

## Chapter 3

# Attracting and Retaining Knowledge Workers: The Impact of Quality of Place in the Case of Montreal

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### ABSTRACT

*A concentration of knowledge workers, including scientists and engineers, has been identified by recent works as an element fostering economic growth in metropolitan areas. The authors' aim in this chapter is to study the factors influencing the mobility of graduate students in science and technology. The creative class thesis has emphasized the fact that criteria related to the quality of place have a positive impact on the attraction of talents and on economic development. This thesis was the basis for the authors' research. In this paper, they assimilate the workforce in science and technology to the concept of knowledge workers. The authors compared the influence of criteria related to the quality of place on the mobility of students with other criteria related to career opportunities and to the social network. They collected the data through an on-line questionnaire and they also proceeded to interviews with students in science and technology. The authors present in this chapter the results of their research for Montreal. With a quantitative analysis, they show that while Montreal is often considered as a very attractive place, the criteria related to the quality of place play a secondary role in the attraction and retention of the population studied, while those related to the career opportunities dominate. This leads to nuance the theories that highlight the importance of place versus job opportunities, and shows that while the quality of place may have an influence on the mobility patterns of knowledge workers, job opportunities have more impact on the attraction/retention of this professional category.*

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## INTRODUCTION

Recent research has demonstrated that the concentration of scientists and engineers are an asset for the economic growth of metropolitan areas (Beckstead & Brown, 2006; Beckstead, Brown & Gellatly, 2008). These works are inspired by both the human capital theory and by the creative class thesis. The creative class thesis has emphasized some criteria related to the quality of place which we used in the construction of our questionnaire (the lifestyle, the social and cultural activities, the level of tolerance or the openness to creativity) to test if they would have an impact on the attraction and retention of *talents*. We took the workforce in science and technology as an example of a professional category which is part of the group of the professionals of the creative class; in this paper we also explain why this professional category can also be considered as being part of the group of knowledge workers. We tested the criteria on a population of students in science and technology; while this group may not be perfectly equivalent to the actual knowledge workers in the field, they appear to be a very good approximation, since they intend to work in this field. In the questionnaire, we asked them what would be their career objectives and where they intend to realize them. Our objective here is to gain a better understanding of the criteria influencing the mobility of students in science and technology once they have graduated and to conclude on the consequences for the design of policies regarding knowledge-based development. We present in this paper the quantitative analysis of the results for the students who answered the questionnaire in Montreal. We are adding to this quantitative analysis some qualitative material based on interviews realized with students in science and technology between September 2007 and January 2008. In the first part of the chapter, we present briefly the principles of the creative class thesis and we compare it with the human capital theory. We then present the results of our

research for Montreal and our conclusion on the relevance of the criteria related to the quality of place regarding the attraction and retention of students in science and technology, as a proxy for knowledge workers.

## BACKGROUND

Research in urban economics has demonstrated that a concentration of human capital has a positive impact on economic growth (Shapiro, 2003; Simon, 1998) and that the level of human capital (in terms of the population's level of education) constitutes a competitive advantage (Glaeser & Saiz, 2003; Glaeser, Sheinkman & Sheifer, 1995; Shapiro, 2005). Therefore, the capacity of cities to attract a qualified and high-skilled workforce such as engineers and scientists is an asset regarding economic growth and urban competitiveness. Students in science and technology are supposed, once they graduate, to be part of the creative class and also according to recent research, the workforce in science and technology as a professional occupation is supposed to have a major impact on regional development (Beckstead and Brown, 2006). This workforce can also be assimilated to the concept of knowledge workers, which refers to a workforce with a high level of education and which can be defined according to their professional activity; this includes engineers but also professionals in the financial domain, amongst others. Peter Drucker (1994) coined this term and refers to knowledge workers as professionals with a high education background who apply their knowledge to the development of new products and services; this type of workforce is considered as a key component of success in the present economic context.

Florida, Mellander and Stolarick (2008) as well as Florida (2002a) have suggested an alternative measure of human capital based on the professional occupations which are described in the acronym TAPE (Technology and Innovation,

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