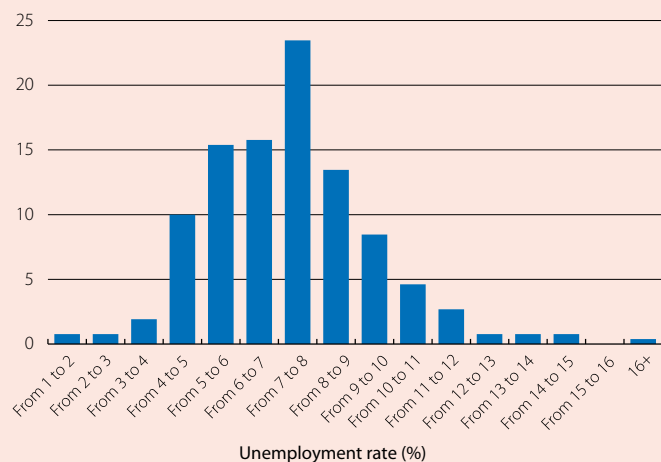


## The urban factor of the labour market

The Great Recession hit national labour markets hard: the low unemployment rates in 2007 (8.2% in Spain, 4.6% in the US) had more than doubled by 2010 (19.9% in Spain, 9.6% in the US).<sup>1</sup> The violence of such movements creates a natural need to understand the economic cycle. However, similar contrasts can also be found between the labour markets in cities, at any point in time, as shown by the first graph. In unemployment terms, travelling in 2014 from Denver (Colorado), with 4.5% unemployment, to Atlantic City (New Jersey), with 11.2%, was like travelling in time from the boom period of 2007 to the peak of the recession in 2010.<sup>2</sup> Moreover such disparities are enduring and go beyond demographic differences (age, qualifications, race, etc.) between the residents of each city.<sup>3</sup> This indicates that the labour market has a strong local component and can be used to exemplify the economies and diseconomies of agglomeration.

### Distribution of urban unemployment rates in the US

(% of cities out of total)



Source: CaixaBank Research, based on data from the 2014 American Community Survey.

willing to pay wages that are 30% higher than those in Parkersburg (16.5 euros per hour)? The answer is simple: New York workers are more productive than Parkersburg workers. Moreover, even if we include workers of comparable observable characteristics, their productivity (in wage terms) increases with the size of the city where they work,<sup>4</sup> suggesting the existence of economies of scale rather than reflecting a selection of inherently more productive workers in some cities. In fact big cities are larger precisely because they offer higher wages and therefore attract more workers. In other words, talking about large cities is essentially the same as talking about cities where workers are more productive.

On the other hand workers compare their nominal wages with the cost of living in each city. As explained in the article «The cost of city life: the diseconomies of agglomeration» in this Dossier, offering higher wages results in greater demand for housing, which pushes up the cost of living. In line with this intuition, the data show that housing prices increase with the size of a city, revealing that the real wage (i.e. adjusted for the cost of housing) is approximately the same in small cities as in large ones.<sup>5</sup> The labour market therefore provides a good example of the equilibrium between the benefits and costs of agglomeration in what is known as «spatial equilibrium»: the adjustment of costs and benefits means there are cities with differing levels of productivity.

With this theoretical framework we can go on to examine how the urban labour market works. When considering the informative content of a city's wage levels regarding the underlying productivity of its workers, it is important to determine whether the source of this higher productivity comes from the characteristics of the city's residents or from the fact that there are a large number of workers in the same space. In other words, if it comes about because the best workers have been selected or whether

The rest of the articles in this Dossier have provided a simple explanation for a phenomenon that, in our daily lives, seems natural to us: the existence of cities. Briefly put, the physical proximity of people, workers, companies etc. enriches us. Or, as economists would say, there are agglomeration economies. That is why, throughout history, humanity has lived in tribes, villages and, finally, cities. However, the Earth has not become one gigantic metropolis. The reason? Agglomerations also create costs, such as crime, pollution and higher housing prices. Both forces, which tend to balance each other out, can clearly be seen in the urban labour market.

On the one hand agglomeration economies mean that workers are more productive in larger cities. One sign of this is that wages increase with the size of the city, as shown in the second graph. But if you are still not convinced by this simple correlation, consider the case of a company located in New York, where the median wage for workers is 22 euros per hour. Why are companies

1. In the US, unemployment reached its peak in 2010. In Spain, after the economy fell into double-dip recession, unemployment reached 26.09% in 2013.

2. These differences become even more relevant if we consider that they occur in a country (United States) whose labour force is highly mobile.

3. See Kline, P. and Moretti, E. (2013), «Placed-based policies with unemployment», NBER Working Paper.

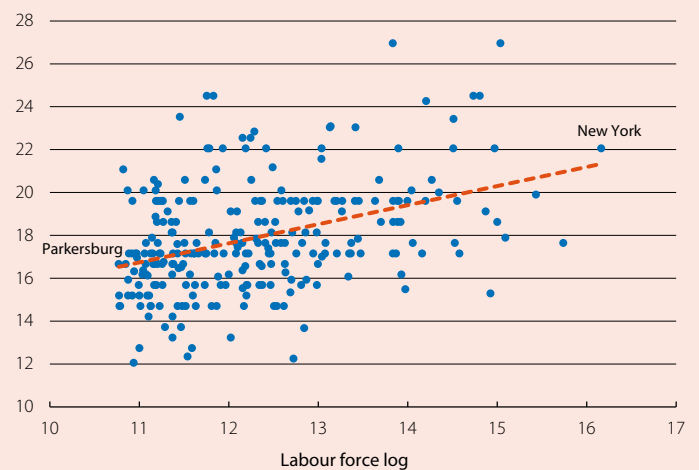
4. See Glaeser, E. and Maré, D. (2001), «Cities and skills», Journal of Labor Economics.

5. See Eeckhout, J., Pinheiro, R. and Schmidheiny, K. (2014), «Spatial Sorting», Journal of Political Economy.

the agglomeration economies make these workers better (for economists this distinction is the same as parents knowing whether their children’s school is good because it attracts brilliant pupils or because it has excellent teachers). As we have already seen, the data indicate that agglomeration economies do play a fundamental role. However, selection is also important. By way of anecdote, Barcelona stands out in the world of football because it can attract players such as Leo Messi, in the same way that Paris attracted Pablo Picasso and New York John Lennon. In fact, Eeckhout, Pinheiro and Schmidheiny (2014)<sup>6</sup> have found that big cities have a larger share of more talented workers. To illustrate this, the third graph shows that, in larger cities, there is a larger share of people with higher qualifications. As the authors argue, the reason is that agglomeration economies are particularly favourable for more talented individuals with a higher degree of specialisation. For example, Messi can exploit his skills to the utmost degree because he has other great players around him such as Iniesta and Busquets, as well as a great economic and technical infrastructure, in the same way that, in New York, John Lennon had access to the best musicians and recording studios.

**Wage increases with city size**

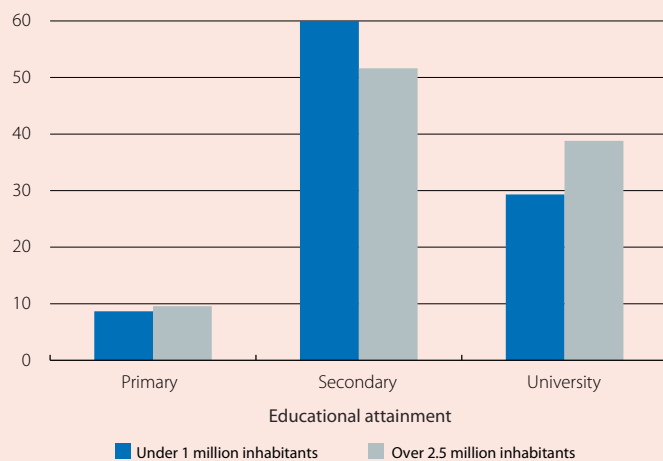
Median wage (\$ per hour)



Source: CaixaBank Research, based on data from the 2014 American Community Survey.

**Breakdown of educational attainment by city size**

(% of the labour force)



Source: CaixaBank Research, based on data from the 2014 American Community Survey.

Moreover, the same authors have found that large cities also attract a larger proportion of lower qualified workers and argue that there is a complementary relationship between higher and lower qualified workers, with the latter becoming more productive in a big city. To give another example, readers need only think about the large supply of fast food outlets in big cities, possibly a result of the (complementary) need of their inhabitants to optimise the use of their time. Because of this complementary relationship, it comes as no surprise that there is also a positive correlation between the size of a city and inequality.<sup>7</sup> However, this complementary nature also means that workers with higher and lower qualifications can take more advantage of the agglomeration economies. And there are actually more reasons why agglomeration economies occur in the labour market. For example, a denser market allows companies to find more suitable workers, just as it allows workers to find companies that are better suited to their needs. In addition, and as

explained in the article «The keys to the city of the future» in this Dossier, cities play a fundamental role in creating and spreading ideas and a part of these processes is carried out in the labour market: just think of the ideas you may have come up with or heard from your workmates in an informal conversation.

In conclusion, the labour market clearly illustrates the benefits and costs of agglomeration. These result in higher nominal wages (reflecting higher productivity) and in a higher cost of living, with the two balancing each other out. Both forces influence people’s decisions regarding where to live and work. That is why the development of new technologies such as ICTs (which can decrease the benefits of physical proximity) and smart cities (which can reduce the costs of agglomeration) will have repercussions on the future spatial distribution of both workers and firms.

Adrià Morron Salmeron  
Macroeconomics Unit, Strategic Planning and Research Department, CaixaBank

6. See Eeckhout, J., Pinheiro, R. and Schmidheiny, K. (2014), «Spatial Sorting», Journal of Political Economy.  
7. See Baum-Snow, N. and Pavan, R. (2013), «Inequality and city size», The Review of Economics and Statistics.