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## 4 The calibration process

As part of its research on Superannuation Policy for Post-Retirement the Commission has developed a model — referred to as the Productivity Commission Retirement Model (PCRM) — to assess the effects of increasing the preservation age. The PCRM can be described as a ‘behavioural microsimulation’ model. Behavioural microsimulation models seek to simulate individual or household level decisions, and are commonly used within an economic framework to assess the impact of policy changes (such as changes in tax and benefits) on governments’ fiscal positions and on labour supply. They are particularly useful where there is a wide variety of decision makers, and where complex policy changes are likely to impact these different decision makers in different ways.

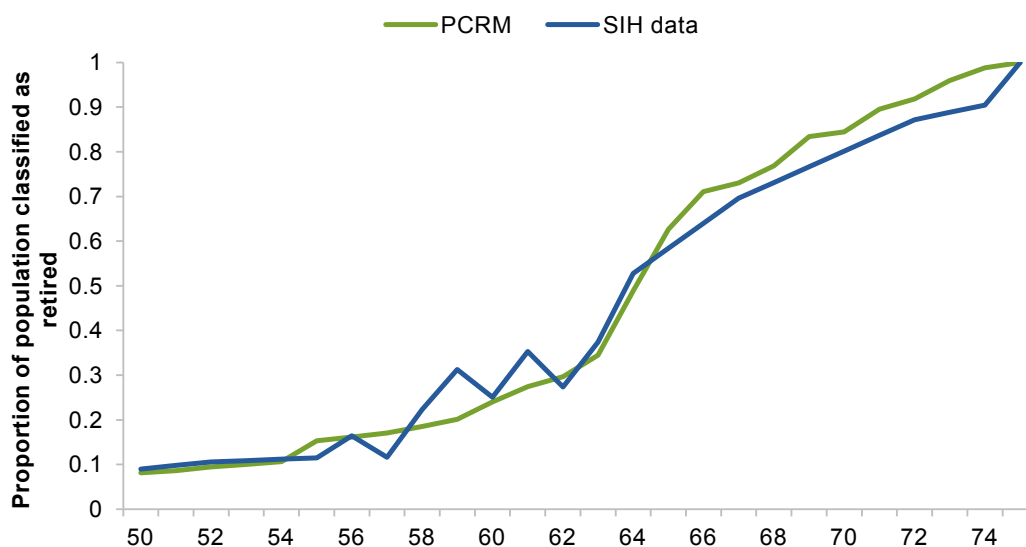
The role of this paper is to outline the process by which PCRM was calibrated. As discussed in supplementary paper 6, the PCRM could not be calibrated using data on households that will be affected by a change in the preservation age. This is because younger workers today (who would be affected by a preservation age change) have not yet reached retirement age.

Instead, the model was calibrated using data on the retirement decisions of older workers and thus implicitly assumes that younger workers have the same preferences as older workers. Data drawn from the ABS *Survey of Income and Housing* (SIH) on the proportion of individuals who were in the labour force after age 50 were used in the calibration process. For couple households, individuals were only considered to be retired when both members of the couple were out of the labour force.<sup>1</sup> Utility function parameters were varied so that the retirement age profile for 50 year olds (assuming no future changes to current policy settings) produced by the PCRM was similar to the retirement age profile from the SIH. A comparison between the model output and the data are presented in figure 4.1. Table 4.1 presents the calibrated values of the parameters.

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<sup>1</sup> This requirement meant that census data on retirement age could not be used for calibration.

Figure 4.1 Comparison of retirement distributions — PCRМ and SIH



Data source: Commission estimates based on ABS (Survey of Income and Housing, 2011-12, Cat. no. 6553.0, basic CURF).

Table 4.1 Calibrated parameters

Parameter	Parameter description	Parameter value
$\delta$	Discount rate (rate of time preference)	0.04
$\alpha$	Base preference for non-work activities	0.385
$\rho$	Intra-temporal substitution elasticity	0.80
$\beta$	Preference for bequests	0.65
$\nu$	Diminishing returns to bequests parameter	0.8
$\tau$	Shift parameter for bequests	0.5