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URBANIZATION REPORT

EUROPEAN URBANIZATION TRENDS

BBVA Research

The urbanization process in Europe took place rapidly since 1950, but in the 90s it moderated its pace and it will likely be slower during the next ten years

The European urbanization phenomenon is associated with higher economic, technological and digital development

There's still an important gap between Western and the Emerging Europe. Responsive and accountable policies are needed to support sustainable development

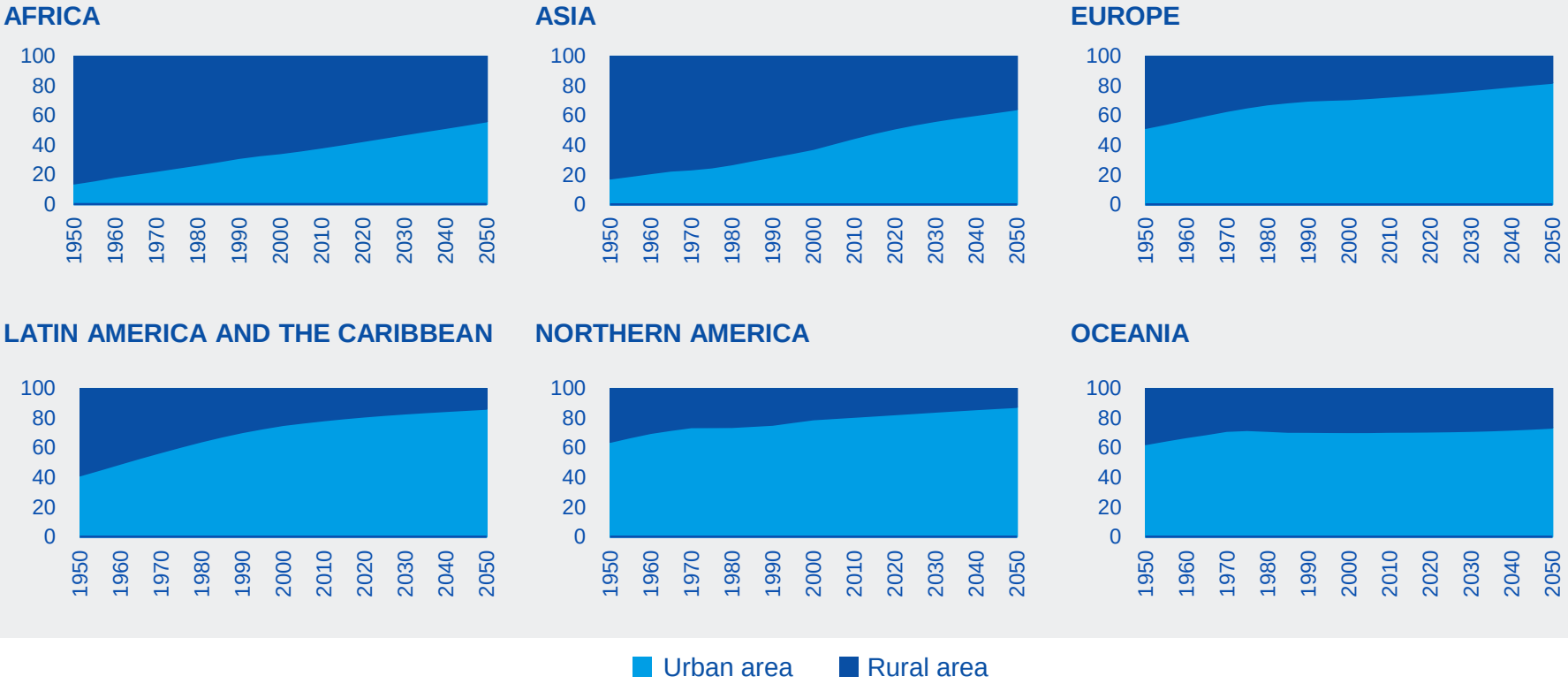
European cities have become in important hubs for education, innovation and knowledge-based economies. **Digitalization** has been fundamental to increase competitiveness

Differences between Western and Eastern Europe also hold at regional levels. **Smart cities** oriented policies will foster technological and sustainable development

Almost three quarters of the European population lived in urban areas in 2015

And it could rise to just over 80 % by 2050

SHARE OF URBAN AND RURAL POPULATION BY CONTINENT (1950-2050)
(% total population)

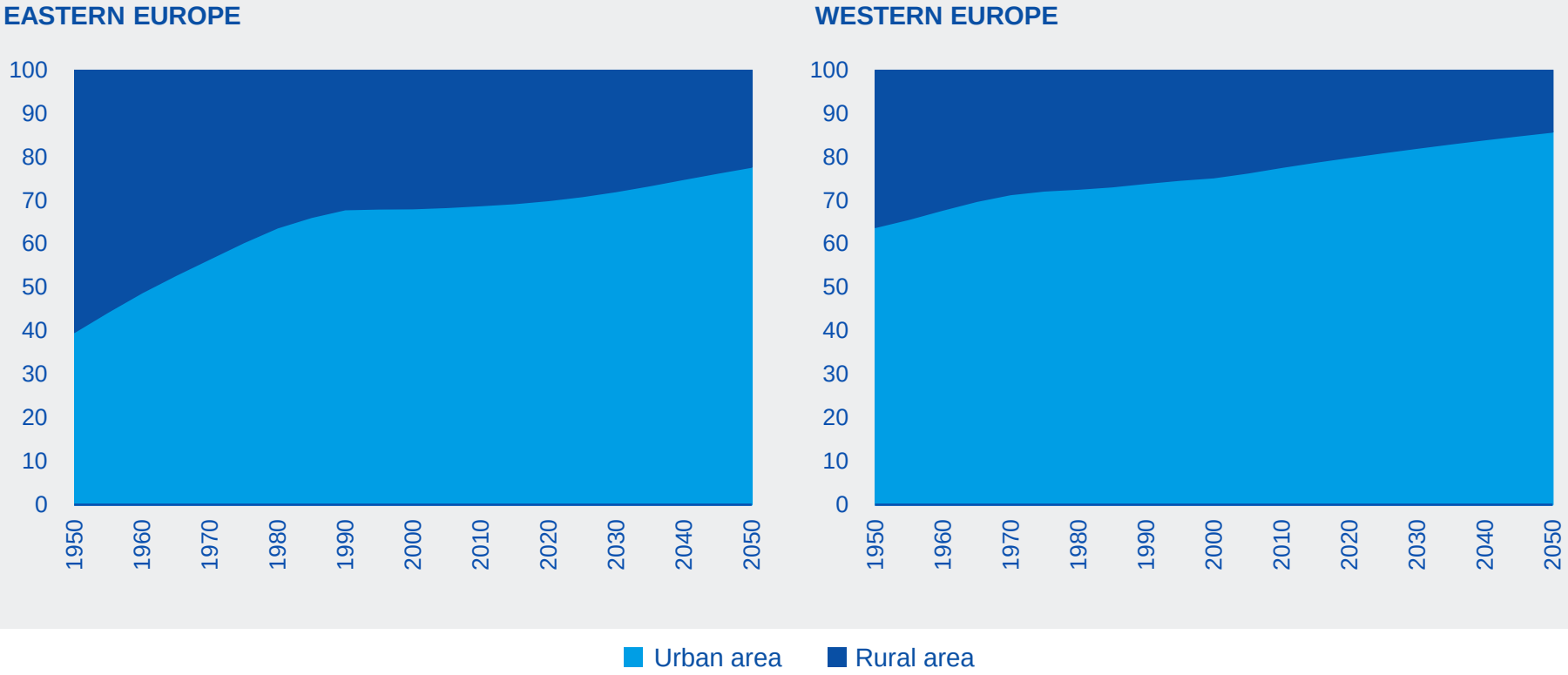


Source: BBVA Research and UN

Note: See the annex for further information about the methodology

The rapid pace of urbanization in Eastern Europe until 1990 reduced the gap with Western countries

SHARE OF URBAN AND RURAL POPULATION IN EUROPE (1950-2050)
(% total population)

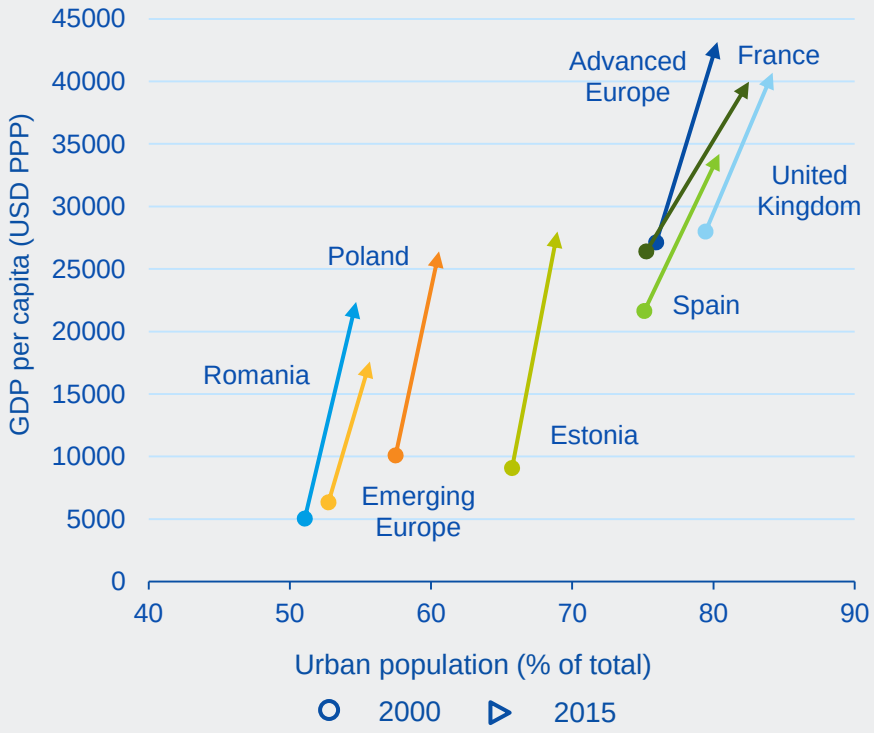


Source: BBVA Research and UN

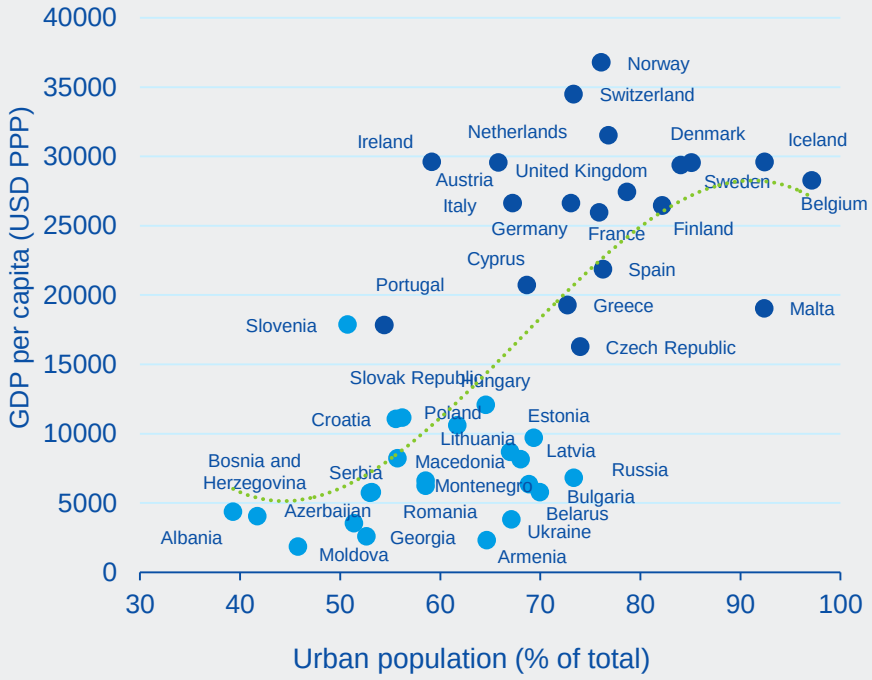
Note: See the annex for further information about the methodology

Urbanization has shown a positive relation with income…

LEVEL OF URBANIZATION AND GDP PER CAPITA IN EUROPE IN 2000-2015



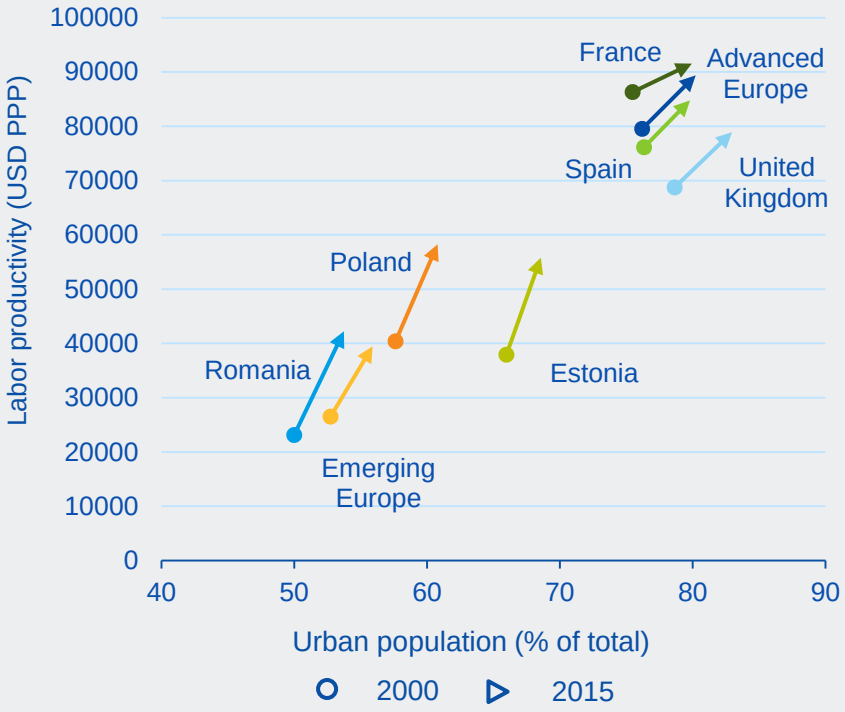
LEVEL OF URBANIZATION AND GDP PER CAPITA IN EUROPE IN 2015



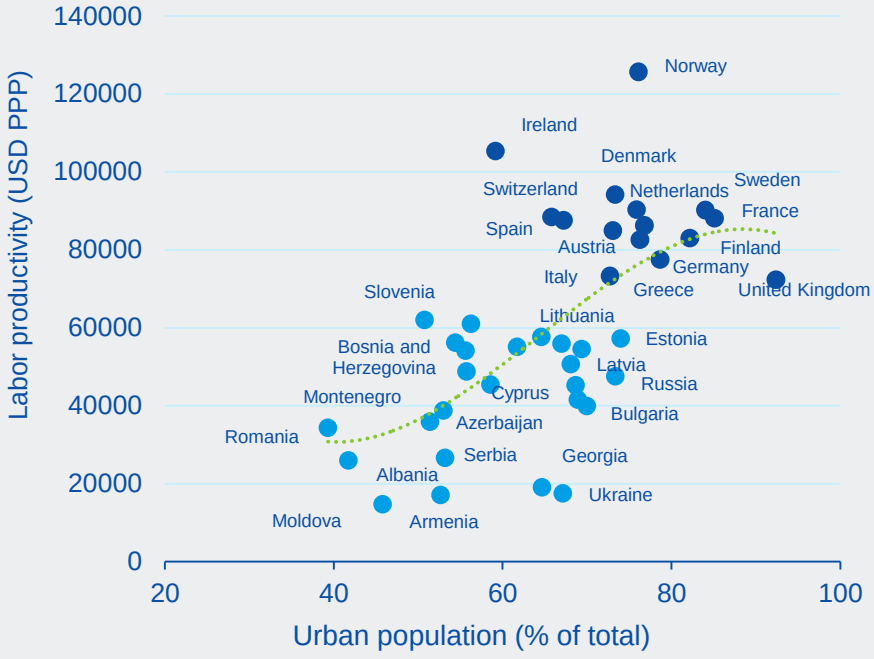
Source: BBVA Research, World Bank and UN

… labor productivity…

LEVEL OF URBANIZATION AND LABOR PRODUCTIVITY IN EUROPE IN 2000-2015



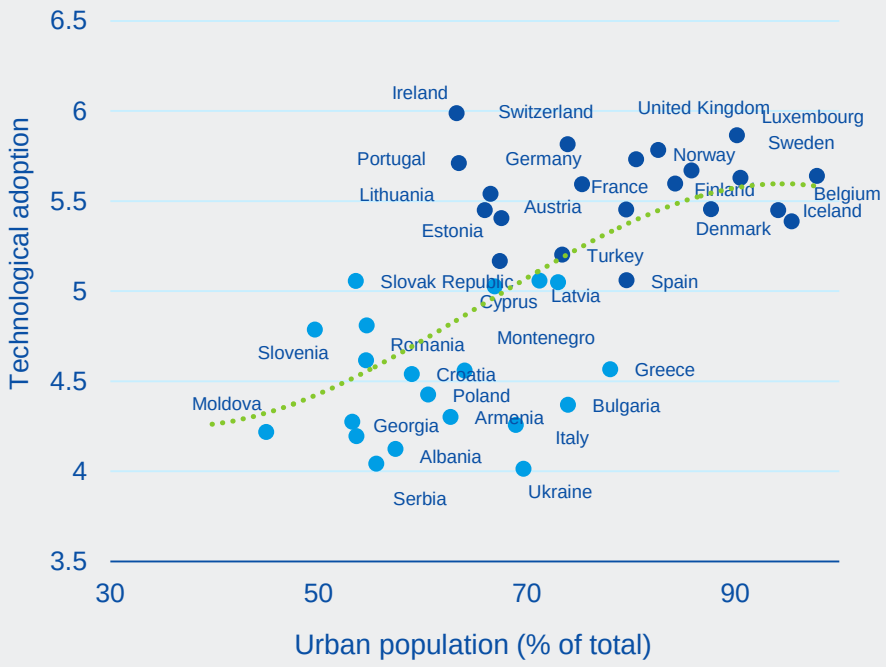
LEVEL OF URBANIZATION AND LABOR PRODUCTIVITY IN EUROPE IN 2015



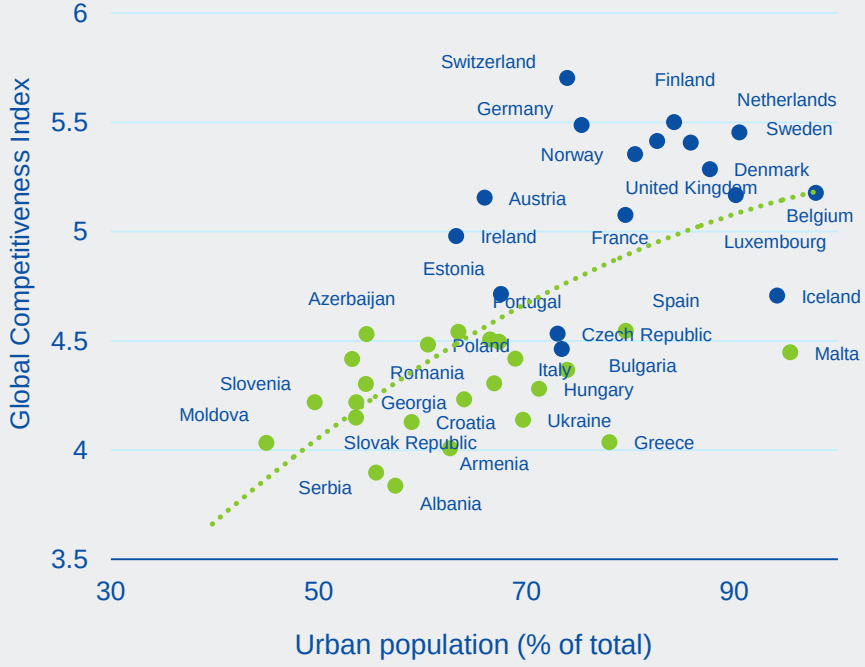
Source: BBVA Research, World Bank and UN

… as well as with technological adoption and competitiveness levels

LEVEL OF URBANIZATION AND TECHNOLOGICAL ADOPTION INDEX IN EUROPE IN 2015
(scale ranges from 1 to 7, best)

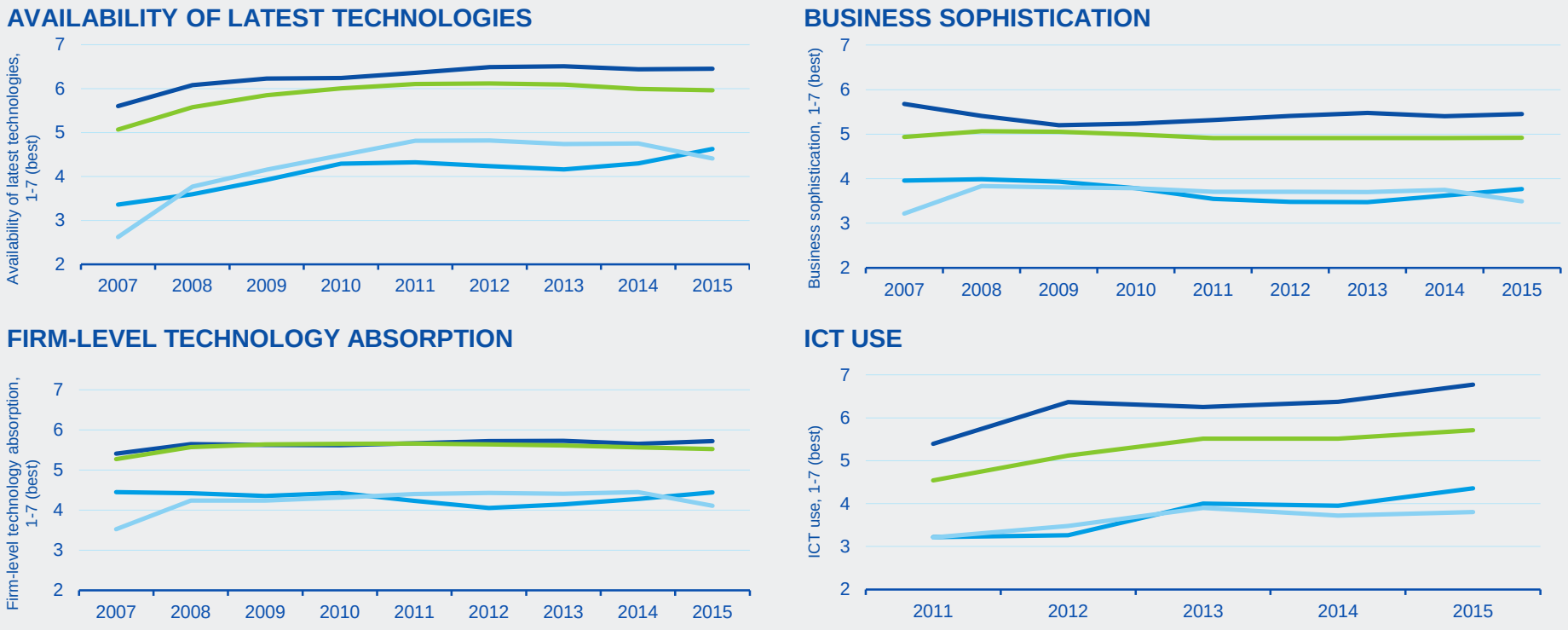


LEVEL OF URBANIZATION AND GLOBAL COMPETITIVENESS INDEX IN EUROPE IN 2015
(scale ranges from 1 to 7, best)



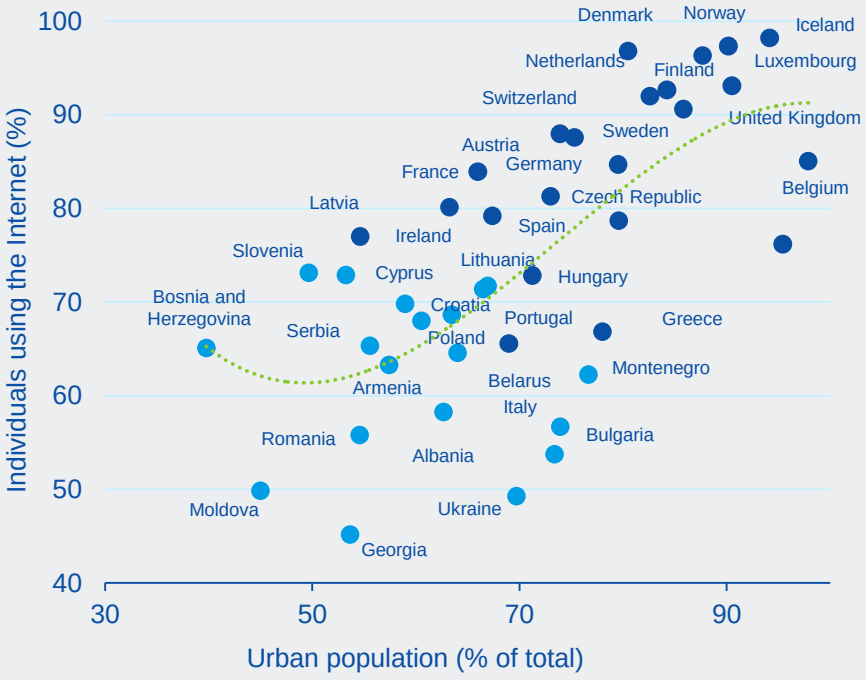
Source: BBVA Research, Weforum

There's a significant technological gap between the advanced and the developing Europe

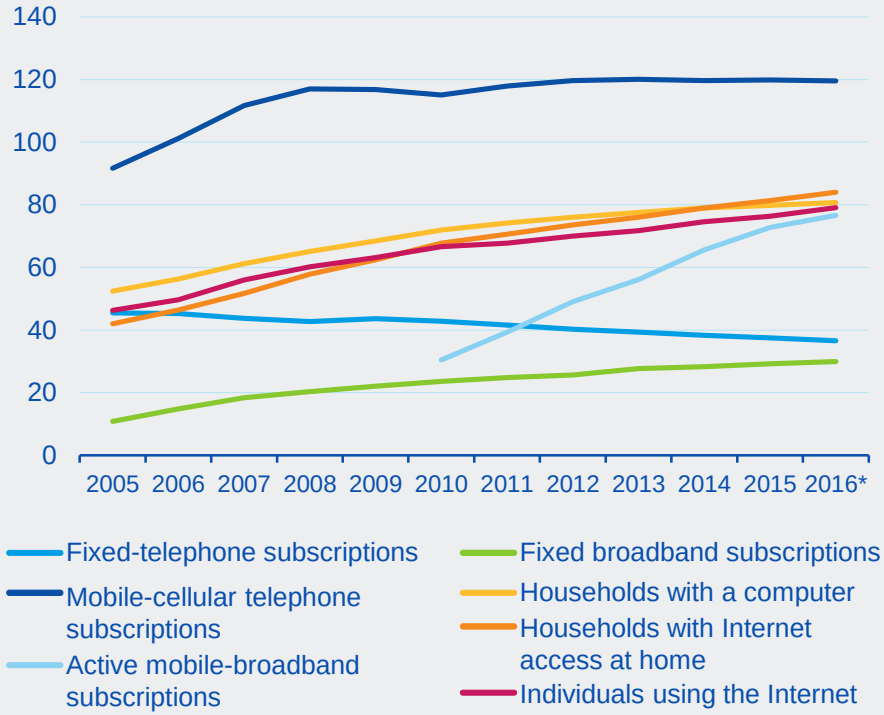


Higher levels of urbanization also correlates positively with ICT developments…

LEVEL OF URBANIZATION AND INTERNET USE IN EUROPE IN 2015



ICT DEVELOPMENTS IN EUROPE IN 2005-2016*

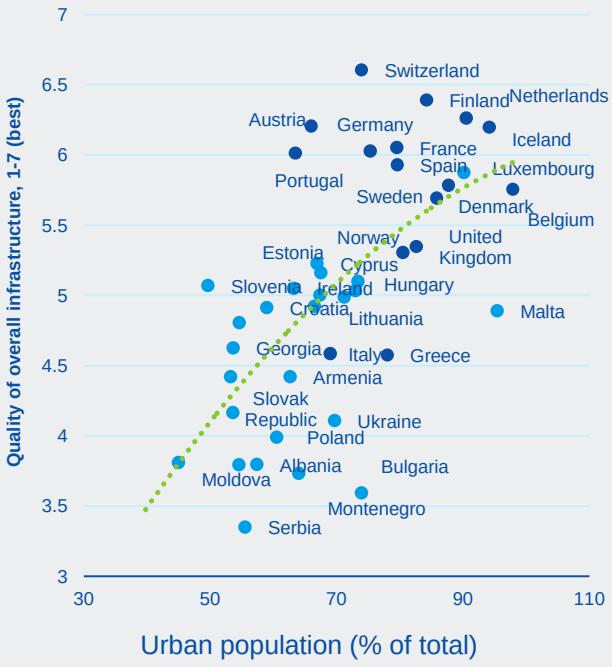


* Estimate

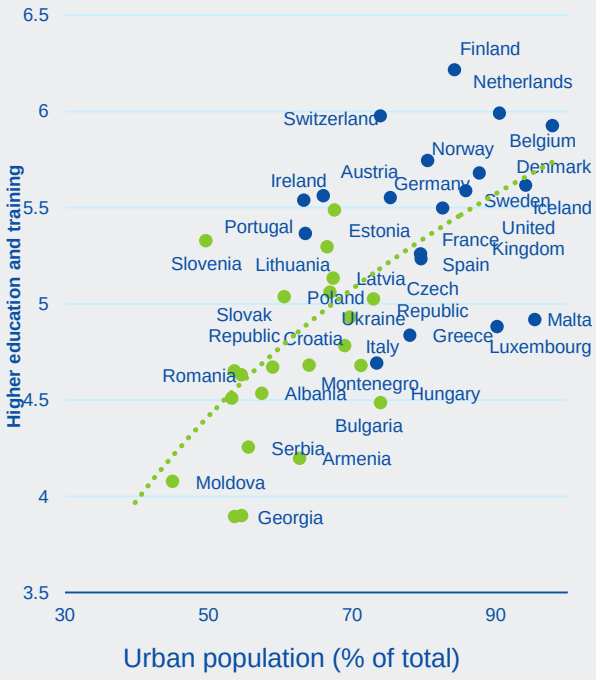
Source: BBVA Research, ITU World Telecommunication /ICT Indicators database

… and with the quality of infrastructures and workforce

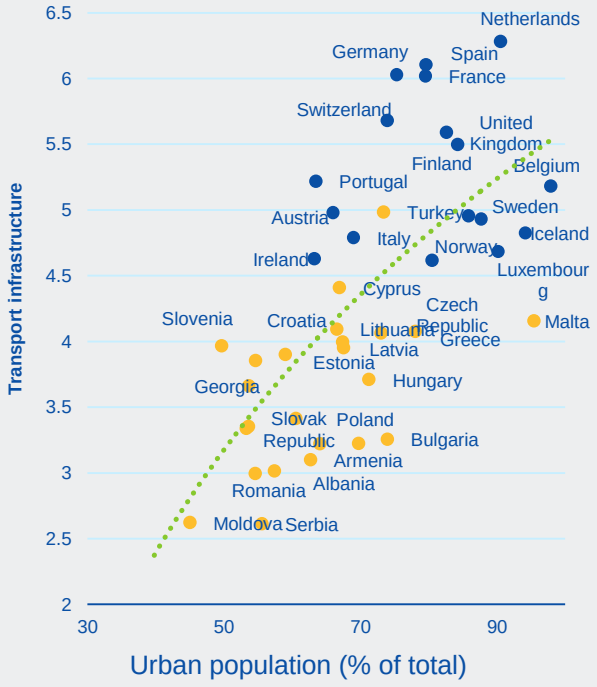
GLOBAL QUALITY OF INFRASTRUCTURES IN 2015
(scale ranges from 1 to 7, best)



EDUCATION AND TRAINING IN 2015
(scale ranges from 1 to 7, best)

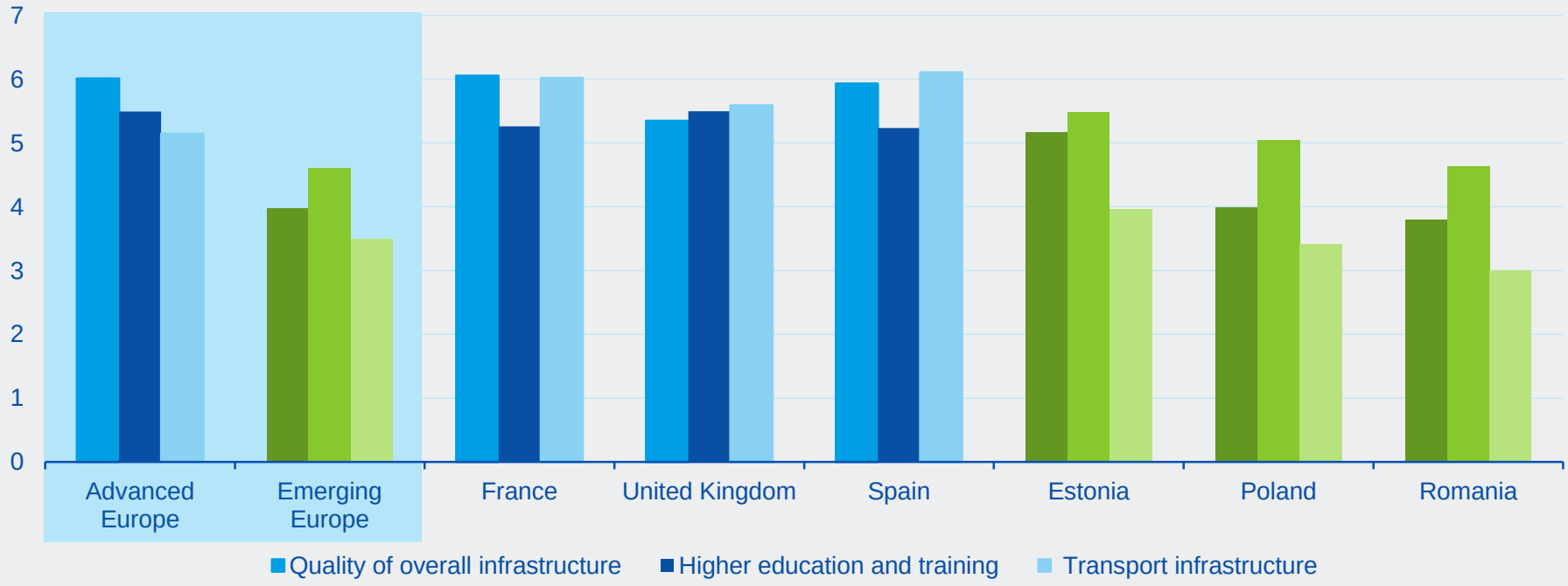


TRANSPORT INFRASTRUCTURE IN 2015
(scale ranges from 1 to 7, best)



There's also room for improvement in policy making to reduce the gap between the advanced and the emerging Europe

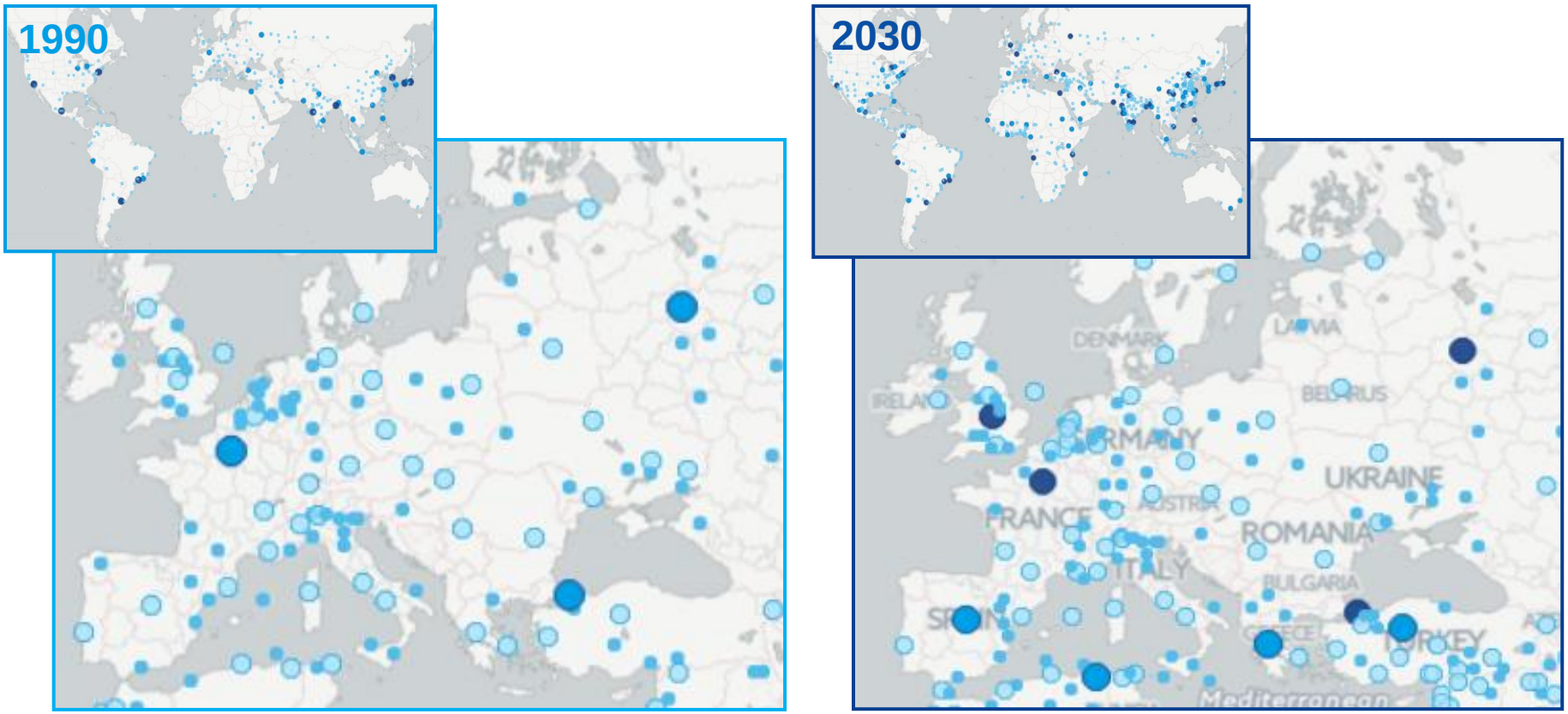
INFRASTRUCTURE AND EDUCATION INDICES ACROSS EUROPEAN COUNTRIES, 2010-2015
(scale ranges from 1 to 7, best)



The role of cities

Evolution of the urban landscape: increasing role of cities

THE WORLD'S CITIES BY SIZE CLASS OF URBAN SETTLEMENT



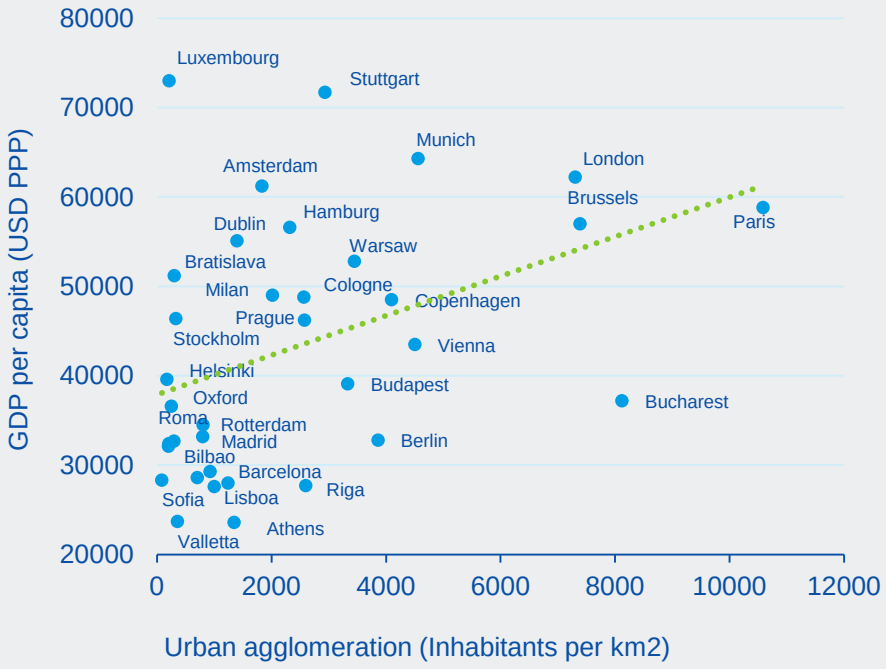
City population: 10 mill or more | 5 to 10 mill | 1 to 5 mill | 500000 to 1 mill

Source: BBVA Research, UN

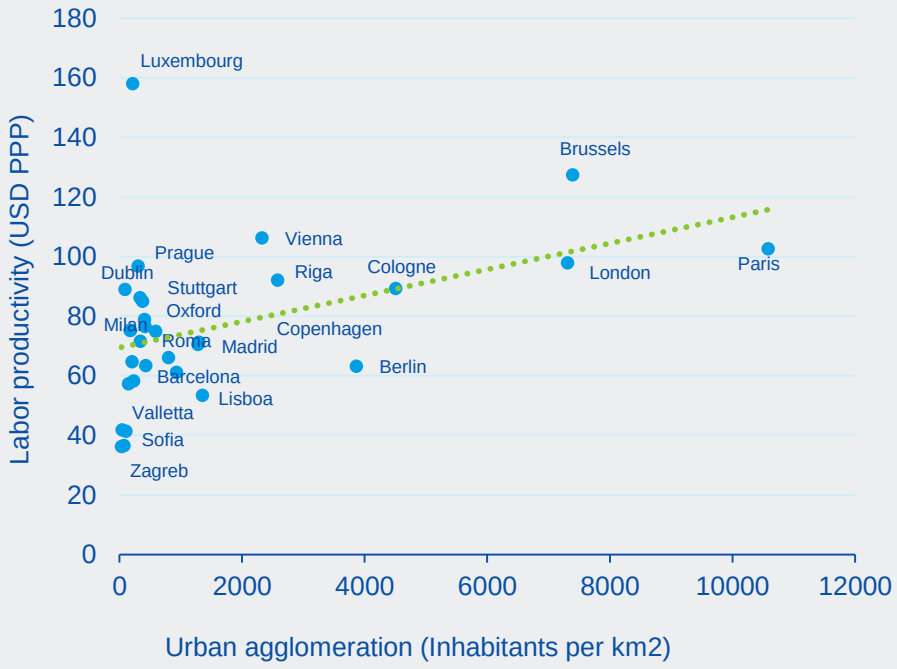
Note: See the annex for further information about the methodology

Higher urban agglomerations are also positively associated with income growth and labor productivity

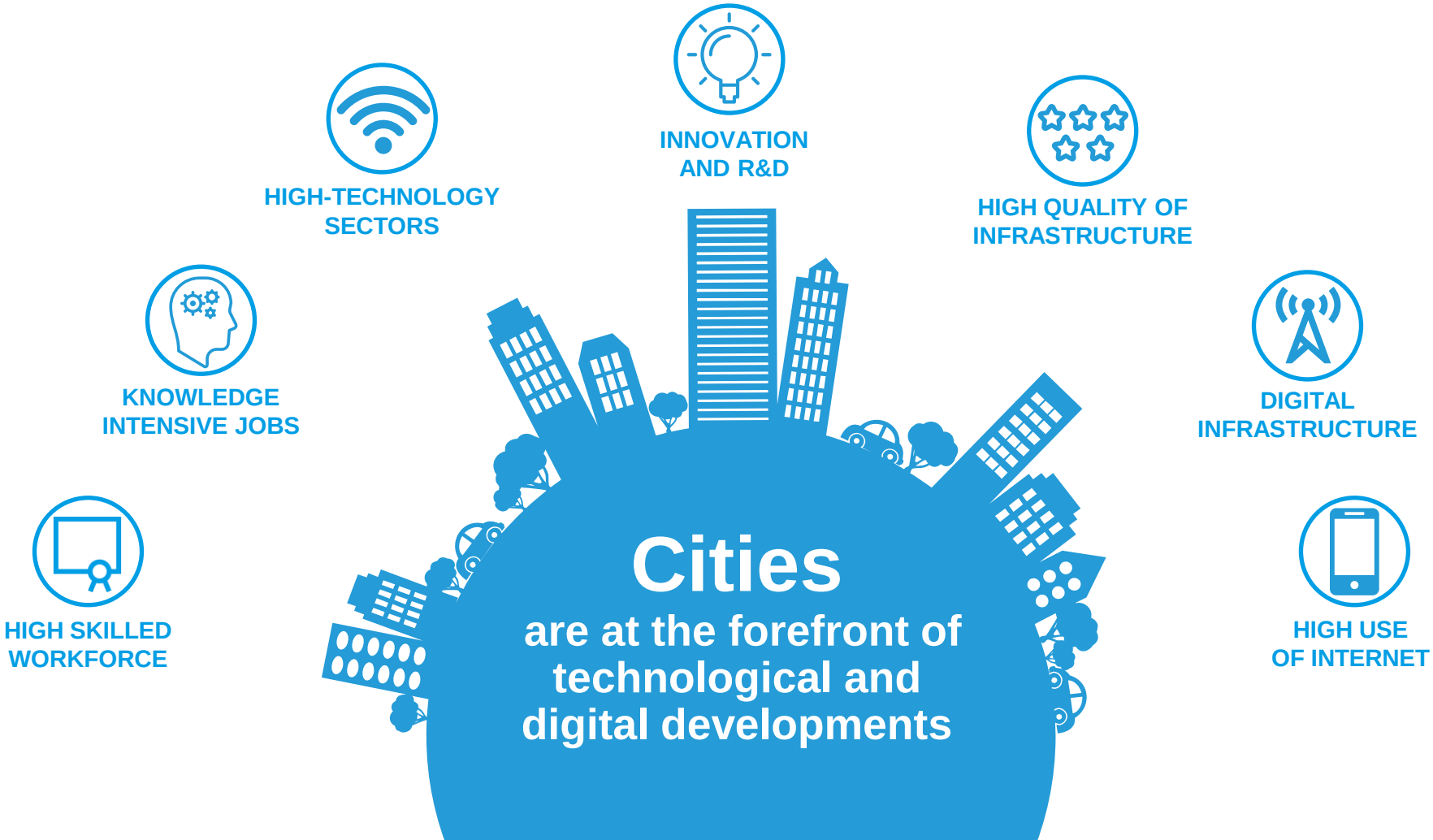
URBAN AGGLOMERATION AND GDP PER CAPITA IN THE EUROPEAN CITIES IN 2015



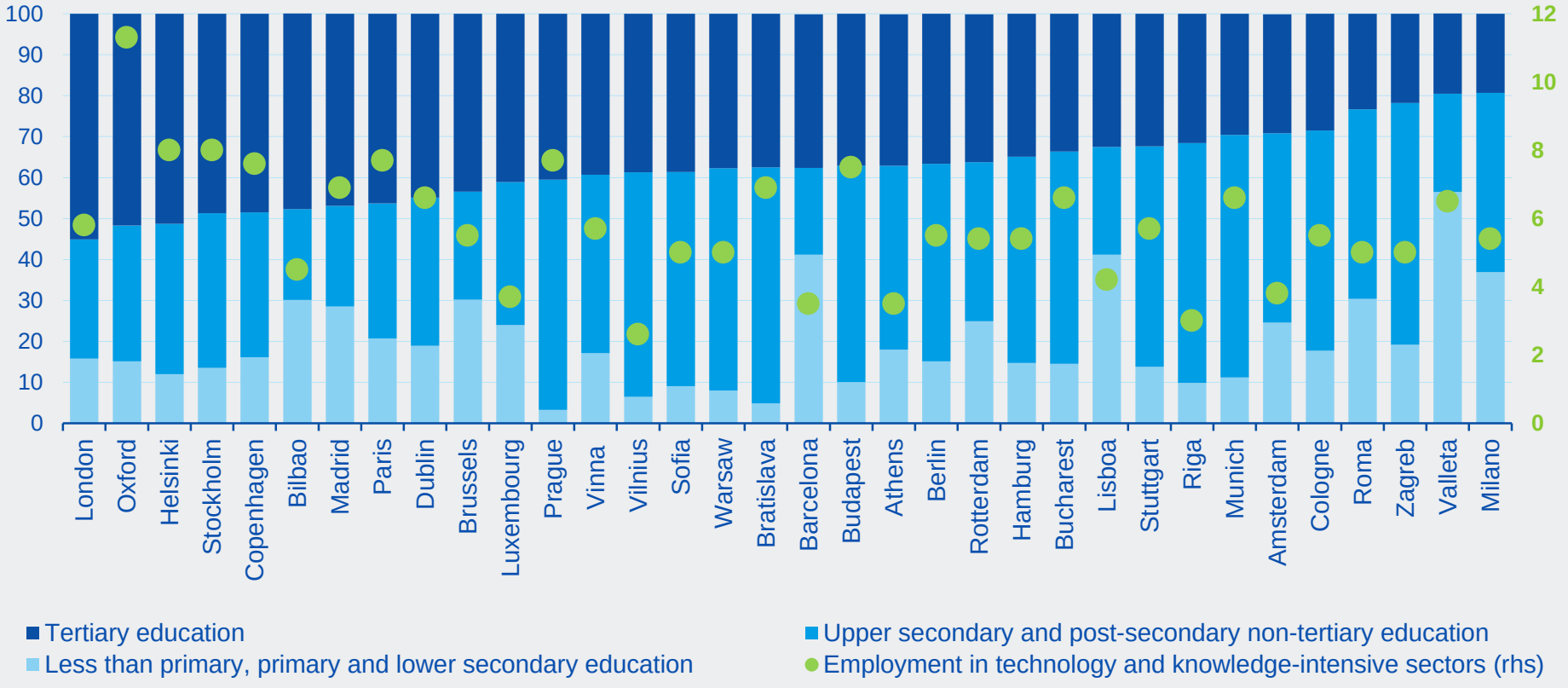
URBAN AGGLOMERATION AND LABOR PRODUCTIVITY IN THE EUROPEAN CITIES IN 2015



Urban areas became major hubs for education, innovation and knowledge-based economies

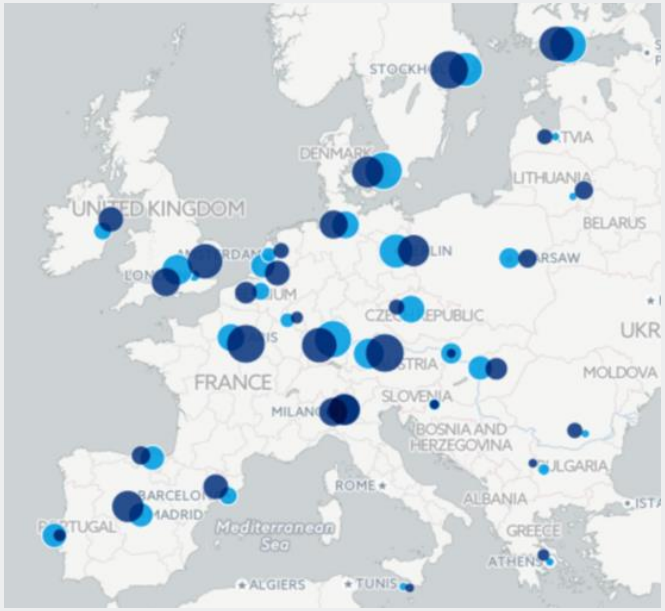


There are still important heterogeneities in education attainments across European cities



… as well as in innovation and the quality of infrastructures

RESEARCH AND DEVELOPMENT INVESTMENT IN THE EUROPEAN CITIES IN 2015



Total R&D expenditure (%GDP)

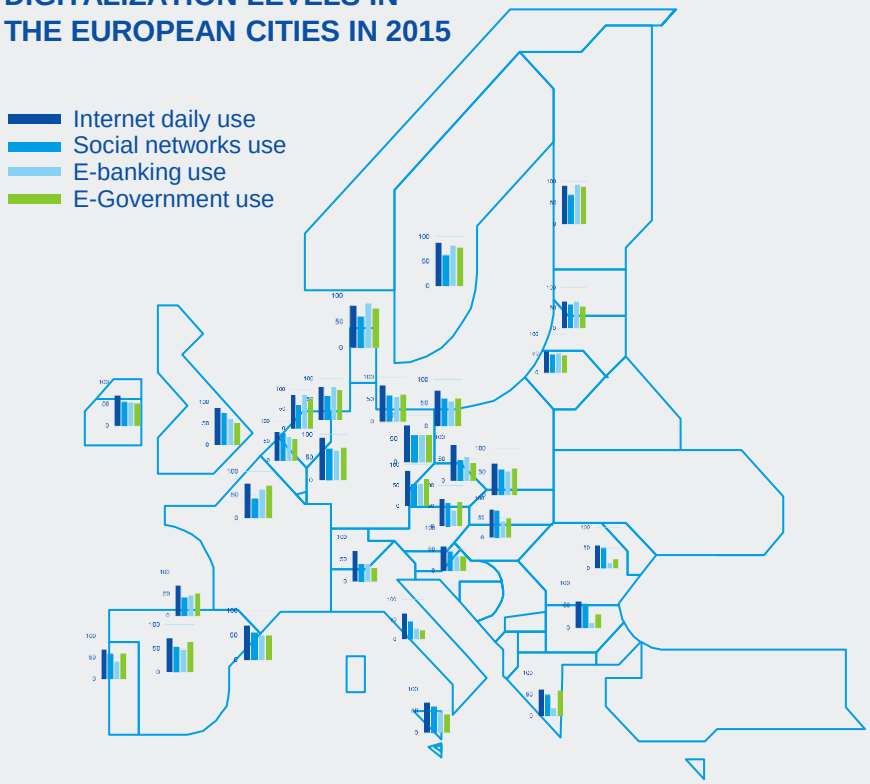
Number of High-tech patent applications

PUBLIC TRANSPORT SATISFACTION IN THE EUROPEAN CITIES IN 2015

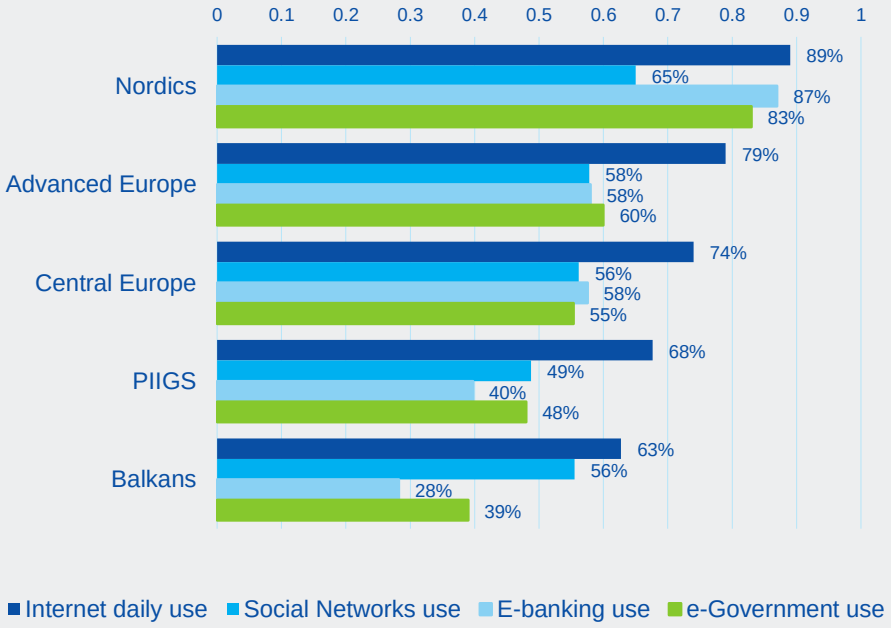
Proportion of people who are satisfied with public transport in their city

Differences in the digitalization variables are also significant at regional levels

DIGITALIZATION LEVELS IN THE EUROPEAN CITIES IN 2015

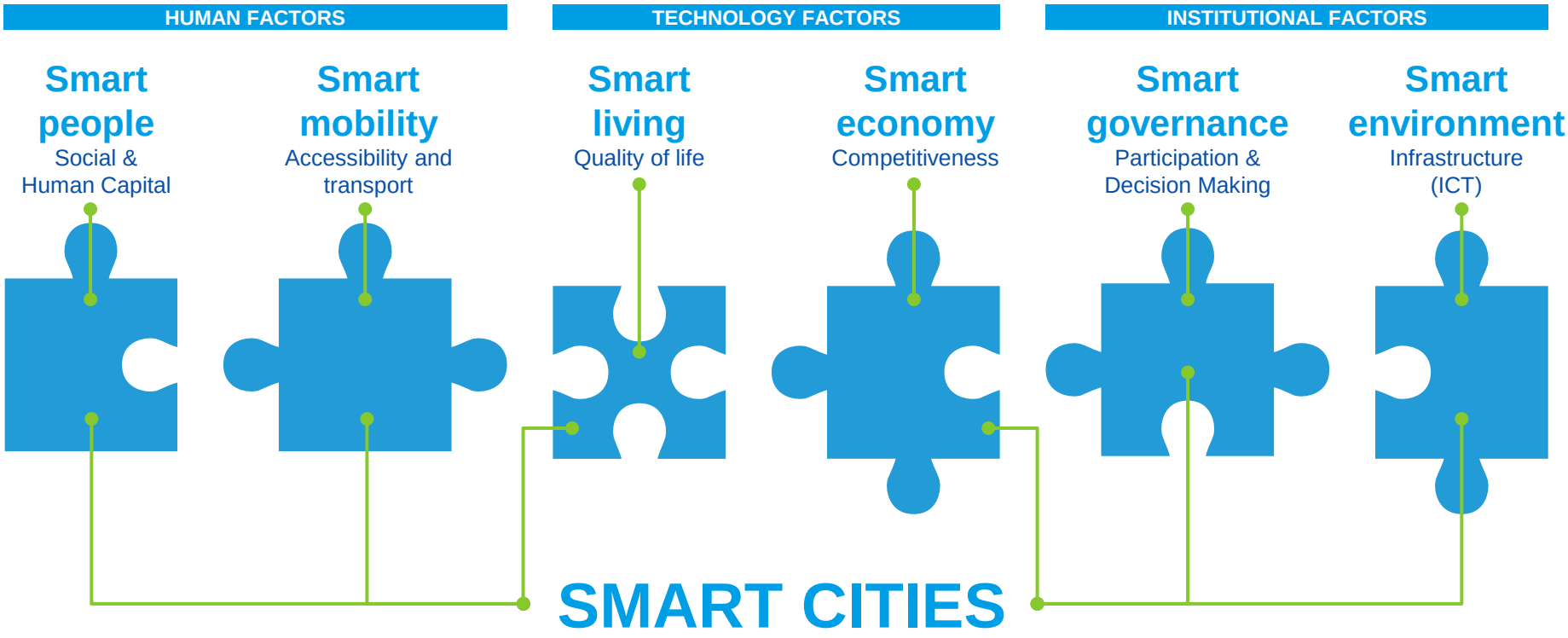


DIGITALIZATION LEVELS BY EUROPEAN REGIONS IN 2015



Successful sustainable urbanization requires responsive and accountable governments

Fostering smart cities oriented policies will be key to attain urban sustainability



ANNEX

Urban population projections

The estimation and projection of the urban population by the United Nations is based on **observed changes in the proportion of the population living in urban areas by country for the period 1950-2050 in single-year intervals**. It relies on the data produced by national sources.

Calculation of the urban proportion during the estimation period involves interpolation between recorded figures and extrapolation back to 1 July 1950 when the earliest recorded figures referred to a later date. The used estimation method projects the most recently observed urban-rural growth difference by assuming that the proportion urban follows a logistic path that attains a maximum growth rate when the proportion urban reaches 50% and whose asymptotic value is 100%. Thus, the hypothetical urban-rural growth difference ($hrur$), was obtained by regressing the urban-rural growth difference during any given time interval on the percentage urban at the mid-point of the corresponding time interval, for the 148 countries with 2 million or more inhabitants in 2013. The resulting regression equation estimated on 1068 observations is as follows:

$$ {}_{n}hrur_{t} = 0.030588 - 0.020508 \times PU_{(t+\frac{n}{2})} $$

Where $PU_{(t+\frac{n}{2})}$ is the proportion urban for the mid-point of the intercensal period between time t and t+n.

The obtained urban ratios were applied to the estimates and projections of the total national population of each country derived from *World Population Prospects: The 2012 Revision,* so as to obtain the corresponding urban population for 1950 to 2050.

Estimates and projections of the population of cities with an estimated population of 300,000 inhabitants or more in 2014 were also calculated for the period 1950-2030. The procedure is similar to the one described above for the proportion urban. However, in this case, instead of using the urban-rural growth difference, the interpolation or extrapolation is based on the difference between the growth rate of a city and the growth rate of the population of the rest of the country. The method used for projecting city populations is also similar to that used for urban populations. The city growth rate over the most recent intercensal period is modified over the projection period so that it approaches linearly an expected value that is based on the city population and on the growth rate of the urban population as a whole. The difference between the rate of population growth for the city and that for the total urban population (rcu) was estimated using the following regression equation, which was fitted to the data relative to 5305 cities located in the 232 countries or areas analysed (28931 observations):

$$ {}_{n}rcu_{t} = 0.0547143 - 0.003383 \times ln(C_t) - 0.3086313 \times {}_{n}u_{t} - 0.001116 \times (ln(C_t) \times {}_{n}u_{t}) $$

Where C_t is the population of the city at time *t*, ${}_{n}u_{t}$ is the growth rate of total urban population, and $(ln(C_t) \times {}_{n}u_{t})$ is the interaction term between these two variables.

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