

3 Economic competitiveness

- 3.1 This chapter examines the evidence that the natural environment can enhance the economic competitiveness of a particular region. Economic competitiveness refers to the ability of a particular region to attract businesses and investment, and therefore encourage economic activity.
- 3.2 There are several ways this could occur. On a very local scale, the natural environment in an area may increase employee productivity. Consumers in greener areas may spend more locally. Tourists may be drawn to the area and spend money on accommodation and other activities.
- 3.3 If households or businesses would prefer to be located in greener areas, this is likely to show up in the amounts they pay to purchase or rent in the area. This chapter therefore includes a section on house prices, and also on regional investment (which includes investment in office buildings).

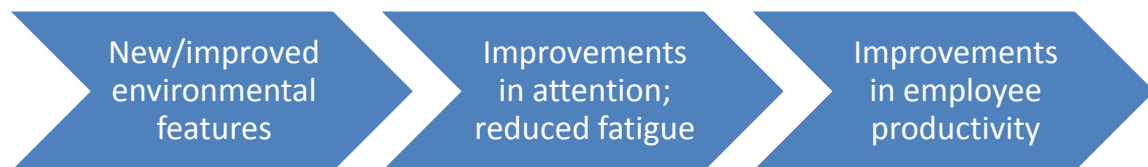
3c Labour productivity

Although plausible, there is a lack of evidence to suggest that the natural environment directly contributes to improvements in labour productivity. It may contribute indirectly via other factors which influence productivity, for instance through improvements to worker health.

Introduction

3.15 It has been suggested that investment in the natural environment boosts productivity at work. This may come about indirectly through the impacts of the natural environment on people's health generally, and these impacts are reviewed in the sections on **Mental health** and **Physical activity**. This section reviews the evidence for the narrower proposal that that quality of the natural environment **at the place of work** makes a difference to productivity. This includes the effect of nature in the indoor environment, views of nature from the windows, and accessible greenspaces in the grounds of the office or factory. There is a close relationship with Section 3d **Regional investment**, however the focus here is on the specific productivity benefit derived, rather than business behaviour as a result of the benefit derived.

Theory of change



Can the benefit be quantified?

3.16 Only with great difficulty. To quantify this would require an experiment comparing the output of employees with and without views of nature/access to nature, and this is unlikely to be able to fully remove any confounding factors that may also influence productivity.

How strong is the evidence?

3.17 The evidence specifically relating labour productivity to the natural environment is weak. There is a lack of evidence that shows a link between any short term attention improvements that may be generated, and actual employee output over the longer term. However, it is reasonable to think that such a relationship might exist. There is evidence that demonstrates that healthy employees take less sick leave and are therefore more productive.

Evidence

- The general basis for the importance of the environment to mental and physical health is made in the **Mental health** and **Physical activity** chapters. Indeed the Health Council of the Netherlands (2004) review of the evidence concludes that an attractive green environment, close to home and work provides the best opportunities to encourage exercise in the form of walking and cycling¹². The work environment therefore can have a role to play in improving employee health.

¹² For further discussion of this, it is recommended that you read Chapters **4f** and **4i**.

- People in England and Wales who report their health as 'not good' are highly likely to be absent from work on incapacity benefits (Bambra and Norman 2006)¹³.
- On the more specific issue as to whether office plants increase productivity, the evidence is less clear. There has been a great deal of research on the benefits of indoor plants. Some research in hospitals have found that people have higher levels of pain tolerance with plants present, and there has also been some research which finds benefits in terms of stress and attention levels in office type situations, although results are mixed (Bringslimark, Hartig et al. 2009). However, partly due to some weaknesses in the experiments reported, and partly due to the complex contextual nature of the issue both Bringslimark (2009) and the Health Council of the Netherlands (2004) regard the evidence as suggestive, but not proven with regard to a generalised causal link between indoor plants and productivity.

References

Bambra, C. and P. Norman. 2006. "What is the association between sickness absence, mortality and morbidity?" *Health and Place* **12**: 728-733.

Bringslimark, T., T. Hartig, et al. 2009. "The psychological benefits of indoor plants: A critical review of the experimental literature." *Journal of environmental psychology* **29**(4): 422-433.

Health Council of the Netherlands and RMNO. 2004. *Nature and Health: The influence of nature on social, psychological and physical well-being*. The Hague, Health Council of the Netherlands and RMNO.

¹³ This study only examines long term incapacity benefit recipients; however it is reasonable to assume that the results hold for short term sickness absences also.