27. THE GROWTH OF URBAN LAND IN OECD REGIONS

Monitoring changes in land cover is crucial to understanding how urbanisation impacts the natural environment. Detailed spatial information on these changes can help identify which areas have been exposed to larger urban pressure, guiding targeted policy interventions where this expansion threatens the quality of the landscape or bio-diversity. In 2001, urban land ranged from very low levels in sparsely populated countries (less than 0.1% of the national territory in Iceland and Canada) to significant levels in densely inhabited ones (more than 10% in Belgium and the Netherlands) (Figure 27.1). Emerging economies had generally low-intermediate levels of their territory covered by artificial surfaces (from 0.5% in Brazil to 1% in India).

There are very large differences in the extent of growth in urban land both across and within OECD countries. Slightly more than 25% of the regions in Europe experienced very limited growth in urban surfaces between 2000 and 2006. These regions account on average for 32% of the European territory (Figure 27.2). Almost 9% of the European regions saw their urban land grow by more than 10% over the same period. These regions are very concentrated in those countries, Spain, Ireland and Portugal, that experienced large fluctuations in housing market. Patterns in Japan and the United States are quite different, partly as a result of the different characteristics of the land cover data available to monitor dynamics. In Japan, the majority of the regions experienced large increases in urban land between 1997 and 2006, while in the United States most of the regions experienced intermediate rates of urban land growth (Figure 27.2). In the United States, relatively lower rates of transition to urban use of land are partly explained by the densification of those areas classified as sparse or "open" urban spaces (thus many transitions occur *within* the urban class).

Those countries that have experienced the largest overall changes in urban land (Japan, Spain, Portugal and Ireland) generally also show greater interregional differences in these changes (Figure 27.3). Large interregional variations are also observed in countries with lower regional peaks, such as Turkey, France and the Netherlands. Small regions with large cities such as Tokyo, Budapest or Wien have much lower urban growth than their hinterland region surroundings, because they are already densely built-up.

What is the origin of this land that becomes urban? Again, differences across countries are very marked. While in the Czech Republic, Germany, Denmark and the Slovak Republic the majority of new urban land was converted from agriculture, in Slovenia, Norway and Finland new urban land comes primarily from forests. Large relative conversions of other natural vegetation (*e.g.* grass-land, shrubs) can be observed in regions of Austria and the United States (Figure 27.4).

Definition

Growth in urban land is defined as the ratio between the net change of urban areas (*i.e.* the newly formed areas of urban class minus areas that changed from urban to another class) and the total area of urban class at the beginning of the observed period. It is expressed in average yearly growth rates. Urban class is defined as artificial land with built-up cover or urban use. It includes, for example, residential and non-residential buildings, major roads and railways and also open urban areas like parks and sport facilities.

Source

MODIS MCD12Q1 for land cover .

Corine Land Cover 2000-06 (Europe); National Land Cover Dataset (NLCD) United States; Japan National Land Service Information data.

See Annex B for references, details on, and differences across, the datasets.

Reference years and territorial level

2000-2006; TL3.

In Japan the changes are calculated for the period between 1997 and 2006. Other countries are excluded due to current unavailability of land cover datasets suited to monitor changes over time.

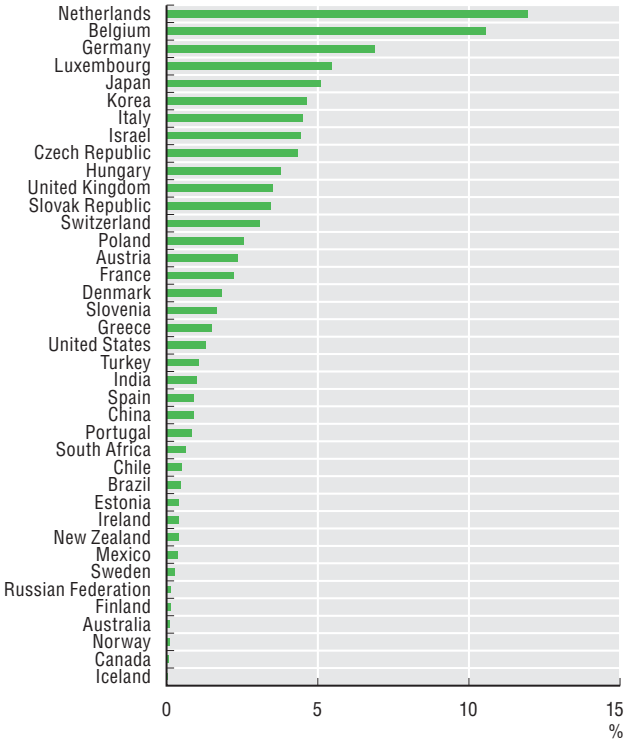
Figure notes

27.2: For Japan, the time interval considered is 1997-2006. Low growth regions are defined as regions with lower than 0.1% of urban land growth, moderate growth regions as those regions with urban land growth between 0.1% and 1%; high growth regions are those with annual urban land growth higher than 1%. Relative size is calculated as the area of the regions in the urban growth class divided by the total national area.

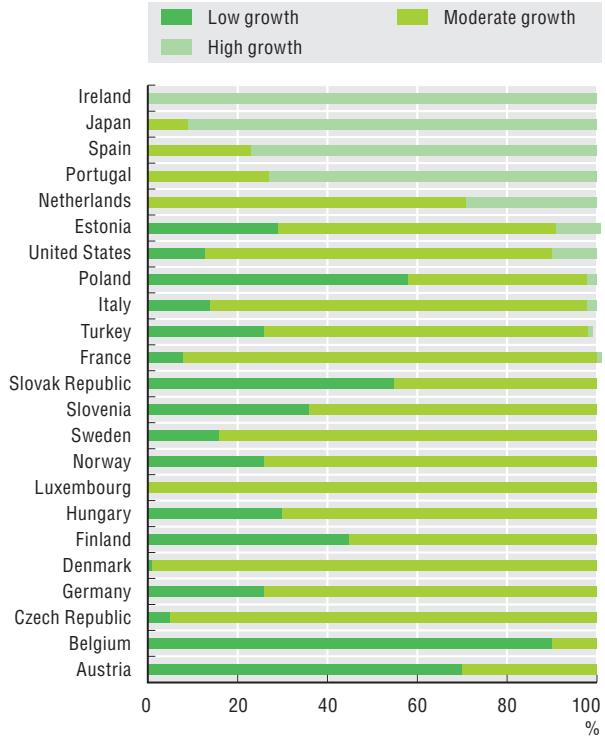
27.3: For Japan, the time interval considered is 1997-2006.

27.4: The different land cover classes in the three datasets have been harmonised in six classes. "Other vegetation" includes grasslands, sparsely vegetated lands and other non-forest natural vegetation classes.

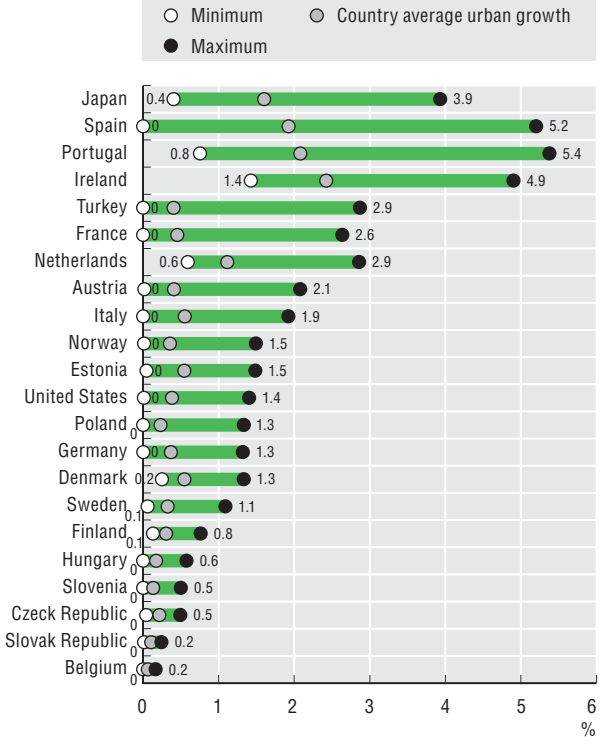
27.1. Percentage of country surface covered by urban land, 2001



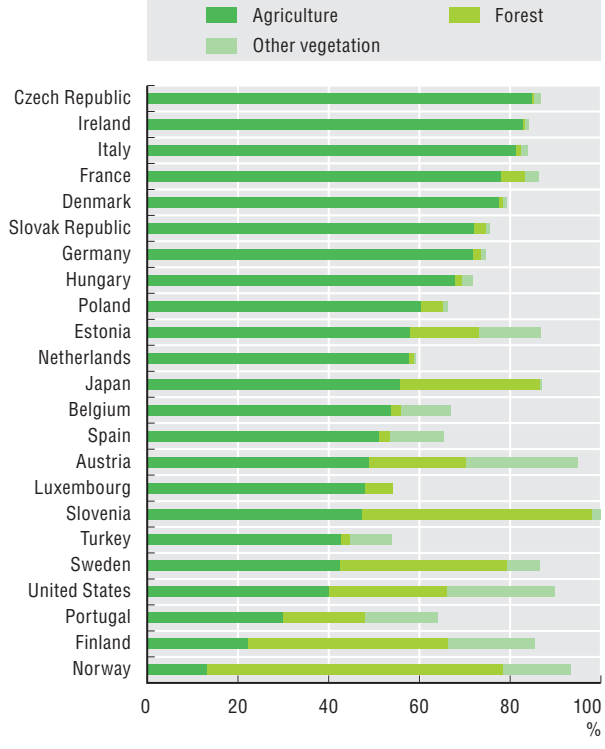
27.2. Percent of country surface covered by regions with low, moderate or large growth of urban land, 2000-06



27.3. Regional range of growth in urban land, 2000-06



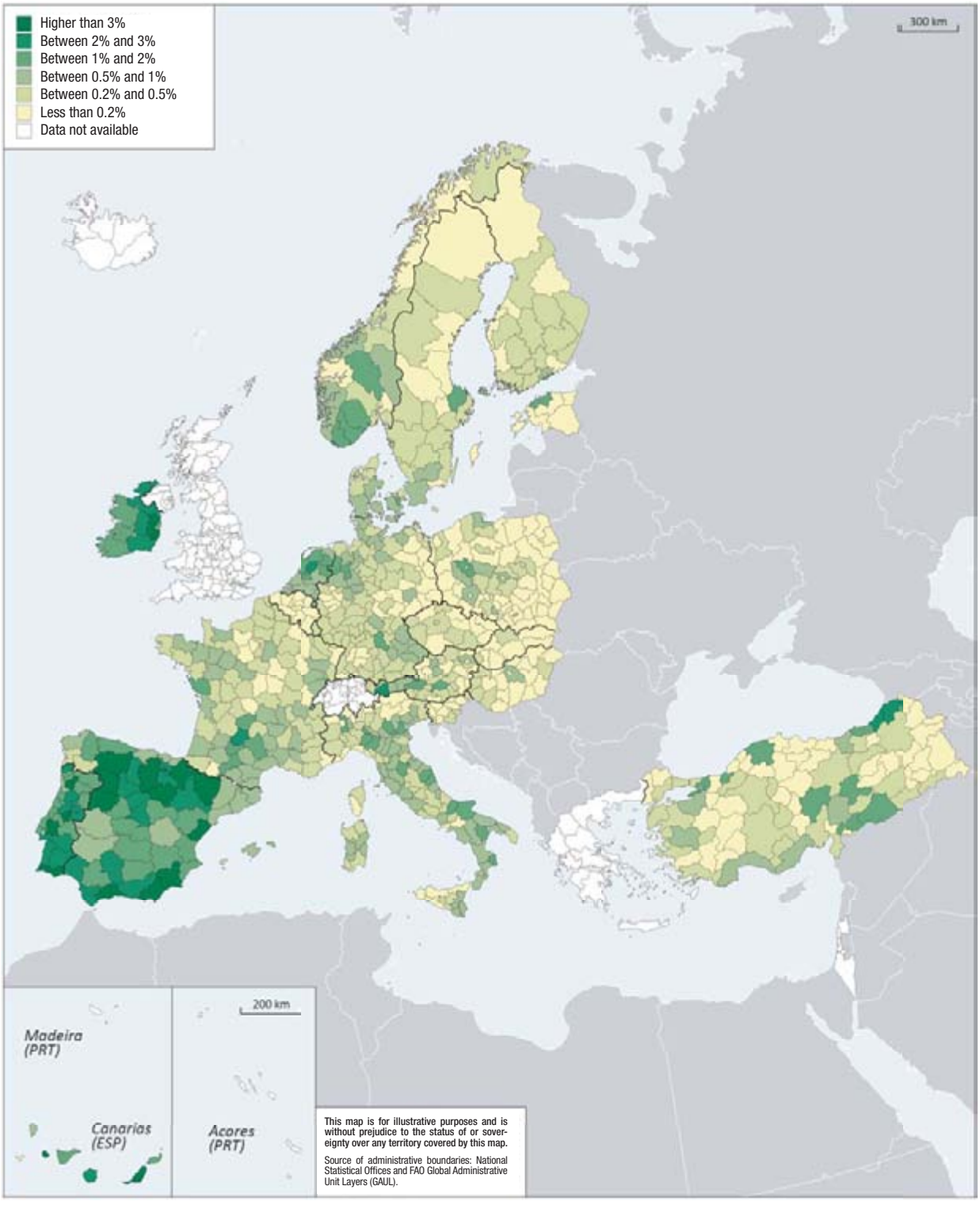
27.4 Share of urban land converted from agriculture, forest and other vegetation, 2000-06



StatLink http://dx.doi.org/10.1787/888932439900

27.5. Growth of urban land: Europe, 2000-06

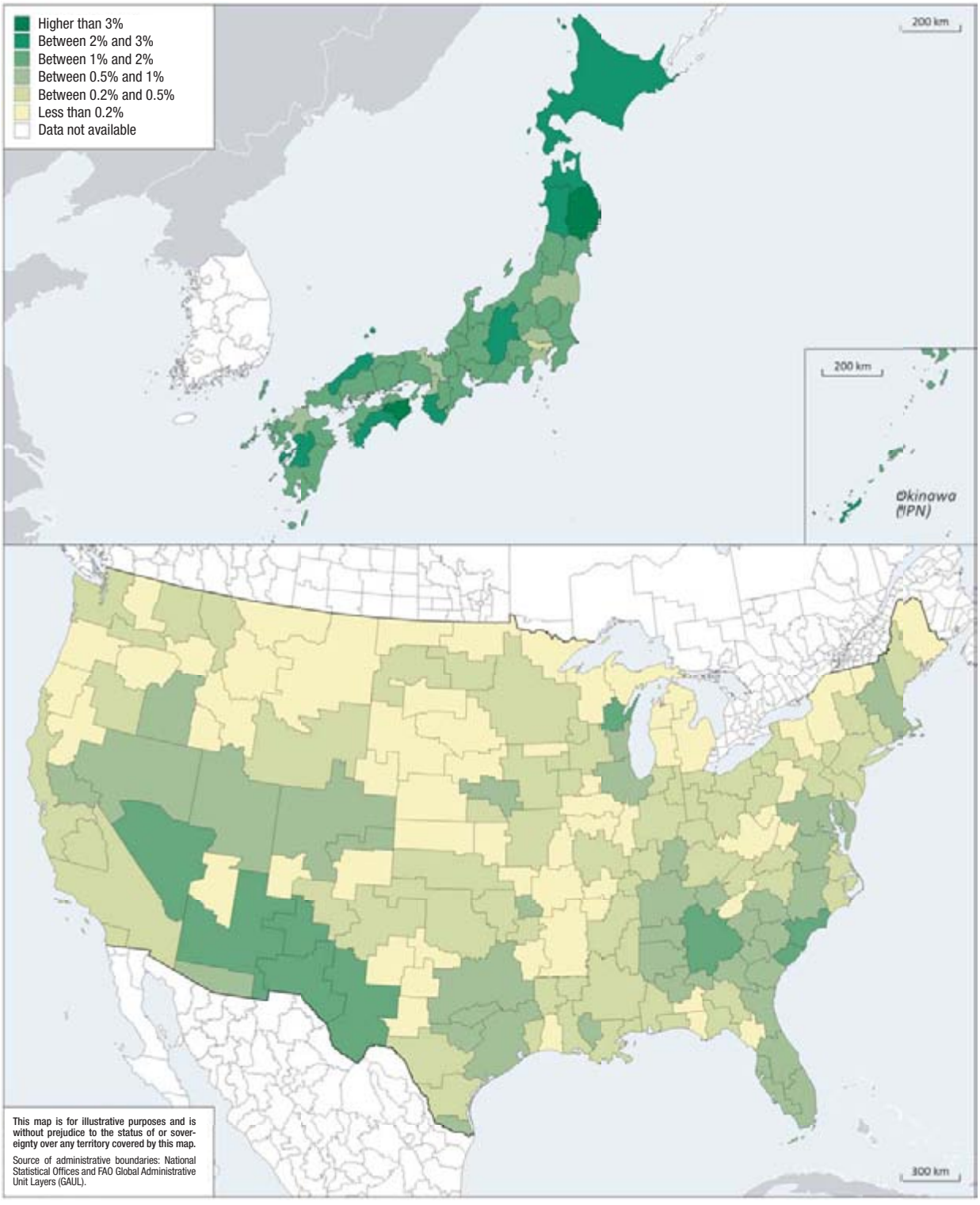
Average annual growth, TL3 regions



StatLink http://dx.doi.org/10.1787/888932440242

27.6. Growth of urban land: Japan and United States, 2000-06

Average annual growth, TL3 regions



StatLink http://dx.doi.org/10.1787/888932440242