



SOCIETY OF
ACTUARIES®

Canadian
Institute of
Actuaries



Institut
canadien
des actuaires



Institute
and Faculty
of Actuaries

Population Aging, Implications for Asset Values, and Impact for Pension Plans: An International Study Phase 2 Executive Summary



February 2018

Population Aging, Implications for Asset Values, and Impact for Pension Plans: An International Study

Phase 2 Executive Summary

AUTHORS

Doug Andrews
Steve Bonnar

SPONSORS

Society of Actuaries
Canadian Institute of Actuaries
Institute and Faculty of Actuaries

Document 218015

Caveat and Disclaimer

The opinions expressed and conclusions reached by the authors are their own and do not represent any official position or opinion of the Society of Actuaries, Canadian Institute of Actuaries, or the Institute and Faculty of Actuaries or their members. The organizations makes no representation or warranty to the accuracy of the information.

Copyright © 2018 All rights reserved by Doug Andrews and Steve Bonnar

Executive Summary

In 2015, an international team of researchers at the University of Waterloo (Canada) and the University of Kent (United Kingdom) began a multi-disciplinary research project entitled “Population Aging, Implications for Asset Values, and Impact for Pension Plans: An International Study”. The project was funded initially by a Partnership Development Grant from the Social Sciences Humanities Research Council (SSHRC) and initial partners, the Society of Actuaries (SOA), and the Institute and Faculty of Actuaries (IFoA). Subsequently, the Canadian Institute of Actuaries (CIA) agreed to be a partner and provide some funding. In addition to funding, all three actuarial organizations have appointed members to a project oversight group (POG) that has provided advice throughout the project. The overall project is scheduled for completion in 2019.

There are many stages along the way to the completion of a multi-year project. This report completes one such stage. The work presented in this report has two main components:

- A literature review regarding the demographic impact on the returns of various asset classes; and
- A model specification to analyze the impact of demographics on house prices.

This report is organized as follows. Chapter 2 summarizes the literature for each of the following asset classes: equities, bonds, housing, and infrastructure. The structure of the chapter is explained at its beginning, and a conclusion regarding the literature review ends the chapter. A draft version of the literature review was made available to members of the actuarial organizations in mid-2017, for their use and information, and to provide members with an opportunity to comment. The literature review in this report contains several additional papers published since the draft literature review was posted.

In Chapter 3 we propose an extension to models developed by Takáts and Nishimura & Takáts that are based on a relationship between demographic factors and house prices. Their models assume that land is in fixed supply, which we relax. This relaxation seems more realistic for countries such as Canada that have a large land mass and a comparatively small population. The model is specified and we discuss how we plan to test it empirically, but the actual testing of the model is beyond the scope of this stage of the project.

In Chapter 4 we acknowledge the work, ideas, and funding provided by many individuals and organizations. The papers cited are listed in the bibliography at the end of this report.

A complete French version of this research report will be published at a later date.