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What Triggers People to Save for Retirement?

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What triggers people to save for retirement?

Abstract

We investigate retirement saving decisions through interviews and a broad survey in four countries that investigates what influences changes in savings behaviour. We identify a number of previously unidentified factors that are associated with increased savings. We find that approximately 40% of the respondents in our survey would increase their retirement savings when they receive a raise or they pay off all their debts. We propose these positive triggers be enhanced through employer offered savings matching or other incentives at the time of a raise and financial institution financial planning and product offering when there is an increase in income or when a loan or credit cards are paid off. We also identify negative triggers that may be used to trigger additional savings although we recommend this approach be used with caution. For a subset of the population, fear is a factor that can lead to an increase in savings after observing hardship stories or other events. The difficulty with negative triggers is that the increase to financial health through additional savings may do more harm than good if the increase in fear causes other problems related to physical or emotional health. We suggest focusing on positive triggers.

What triggers people to save for retirement?

Individuals decide to spend or save over their lifetime and deciding on the most appropriate trade-off is not easy since there is uncertainty related to life expectancy, rates of return and future income. This paper investigates one of the most important multi-period decisions that an individual must make: Deciding how much to save for retirement and when to begin or change their savings behaviour.

Not saving enough for retirement can have severe consequences as seen by large numbers of people who have very little when they approach retirement age and therefore have to keep working, adjust their lifestyle and, where available, rely on government assistance. The US Federal Reserve published a report that indicates that almost half of respondents had not planned financially for retirement (Federal Reserve 2014). They showed that 19 per cent of those aged 55-64 had no retirement savings. In Canada, half of respondents in the same age group who don't have an employer pension have less than \$3,000 saved for retirement (Shillington, 2016). In Australia, the superannuation guarantee results in employees not having to decide to save since a basic level of savings is mandated through employer contributions, however the level of savings may be insufficient to sustain a comfortable retirement. There are also many self-employed individuals where retirement savings are self-determined. As recently as 2009, an OECD survey found that one in four Australian seniors live in poverty by international measures (OECD, 2009).

Detecting when people increase savings is difficult. Cross-sectional studies have identified factors related to an individual's level of retirement savings such as age, gender, income and education but the precise time savings increase is not always clear. For example, Hogarth (1991) and Zhong (1993) find that older people save more than younger people but at what point do people increase their savings? Lusardi and Mitchell (2007) suggest that as a person gets closer to retirement, there is a greater concern about financial security therefore

more savings may ensue. Zhong also identifies that people with more money and higher levels of education save more. These characteristics may be associated with age, as Maser (1995) suggests that age may proxy for income. These empirical correlates do not address when people begin to engage with retirement savings and do not provide clues on how to improve the engagement.

Savings may be related to inherent characteristics. For example, Munnell et al. (2000) suggest that future-oriented people with higher financial risk tolerance save more. Other inherent characteristics may be due to cultural influences. Gurd and Or (2008) investigate cultural values of Singaporean Chinese and find that there may be fatalistic effects that do not encourage savings. Societal influences may also be via social networks as Duflo and Saez (2002) that suggest that peers' choices may affect savings behaviour. A big debate is whether financial literacy is innate or can be improved. Joo and Grable (2000) suggest that financial literacy may be a factor that influences having a retirement savings plan but studies that measure the effectiveness of financial literacy education are sceptical about any long term effects (Wills (2008)).

In a review of the literature, Gough and Niza (2011) note that there are very few papers that study voluntary savings decisions or psychological and social influences in retirement savings decisions. They identify the decision to save as the very first decision that needs to be made and they find 41 papers that are related to this decision. These papers confirm the importance of age, gender and income and highlight some ethnicity differences such as the lower levels of savings by non-whites. Many of these factors do not change easily and may be difficult to influence.

There is some research that refers to triggers that can prompt retirement planning. Kemp et al. (2005) suggest that marriage may be a catalyst or constraint on retirement planning. Because there are specific choices to be made when you change a job, Hurd and

Panis (2006) suggest that this may be a decision point when people have to consider retirement saving decisions.

In this paper we examine what influences individuals to begin or increase retirement savings. We identify positive and negative drivers and examine which groups are more likely to be affected by each driver.

The paper proceeds as follows. Section 1 identifies some country-specific institutional differences in retirement programs. Section 2 provides details about the interview and survey methodology used in this research. Section 3 identifies the self-reported financial situation of the survey respondents. Section 4 identifies scenarios that would trigger more savings by respondents. Section 5 examines evidence from the survey that fear may be a savings motivator. Section 6 reports on the factors that may influence savings including tax, health care costs, cultural influences and family influences. Section 7 concludes and provides policy implications.

1. Retirement programs in Australia, the US, Canada and the UK

There are cultural and structural differences between Australia, the US, Canada and the UK that may lead to different financial needs and motivators related to retirement. The structural differences are broadly grouped into tax reasons, health care costs and mandatory superannuation guarantee savings. In each country there are also old age government pensions that provide income to citizens that meet certain criteria. The pension amounts are usually reduced or eliminated for those individuals that earn over a certain income. In Australia, these payments are subject to existing income and asset constraints. In the US, the old-age, survivors and disability insurance (also known historically as social security), provides monthly payments in retirement, subject to sufficient prior years of contributions and subject to other income limits up to the age of 70. In Canada, there are two components

to payments in old age. The Old Age Security (OAS) payment is payable to Canadians 65 years of age and older at approximately \$550 per month. There is also the old age pension is known as the Canada Pension Plan (CPP) and it requires contributions by employers and employees based on income and payments are based on the average amount of earnings with adjustments made depending if you start before or after age 65. The maximum monthly CPP benefit in Canada is approximately \$1,000. In the UK, the basic state pension requires paying national insurance contributions over a specific number of years. The programs in all countries are more complex than this brief summary, but the relevance for this study is that in each country there may be a low level safety-net of income payments that can be accessed at a certain age.

Each country has financial vehicles to encourage additional retirement savings with tax differences. The two basic models are those savings plans that reduce and defer tax and those plans that are funded by after-tax income that accumulate and can be withdrawn tax-free. In Australia, deductions from regular income are allowed for contributions to superannuation accounts but the contributions are subject to a 15% tax rate for contributions and a 15% tax rate each year on the earnings of the fund. A higher rate (30%) applies if you are a high-income earner. Withdrawals are not subject to income tax. In 2015 contributions are limited to \$30,000 for individuals under age 50, or \$35,000 if you are 50 or older. You can also contribute with after-tax income up to the allowable limit which is \$180,000 per year with a maximum of \$540,000 in a three-year period. In the US, there are two primary vehicles for saving for retirement: 401K retirement savings plans and Individual Retirement Accounts (IRAs). In the case of 401K plans, a deduction of current income can be taken when the amount is placed into retirement savings, amounts in the fund accumulate tax-free and then when savings are taken out of the plan during retirement they are taxed at regular income rates. In 2015 there is a \$24,000 contribution limit. For IRAs there are many versions and a traditional IRA allows before-tax contributions, accumulates tax-free but is then taxed

at withdrawal. In 2015 the annual contribution limit was \$5,500 for individuals under age 50 and \$6,500 for those aged 50 and older. ROTH IRAs are a specific form of IRA that allows after-tax contributions but then the amounts in the IRAs accumulate tax-free and withdrawals are not taxed. In Canada, Registered Retirement Savings Plans (RRSPs) allow before tax contributions, accumulate tax-free and then are taxed when withdrawn. RRSPs are subject to a contribution limit of \$24,930 in 2015. Canada also has a version of the ROTH IRA called a Tax-Free Savings Account (TFSA). The contribution limit is \$5,500 per year but unused contributions can be rolled over to subsequent years. In the UK, the National Employment Savings Trust (NEST) is a pension scheme with a yearly contribution limit of £4,600. There is also an Individual Savings Account (ISA) that allows after-tax contributions and then has no income or capital gains tax and no tax on withdrawals. The annual limit is currently at £15,000.

Health care costs can be prohibitive in the US compared to costs in Australia, Canada and the UK. In terms of percentage of GDP, the OECD 2014 Factbook reports that the US spends 17.7% of GDP on health care, while, the UK spends 9.4%, Canada spends 11.2% and Australia spends 8.9%. Clifton (2009) reports that in the US the costs of a major illness can easily bankrupt and potentially exhaust any insurance coverage. Kelley et al. (2012) find that about one quarter of senior citizens in the US declare bankruptcy due to medical expenses. Health care costs in the other countries are not as high and there is universal health care coverage which is free at the point of use in the UK and Canada. There are also some private options in these countries.

Mandatory superannuation savings in Australia were instituted in 1992 and the 'superannuation guarantee' ensures that those eligible for superannuation (employees) would receive a specific percentage of their salary that would be directly deposited into a superannuation account that could not be accessed until retirement. The defined contribution scheme currently has a 9.5% contribution rate with age-related limits placed on the amount

that can be contributed without severe tax consequences. Individuals have control of the level of risk for these investments. There are no mandatory retirement programs in the US, although many companies provide defined contribution retirement plan contributions including some payments that match employee contributions. Defined benefit pension plans had been very popular in the past but the shift to defined contribution plans has shifted the risks of retirement saving from corporations to individuals.

The differences in tax structure and employee mandated contributions may be more or less influential in each country at different ages and income levels. Likewise, the safety net associated with the old age pension in establishes alternatives to savings in each country.

2. Interview and survey methodology

While there are many factors already identified in the literature that are related to savings decisions, we carried out with semi-structured interviews with 68 individuals to identify influences on savings behaviour that may not have already been identified in the literature. In this qualitative stage, we interviewed a cross-section of individuals in Australia and the US. Interviewees were obtained through personal contact referrals and through random solicitation at different locations in New South Wales and South Australia in Australia and in California, New York, Pennsylvania and Rhode Island in the United States. In some cases, interviewees were traveling and were living in other states. The interviews were completed between April and July 2014. Most were completed in person, however some in the US were completed by telephone. In the US we interviewed 33 people and in Australia we interviewed 35 people. A cross-section of demographic groups was covered, evenly split between genders.

In the next phase of this research, a survey instrument was prepared based on the factors identified in the earlier interviews. The survey instrument was limited in size in order

to be able to have a large number of respondents. The survey was tested on a subset of respondents with these early results not being included in the final survey. The survey was refined to include scenarios and simple questions to which the respondent can agree or disagree. The survey was conducted using Pure Profile in Australia and Google Surveys in the United States, Canada and the United Kingdom. Table 1 reports the total number of respondents (6,129) across the 4 countries. Since gender and age are two important factors, those respondents without an identified gender (1,063) or age (241) are discarded and the final sample size is 4,825.

Overall, there are slightly more male than female respondents (51.5% versus 48.5%), but the distribution varies considerably across the countries. Australia has many more female than male respondents (60.2% versus 39.8%) and the US has the opposite; 66.6% of respondents in the US are male and 33.4% are female. For Canada and the UK, there are slightly more male than female respondents. Gender differences are considered in all analysis.

There are also some differences in age groups across the countries. Australia and Canada had the highest level of respondents over 65 (19.8% and 19.5%) compared to the US and UK that had 13.9% and 14.2%, respectively. In Australia there were fewer respondents in the 18-24 year old category (5.9%) compared to 12.6% in the US and approximately 19% in Canada and the UK. Special age categories will be used to identify any differences in the younger (under 25) and older (65 and older) respondents.

Income level is also identified as an influencing factor but income information is limited in the UK data on respondents. A possible substitute variable for lower incomes is a variable identifying a rural location in the UK.

To examine the potential influences on retirement saving behaviour, we designed statements with which the respondents could easily agree or disagree and scenarios to which the respondents could select. Ordering was randomized so to prevent the response order from

biasing the results. These dichotomous variables are then used in a probit analysis to examine the demographic factors that are influential in each country.

3. Financial situation of respondents

In order to first identify the financial situation of respondents, three questions were asked that relate to the respondent's ability to rely on their savings, pension/superannuation and whether they were confident that they could stop working. Table 2 reports simple statistics in Panel A that indicates that Australian respondents were more likely to rely on a government pension (36.6%) compared to the respondents in the other countries (range 13.7% to 30.1%). Interestingly, Australian had the highest proportion of older respondents, therefore a probit analysis that relates the characteristics to the question may provide a greater insight into the simple statistics. Panel B section i reports the probit results from an analysis of the whether respondents agreed that they would need to rely on a government pension. In each country young respondents all had lower probabilities of agreeing with this statement while older respondents in Australia and the US had a higher probability of agreeing with the statement. In the UK, older respondents had a lower probability of agreeing while the coefficient on older respondents in Canada is not statistically significant. Males in the UK were less likely to agree with the statement that they would be reliant on the government pension. For different levels of income, significant coefficients were only statistically significant in Australia. These coefficients are consistent with expectations that respondents with lower levels of income would have a higher probability of agreeing with the statement while the opposite is expected for those with higher levels of income.

Respondents were also asked whether their pension/superannuation will be enough in their retirement. Respondents in the UK and Australia had the highest level of agreement

(19.6% and 18.9%, respectively) with Canadian respondents slightly lower at 17.3%. Only 11.8% of US respondents agreed with the statement. These differences across countries were statistically significant but a closer examination of respondents using a probit analysis shows similarities across countries. Males in all countries except Australia had a higher probability of agreeing with this statement, indicating that women in the US, Canada and the UK feel less secure than men with the ability of their pension/superannuation to fund their retirement. Older respondents in all countries except the US had a higher probability of agreeing with the statement than younger respondents. This finding is reassuring since the older respondents are closer and may already be retired, but this finding is concerning for US respondents that may not necessarily have enough for retirement. High income individuals in Australia and Canada had a higher probability of agreeing with the statement.

Another question relating to whether the respondent will be able to stop working was asked. The exact phrasing was do you agree with the statement “I will never be able to stop working”. The percentage of people that positively responded to this statement went from a low of 16.9% in Australia to 22.5% in the UK. Probit analysis showed that males in the US and the UK were less likely to agree which is consistent with women in these two countries not having sufficient savings to retire. Younger respondents in the US and Canada also had a lower probability of answering this question in the affirmative perhaps related to optimism or a belief that they will save enough to retire. Older respondents in all four countries were less likely to agree with the statement and high income individuals in Australia also were less likely to agree with the statement that they will never be able to stop working.

These questions identify a proportion of respondents that believe that they will not be able to retire because they do not have sufficient retirement savings and will need to rely on a government pension.

4. Scenarios that would trigger more savings

During the interview phase of the research, respondents were asked to identify the scenarios in which they would increase their savings. Several interviewees indicated that they began saving for retirement when they could afford the extra money. Before then, they were struggling financially and had only enough money for current expenses. The interviewees that mentioned being able to save only after a raise were aged in their 30s. This trigger may be related to age since higher incomes are generally associated with more experience that takes time to accumulate. There were some younger interviewees that were already saving substantially so this factor is not exclusive to age but may be correlated with age. In fact, one US interviewee was living with her parents and saving more than 50% of her income. For those interviewees that mentioned income as a trigger to savings, one interviewee in Australia mentioned approximately \$80,000 as the point when she was able to begin saving more of her income. Incremental, small increases were not seen as triggering any behavioural changes in those interviewees that mentioned this potential trigger.

Starting a 'real job' was also seen as a trigger to begin savings. For one interviewee in the US, she did not save any money until after graduating from university and then began saving money in a retirement account where her employer matched her savings. Another interviewee from Australia only began saving at a certain age when she felt that she should start looking toward the future. She said that perspective changed at 33 because her job at that time became more stable, which triggered her change in perspective.

Some respondents identified specific triggers related to significant life events including marriage or having a child. These events change the number of dependents in the household and responsibility for others was noted as a factor that changed behaviour with one interviewee noting she wouldn't save for herself but she was willing to save for others who were her responsibility. An interviewee that became divorced indicated she had to increase her retirement savings contributions and extend her anticipated working years because of the

divorce. These triggers may be related to the 'age' factor identified in the literature in cross-sectional studies. The age factor may behave as a step function with substantial life events triggering reflection on financial decisions. These substantial life events thus may directly and indirectly affect future financial needs before and after retirement therefore these events may have multi-dimensional triggers. Some may be anticipated such as having a family while other ones may be unexpected such as becoming divorced.

These results appear to conflict with Kureishi and Wakabayashi (2013) who show that single women in Japan save more money if they expect to remain single. The difficulty in assessing expectations in cross-sectional studies is a motivator for this research that is specifically related to this trigger. For individuals who expected to be married, perhaps no change in behaviour will ensue until the point of the marriage, hence that is the point in time, or trigger, to increase retirement savings.

For this study, potential scenarios that would trigger additional savings were examined by providing statements with which the respondents could agree or disagree. Table 3 report that approximately 41% of respondents in all countries chose receiving a raise and paying off all debt as triggers that would trigger them to increase their savings. For the other 4 scenarios (getting married, having a baby, turning 40 and not receiving an inheritance), respondents selected these triggers approximately 8% each time. There were variations between countries and we use a Probit analysis to examine the demographic factors that may influence respondents to respond to each scenario within each country.

Of the 40.7% of respondents that identified getting a raise as a trigger to increase their level of retirement savings, Australia had the highest percentage of respondents (47.6%) versus the other countries that were all below 40%. Table 3 Panel B section i reports results from a probit analysis that examines which demographic factors affect the likelihood of selecting the scenario. For Australia, males, the young and high income individuals all had a higher probability while older and low income respondents had a lower probability of

selecting choosing a raise as a trigger to increase savings. Results from respondents in the US were similar for males, young and older respondents, however the income coefficients were different. For US respondents, there was a positive coefficient for low income individuals and high income individuals indicating a higher probability for these respondents to save more than medium income individuals (the baseline in the probit analysis). For respondents in Canada, the only significant coefficient was that older respondents were less likely to use a raise as a trigger to save more. In the UK coefficients for the two age categories were significant and consistent with the other countries.

These results suggest that age is moderating factor with whether getting a raise will influence an increase in the level of retirement savings. Coefficients are consistent across countries with the exception that in Australia, low income respondents would not necessarily increase savings with a raise. One possible reason for this inconsistency is that significance of savings for retirement in Australia may be affected by the superannuation guarantee and the automatic level of savings that is undertaken for all income levels by employees. This automatic savings is not present in other systems and hence may reduce the perceived importance of saving to lower income Australians.

For the scenario where you pay off your debts, Table 3 Panel A reports that 53.1% of Australian respondents choose this as a trigger to save more for retirement. 42.5% of Canadian respondents agreed, while only 35.8% of American respondents and 28.7% of UK respondents agreed. Table 3 Panel B section ii examines demographic factors that influenced the probability of choosing this factor in each country and shows that respondents under 25 have a higher probability of selecting this trigger in Australia and the UK while in every one of the four countries studied, the older respondents had a lower probability of selecting this trigger. Low income respondents in the US had a higher probability of selecting while high income respondents in Australia, the US and Canada selected this trigger. Overall, older

respondents didn't see this as a trigger and higher income respondents did see this as a trigger.

For respondents in all countries, getting married was reported in Table 3 Panel A as a trigger to save more for retirement in only about 1 in 10 respondents. The lowest level was reported in Australia, with 6.4% of respondents choosing this as a trigger. Table 3 Panel B section iii indicates that young respondents were more likely to select this as a trigger to save more for retirement. In fact, in all countries, the coefficient on the young respondents was positive and significant, with the scale of the response in the Australian respondents being close to 1 (0.996) indicating that the Z-score in a probability estimate would be large and positive for these respondents. This finding suggests that the married trigger may be relevant to get younger people saving for retirement in Australia but the overall low level suggests this trigger may only be effective for young respondents.

In all countries there was an observed negative coefficient for older respondents and the getting married trigger. This finding is consistent with people in the older (65 and older) category already having had sufficient savings and marriage not being relevant to change savings patterns.

Having a baby was also investigated as a trigger to increase the level of savings. As reported in Table 3, respondents in the UK and Canada chose this trigger at levels of 11.7% and 10.4%, respectively, while respondents in the US were a little behind at 8.9%. In Australia, only 3.2% of respondents chose this trigger. When demographic factors are investigated, Table 3 Panel B section iv reports that the younger respondents in all 4 countries were more likely to identify having a baby as a trigger to save more for retirement. Males in the US and Canada also were more likely than females to choose this response. Lower income individuals in the US and higher income individuals in Canada were more likely to choose this response as a trigger. In all countries except Australia, the older respondents were less likely to choose having a baby as a trigger to save more for retirement.

Table 3 reports that approximately 6% of respondents in the US, Canada and the UK indicated that not receiving an expected inheritance would trigger additional savings for retirement. Almost 15% of Australian respondents indicated this would be a factor to increase savings. Table 3 Panel B section v reports that for Australians, the only statistically significant coefficients were for older respondents and low income respondents. Both of the coefficients were positive, indicating respondents in these groups were more likely to increase retirement savings if they did not receive an expected inheritance. In the other countries, young respondents had statistically significant positive coefficients. In Canada male respondents were more likely to choose this trigger and older respondents were less likely to choose this trigger. In the US and Canada, high income respondents were more likely to choose this trigger.

In the pre-survey interviews, some respondents suggested that there was an age trigger for saving more for retirement. We investigated whether age 40 was perceived as a trigger to save more for retirement and the results reported in Table 3 indicate that of the four countries, only 3.2% of respondents in Australia respondents selected this trigger, compared to approximately 9% of the respondents in each of the other countries. Table 3 Panel B section vi reports that in the US males had a statistically significant positive coefficient (at a level of 10%) but no gender differences were observed in other countries. For young respondents in each country, a positive coefficient was noted, suggesting that the perception that there is an age trigger is present and this may contribute to delays in beginning to save. Older respondents in all countries except the US had significantly negative coefficients suggesting turning 40 was not a trigger for them. In Canada, higher income respondents had a higher probability of choosing turning 40 as a trigger to saving more for retirement.

We included a separate question about the age the individuals perceived as appropriate to begin saving. Table 4 reports that across all countries, approximately 70% of all respondents thought savings should begin when you start working. There was some

variation in the percentage of people who thought age 30 was the appropriate age to start saving for retirement. 11.2% of Australian respondents chose age 30, while the other countries approximately 18-20% of respondents chose age 30.

5. Is fear a motivator?

Several interviewees in the pre-survey stage provided specific and general comments about fear being a motivator for them to begin saving for retirement. General fear comments related to the 2008 financial crisis and media coverage of people losing their jobs when they were near retirement but still having to work. Specific fear comments mentioned were about parents, relatives and siblings that struggled financially in their retirement or had to keep working and were unable to retire. Another retiree was retrenched from a job that had a defined benefit pension plan and after that experience she indicated she changed her behaviour because of fear that she would not have enough in retirement. Fear was triggered by the job loss. Fear was more frequently mentioned by US interviewees anecdotally, possibly related to more pervasive effects of the financial crisis in that country.

Fear also seemed to be an indirect factor in investing as some interviewees mentioned fear of losing money in investments as a reason to not engage with retirement planning using individual stocks. Scandals regarding fraud and losses in investments were mentioned as why an interviewee was afraid of investing. The lack of trust came up several times with interviewees who indicated that they were scared of investing and trusting financial companies especially after the financial collapse and fraud in the investment industry. This factor may be related to shifts in assets or even risk aversion behaviour and could impact retirement savings both positively and negatively. Disentangling its influence may be difficult due to the complexity of its influence.

Fear itself is may not be sufficient to change actions and we included a question in the survey to see if fear was acknowledged and whether it triggered any action. Respondents were asked if they were afraid that they would not have enough savings to retire and they were able to answer with yes or no answers and if they indicated they were afraid, they were asked if they have increased their savings. If they indicated that they not afraid, then they had a choice of stating that they save enough or that they would not be able to retire. There was also an option for none of the above. Table 5 reports that approximately 35% of respondents in each country indicated that they are afraid that they will not have enough for retirement but they are saving the same amount and not increasing their savings. Approximately 20% answered that they are afraid and that they are saving more. These responses indicate that fear alone may be sufficient to motivate only 1 in 5 respondents. Only 30% said they were not afraid and that they were saving enough. For those that said they are not afraid that they won't have enough and that they will not retire, 6.4% of respondents in Australia selected this choice while in the other three countries the range was 11.3%-14.0%.

Identifying motivations for saving that are related to fear was tested further by asking respondents whether they agreed with individual statements. Table 6 reports respondents' agreement with 5 separate statements relating to fear. First, approximately 20% of respondents indicated that they are scared to put money in the stock market. Respondents in the US were the least afraid of the stock market (14.0%). 20.2% of Australian respondents were afraid of the stock market, while 22.2% of UK respondents and 23.3% of Canadian respondents indicated they were afraid of the stock market. Panel B reports probit results for this question in section i and in Australia, the older and higher income respondents were less afraid than the rest of the population. In the US, and the UK young respondents were more afraid, possibly reflecting their exposure to the 2008 financial crisis. Older respondents in Canada and the UK also were less likely to agree to the statement that they were scared of the

stock market. One plausible reason for the older respondents to not be as scared as they may not have any money invested in the stock market.

The effect of the 2008 financial crisis is examined in one question asking if the respondent saves more after the crisis. Only 9.2% of the respondents on average agreed with the statement with the respondents from Australia having the lowest percentage of agreement (6.3%) and respondents from the US and UK the highest agreement at 11.4% and 11.1%, respectively. Probit analysis indicated that males all had a higher probability of agreeing with the statement than females in each country. Young respondents in the UK had a higher probability of agreement, while older respondents in Canada had a lower probability of agreement. Interestingly, rural respondents in the UK had a higher probability of agreement than urban respondents. Higher income respondents in Australia and the US had a higher probability of agreement and lower income respondents in the US had a lower probability of agreement. Some income and age groups reacted differently in each country, but males indicated that they increased their saving more after the crisis compared to females.

Males in Australia and Canada also responded that they saved more after their friend lost their job. Young respondents in all countries other than Australia also agreed while older respondents in Canada disagreed and had a lower probability of agreeing with the statement than others.

There were some financial hardship stories in the media around the financial crisis in particular and when asked if these stories resulted in saving more, approximately 5% of respondents agreed that it had an effect on their level of savings as shown in Table 6 Panel A. In the UK, the amount was a bit higher (at 6.4%) while in Australia only 1.9% of respondents said that they would save more after hearing financial hardship stories. Probit analysis of the question in each country indicates that in Australia, lower income and older respondents were less likely to save more when they heard financial hardship stories. In the US, low income respondents were more likely to agree to the statement that they would save more. In Canada,

the probability of agreeing was higher for males, for young respondents and for those with a higher income and lower for older respondents. In the UK, younger respondents and rural respondents had a higher probability of agreeing with the statement. These results suggest that financial hardship stories may have limited effect on some groups, but at least in Canada and the UK, younger respondents were more likely to agree with the statement that they would save more when hearing financial hardship stories. These stories also have a benefit in the US for lower income individuals but the opposite response is present in Australia suggesting that these stories may be ineffective in Australia.

6. Other factors affecting savings behaviour

There are many potential factors that can influence retirement saving decision-making and identifying whether these factors are stable or can be influenced throughout a person's life is difficult from a cross-sectional study. Differences across age groups may be a result of different age cohorts rather than behaviour that changes as a person ages. Alternatively, differences across age may be a result of different levels of importance placed on the factors at different ages as was suggested in some of the individual interviews in this study.

We identify some factors that are related to tax effects, health care costs, cultural differences and family attributes. These factors may be relatively stable although there are some possible influences. There may be different periods in a person's life where the factors may be more influential so age may be a moderator variable. For example, health care costs may not become relevant until someone approaches middle age, has a health scare or becomes aware of health care costs.

6.1 Tax influences

Awareness of tax-driven decision-making appeared to be a factor that may be related to income and/or education level. Some interviewees that indicated they were motivated to save for taxes, but there was a concern that once the savings were placed in retirement accounts they would not be accessible for a number of years and the political uncertainty also meant that they may not be able to access the money as expected. The uncertainty may be reducing the amount being saved in Australia where the funds could not be accessed until retirement. In Canada, this inability to access funds was not necessarily a concern as funds could be accessed in advance of retirement under some conditions. For some of the retirement funds, penalties applied if funds were accessed before a certain age.

Changes in tax rates and uncertainty around future tax rates are the reasons one interviewee said that they were saving the minimum amount in tax deferred savings in Australia. The tax concessions were also why one interviewee said she was saving the maximum allowable by making additional contributions to her superannuation account in Australia. The polar differences in response to taxes is interesting and suggests this variable may be quite complex as an influence on behaviour.

Reducing taxes was viewed as a motivator for saving by 11.2% of respondents overall, ranging from a low of 7.8% in Australia and the UK and a high of 18.1% in Canada. Table 7 Panel B section i indicates that in all countries males were more likely to agree to the statement that they save to reduce taxes compared to females. The young in the US and UK were more likely to agree and high income respondents in Australia and Canada were more likely to agree. The higher probability of males agreeing to the statement is puzzling with a possible explanation related to more males working or males being more aggressive at savings and using available tax saving techniques. Charness and Gneezy (2012) examine 15 sets of experiments in an investment game and conclude that women are more financially risk averse and invest less. In most countries, saving additional funds requires decision-making about where the funds will be invested and this may deter females more than males.

6.2 Health care costs

Interviewees in the US mentioned health coverage as a motivator for decision-making regarding savings. Working in retirement to retain health care benefits associated with their employment was one potential indirect influence on the need for retirement savings. The high costs of health care in the US may actually prolong working and reduce the need for retirement savings. The recent changes to US health care insurance coverage may alter the influence of this driver.

Table 7 Panel A reports that health care concerns were mentioned the most by respondents in the US (16.6%) and the least in the UK (8.9%). Table 7 Panel B section ii reports that in Australia, older respondents are more likely to agree that they save to pay for health care. Interestingly, the lower income respondents in Australia are less likely to agree with the statement, suggesting that the social safety net for public health care creates no additional pressure on low income individuals. In the US, there are no significant demographic influences when all variables are included in the probit regression. In the US, each subgroup was equally-likely to agree that they save to be able to pay for health care. In Canada, there is a higher likelihood of agreeing with the statement for people under 25. In the UK, the respondents under 25 also had a higher level of agreement and interestingly the rural respondents also had a significantly positive coefficient indicating that they groups were more likely to agree that they save to be able to pay for health care.

6.3 Cultural influences

There were several cultural influences identified in the interview stage of this research. One interviewee was saving at very high levels to support relatives in another country. The

interviewee did not differentiate between savings for current spending to support the relatives and retirement savings as she was sacrificing almost all current spending. This influence may be more relevant for immigrants since some family members may have remained in another country. Family obligations for support were mentioned by another interviewee as an expected additional cost that required additional savings now so the level of savings was higher.

Cultural influences may not necessarily be distinct from parental influence. There were naturalised citizens in the US that mentioned that their ethnic background was why they saved 25% of their earnings and always had saved at this level and this practice was taught to them by their parents. Coming from countries without any social safety support in old age may be the factor underlying this savings motivation. This factor was also mentioned as an influencer through parents that immigrated even if the respondent was born in the country.

We define several statements as related to cultural influences. Both investing in property and saving a specific percentage of all income was mentioned by interviewees as cultural norms. Another statement relates to sending money overseas to support relatives. Table 7 Panel A reports the percentage of respondents that agree with these three statements. Investing in property/real estate was not specifically tied to cultural norms and was agreed to by 14.2% of respondents overall compared to the two other questions that had considerably less agreement. For real estate investing the range for respondents across the countries was 11.2%-16.3%. Saving 20% of each paycheck was agreed to by 10.6% of respondents in the US but only 3.9% of respondents in Australia. 9.2% of Canadian respondents agreed while only 6.8% of UK respondents agreed.

Table 7 Panel B section iii reports probit results and shows that in Australia, young and old respondents as well as low income respondents were less likely to agree that they invested in real estate. High income respondents were more likely to agree that they invested in real estate. In the US and Canada males were more likely than females to agree that they

invested in real estate. In the US, young respondents were less likely to agree and in Canada older respondents were less likely to agree. In the UK, there were no subgroups that differed from the overall probability. The fact that men were more likely to agree in Canada and the US may reflect the perceived higher risk of this asset class in these countries and the higher risk preference in males.

For the statement that in my culture we save 20% of every paycheck, males were more likely to agree in Australia and Canada. The young were more likely to agree in Canada and the UK. The old were more likely to disagree in Australia, Canada and the UK. For the question about whether the respondent sends money overseas to help relatives, males were more likely to agree in Australia and the US. Only in Australia is there a significantly negative coefficient for older respondents who were less likely to agree with the statement. Cultural influences appear to differ across the countries but there are some similar patterns that younger respondents were more likely to send money overseas to help relatives.

6.4 Family influences

Parental influence was identified by multiple interviewees as the reason for their savings behaviour. One respondent suggested that their parents' behaviour was why they were saving so highly even though the parents were themselves not saving. Other interviewees mentioned copying their parents' behaviour of high savings levels. In both Australia and the US, interviewees identified their parents' high level of savings directly related to their parents being first generation immigrants and, for one respondent in Australia, a savings culture was related to her parents' experience before immigrating even though the interviewee was born in Australia.

One respondent with parents in the stock brokering industry is highly involved in saving for retirement through investing in stocks. The involvement was attributed to parental

influences when she was young and continued in later years. Parents were also viewed as instilling 'savings behaviour' from an early age by encouraging savings for one interviewee. These factors were established at an early age and may be more influential when young but may set up a pattern that continues to be followed when older.

Explicit recognition of the influence of parents on the extent of savings is tested in a statement reported in Table 7 Panel A with 22.5% of all respondents agreeing with the statement, "My parents have influenced how much I save." Table 7 Panel B section vi reports results from a probit analysis indicating that parental influence influences savings behaviour in all four countries more for younger respondents (age 18-24) than the older groups. Individuals with higher incomes also had a higher probability of agreement with the statement in Australia, Canada and the US. UK respondents were unable to be tested across income groups as the income information was not available.

There were also some significant findings in individual countries. The parental influence was stronger in the UK for young males than young females. Also, in Canada, older people (age 65 and older) were less likely to be influenced by their parents. Parental influences may also be related to the family unit and shared dependency. As a catalyst to changing savings behaviour, one interviewee mentioned requiring additional funds to assist with old age care for his parents while another mentioned seeing her parental situation, triggered additional savings to ensure more adequate resources later in life, unlike her parents. Another interviewee noted that she was fully supporting her mother in retirement by buying a property that could be eventually used for her retirement as well. Another interviewee noted that her single brother was not saving any money and she was expecting to take care of him in retirement. These influences and indeed responsibilities were mentioned by interviewees in both countries.

Stories of financial disasters by a close relative or the older generation of relatives were identified as a trigger to alter behaviour. This trigger is similar to fear noted earlier. The

opposite effect, a rich uncle who did not touch his principal funds, also was noted by an interviewee as an influence to not save as much money since the uncle had sacrificed early without being able to use the money later due to health reasons. An interviewee mentioned that until recently an expected inheritance has meant that savings were not a concern but when the potential inheritance was allocated to others, this triggered a financial re-evaluation and a change in savings. One interviewee mentioned was parents or relatives that were expected to provide an inheritance either through cash or the transfer of land or property. There was even a trade-off where one interviewee was paying some money now with the expectation that they would receive the family home after the parents didn't need it. These inheritance funds were noted as being potential retirement funds and therefore a lower level of retirement savings was needed. This expectation may also be a driver of changes should the bequest be below expectations or the inheritance not eventuate.

We test the dependency across the family unit in several questions. First, we examine if there are expectations to help a sibling in retirement and second if there are expectations to help parents in retirement. Third, we identify if there is an expectation that children will help in the respondent's retirement. Finally, we identify if the respondent associates receiving an inheritance with retirement.

Assisting a sibling in retirement was identified by only 6.5% of respondents overall, with only 2.6% of Australian respondents agreeing to this statement. At the other extreme was respondents in the UK where 10.0% agreed with the statement. Probit analysis in Table 7 Panel B section vii reports that young respondents were more likely to respond positively in all countries. Male respondents in Australia and the US had a higher probability of agreeing with the statement and older respondents in Canada had a lower probability of agreeing with the statement. There were no income effects noted.

A higher percentage of respondents agreed that they would take care of their parents in retirement compared to the earlier question about siblings. Table 7 Panel A reports that

11.4% of all respondents agreed with the statement. The country with the lowest agreement percentage was Australia where 6.8% of respondents agreed. In the US, 11.8% of respondents agreed and in Canada and the UK approximately 14% agreed. Probit analysis in Panel B section viii reports that young respondents all have a higher probability of agreeing with the statement than the baseline respondents. Older respondents in all countries except the US had a lower probability of agreeing with the statement. There were some country-specific findings as well with low income respondents in Australia having a lower probability of agreeing that they will support their parents in retirement. In the US, higher income respondents had a higher probability of agreeing that they would help their parents in retirement. Interestingly, males in the UK had a higher probability of agreeing as well.

Family influences may also be felt in assistance received in retirement and only 6.8% of respondents agreed with the statement that my children will help me in my retirement. Australian respondents were the lowest percentage at 3.8%, with US respondents at 6.8% and Canada and the UK respondents at approximately 9%. Table 7 Panel B section ix reports that the young respondents in all countries except the US had a higher probability of agreement with the statement than the baseline. Low income respondents in Australia had a lower probability of agreement.

The last question in the section examines whether respondents agree with the statement that they can retire if they receive an inheritance. Some interviewees mentioned that they expected an inheritance either through cash or the transfer of land or property. There was even a trade-off where one interviewee was paying some money now with the expectation that they would receive the family home after the parents didn't need it. These inheritance funds were noted as being potential retirement funds and therefore a lower level of retirement savings was needed. This expectation may also be a driver of changes should the bequest be below expectations or the inheritance not eventuate.

Overall, Table 7 Panel A reports that 10.2% of respondents agreed and this is the only question where there was not a significant difference across the countries in terms of the percentage that agreed with the statement using a non-parametric Kruskal-Wallis test of difference. Probit analysis in Table 7 Panel B section x reports that older respondents in all countries except the UK were less likely to agree to the statement. In addition, lower income respondents in Australia were less likely to agree while high income respondents in the US and males in Australia were more likely to agree.

6.5 Other potential factors

Some potential factors were mentioned in interviews but were not explicitly tested in the full survey. Most interviewees indicated that retirement savings and financial matters were generally not discussed with their peer group, but there were some interviewees that did discuss financial matters and the trigger for a behavioural change was an investment opportunity offered by someone in the peer group. Some people discussed losing money and this 'keeping up with the peer group' may be considered a trigger for some changes in investing and saving behaviour.

Another factor identified by interviewees in the US was the level of debt accumulated from tertiary education. One interviewee indicated that extra income was being used to pay off their debt and then when debt is completely paid off, retirement savings would be initiated. In Australia, one interviewee noted that savings were increased once her children graduated from private school and university. This accumulated debt factor may also be related to the substantial life event of having children and the subsequent financial cost associated with this decision. Nevertheless, explicit investigation was not undertaken in order to concentrate on factors that may have policy implications.

7. Conclusion and policy implications

This study investigates triggers for retirement savings with the goal of identifying policy implications that can influence awareness and improve savings decisions. Interviews were conducted in the US and Australia to assist with identifying unexplored factors that affect retirement savings behaviour. Most demographic information already has associated influences and we used this information as control variables and tested their relevance. We hunted for unidentified factors at the interview stage that became the basis for a survey that was carried out in 4 countries.

We found that the financial situation of respondents varied across the countries with approximately a third of respondents needing to rely on a government pension in retirement while a fifth of respondents had enough for retirement and a fifth will never be able to stop working. There was general optimism in young respondents as to their financial situation and expectations. In Australia, respondents' income levels identified clear patterns with higher income respondents more likely to have enough to retire, not needing the government pension and not having to work in retirement. Clear income differences were not as well identified in other countries.

Healthy savings habits were noted by approximately 40% of respondents related to financial triggers. Receiving a raise and paying off all debts was a trigger acknowledged by 40% of respondents as when they would save more money for retirement. There were some gender differences in how respondents would respond to a raise with males in Australia and the US more likely agree with the statement that they would increase savings compared to females. For younger respondents, they were more likely to save more if they received a raise in most countries (Australia, the US and the UK) but young Canadian respondents did not indicate that a raise was a trigger for more savings. Situation specific triggers such as marriage or having a baby was not a trigger for a large portion of the respondent population.

Two-thirds of respondents indicated that starting work was the appropriate trigger for beginning to save for retirement but there were still a small percentage of respondents that thought savings levels are age-related.

We identified fear as a compelling force for retirement savings with approximately 20% of respondents identifying fear as a trigger for an increase in their savings rate. We explored the different facets of fear and showed that fear of the stock market and risk were prevalent in approximately 20% of respondents and that surprisingly, younger respondents in the US and UK had more fear of the stock market than the baseline respondent while younger respondents in Australia and the UK had more fear of risk. Not surprisingly, males were less afraid of risk than females. Interestingly, males were more likely to agree that they save more after the 2008 financial crisis and when a friend lost a job. Only in Canada did males respond more than females to financial hardship stories affecting their savings. The young respondents in each country (except Australia) saved more after the 2008 financial crisis. Young respondents in Canada and the UK also responded to financial hardship stories causing them to save more. This avenue for triggering additional savings may be a viable option to encourage savings.

We also investigated other influences and found tax reasons triggered different response rates, with Canadian respondents the most reactive to tax as a motivation to save. The tax deferral nature of retirement savings in Canada may be causing this effect. Interestingly, males were more likely than females in all countries to indicate tax affected their savings. Savings for health care costs were chosen by respondents in the US at the highest rate. Parental influences in saving were identified as important especially to high income respondents, suggesting successful savings patterns may be learned from parents. Interestingly, in interviews some interviewees mentioned parental influence in not necessarily copying parents but rather saving and learning from parents' mistakes an insufficient savings rates.

There are two areas of policy implications and clear recommendations that come from our study. First, we identified two positive triggers for more savings: receiving a raise and paying off debt. In both cases, these events could be used as a catalyst by an employer or a financial institution to initiate a savings increase. Perhaps an employer may offer savings vehicles at the time of a raise through a preferred vendor with direct savings debits or by offering matching or other incentives. While financial institutions already use raises observable in bank accounts to offer increases in lending capacity, a refocus on savings vehicles may be more appropriate for individuals (although less profitable for banks). Likewise, when a loan is paid in full or a credit card with revolving credit is paid off, the financial institution could propose retirement planning and financial product offerings.

Second, we identified negative triggers that work for a subset of the population that could be used to increase savings. Fear of old-age poverty was effective in motivating approximately 20% of the population of respondents. We found that the response rate to financial hardship stories, the 2008 financial crisis and having a friend lose their job all triggered responses but the rates of responses differed across the population. Using negative triggers is difficult to implement by a bank or employer, however government and financial associations may be interested in conveying strong messages especially given the government reliance in old age without sufficient savings. Care will need to be taken to ensure any negative trigger exploitation does not cause any damage since there is a fine line between using fear to help an individual's financial health and letting fear impair normal emotional and physical health.

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Table 1 Survey respondents and sample

	Australia	USA	Canada	UK	Total
Initial sample	1,550	1,511	1,564	1,504	6,129
Missing gender	23	327	333	380	1,063
Missing age	6	99	59	77	241
Final sample	1,521	1,085	1,172	1,047	4,825
Gender					
Female	915 (60.2%)	362 (33.4%)	570 (48.6%)	493 (47.1%)	2,340 (48.5%)
Male	606 (39.8%)	723 (66.6%)	602 (51.4%)	554 (52.9%)	2,485 (51.5%)
Age Distribution					
18-24	89 (5.9%)	137 (12.6%)	217 (18.5%)	198 (18.9%)	641 (13.3%)
25-34	238 (15.6%)	196 (18.1%)	226 (19.3%)	203 (19.4%)	863 (17.9%)
35-44	272 (17.9%)	168 (15.5%)	113 (9.6%)	143 (13.7%)	696 (14.4%)
45-54	295 (19.4%)	192 (17.7%)	174 (14.8%)	183 (17.5%)	844 (17.5%)
55-64	326 (21.4%)	241 (22.2%)	214 (18.3%)	171 (16.3%)	952 (19.7%)
65+	301 (19.8%)	151 (13.9%)	228 (19.5%)	149 (14.2%)	829 (17.2%)
Urban vs rural					
Urban	1,049 (69.0%)	430 (39.6%)	1,001 (85.4%)	122 (11.7%)	2,602 (53.9%)
Suburban		521 (48.0%)	143 (12.2%)	875 (83.6%)	1,539 (31.9%)
Rural	472 (31.0%)	134 (12.4%)	28 (2.4%)	50 (4.8%)	684 (14.2%)
Income level					
Less than \$25,000	207 (13.6%)	85 (7.8%)	91 (7.8%)		
\$25,000-\$34,999	174 (11.4%)				
\$35,000-\$49,999	215 (14.1%)				
\$25,000-\$49,999		575 (53.0%)	820 (70.0%)		
\$50,000-\$74,999	291 (19.1%)	288 (26.5%)	109 (9.3%)		
\$75,000-\$99,999	236 (15.5%)	74 (6.8%)	55 (4.7%)		
\$100,000-\$149,999	251 (16.5%)	34 (3.1%)	41 (3.5%)		
\$150,000+	129 (8.5%)	11 (1.0%)	24 (2.0%)		
Unknown	18 (1.2%)	7 (0.6%)	9 (0.8%)		
Prefer not to say		11 (1.0%)	23 (2.0%)		

Table 2 Financial situation

Respondents were asked if they agreed with statements about their financial position. Panel A provides simple statistics by country. Panel B reports Probit regression statistics by country where the dependent variable is an indicator variable that is equal to one when the respondent agreed with the specific statement. The regression is equation is:

$$\text{AGREE}_i = \alpha_i + B_i^*(\text{male, young, old, low income, high income, rural}) + \varepsilon_i$$

where all variables are indicator variables. Income variables are not included in UK regressions due to lack of income information and the indicator variable for rural was substituted for the UK only. Number of observations is 1,521 in Australia, 1,085 in the US, 1,172 in Canada and 1,047 in the UK.

Panel A Simple statistics

	AUS (1,521)	US (1,085)	Canada (1,172)	UK (1,047)	All (4,825)	KW
I will need to rely on a government pension	556 (36.6%)	149 (13.7%)	353 (30.1%)	296 (28.3%)	1,354 (28.1%)	167.1***
My pension/superannuation will be enough	288 (18.9%)	128 (11.8%)	203 (17.3%)	205 (19.6%)	824 (17.1%)	29.7***
I will never be able to stop working	257 (16.9%)	223 (20.6%)	222 (18.9%)	236 (22.5%)	938 (19.4%)	13.7***

Panel B Probit analysis**i. Do you agree with the statement "I will need to rely on a government pension"?**

Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.905 ***	1.585 ***	1.251 ***	0.875 ***
Male	-0.075	0.092	-0.105	-0.189 **
Young	-0.527 ***	-0.288 *	-0.626 ***	-0.261 **
Old	0.271 ***	0.248 *	-0.123	-0.331 ***
Low Income	0.330 ***	0.064	0.182	
High Income	-0.655 ***	-0.548	-0.231	
Rural				0.306

Table 2 Financial situation (continued)**Panel B** Probit analysis (continued)

ii. Do you agree with the statement "My pension/superannuation will be enough"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.481^{**}	1.809^{***}	-0.161	0.394
Male	0.049	0.209[*]	0.208^{**}	0.318^{***}
Under 25	-0.194	-0.201	-0.122	-0.108
65 and older	0.644^{***}	0.201	0.494^{***}	0.447^{***}
Low Income	-0.104	-0.143	0.179	
High Income	0.207^{**}	-0.210	0.605^{***}	
Rural				0.040

iii. Do you agree with the statement "I will never be able to stop working"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.876^{***}	1.287^{***}	2.122^{***}	1.252^{***}
Male	0.032	-0.175[*]	0.061	-0.211^{**}
Young	-0.140	-0.344^{**}	-0.509^{***}	0.081
Old	-0.625^{***}	-0.446^{***}	-0.775^{***}	-0.725^{***}
Low Income	-0.148	0.248	0.126	
High Income	-0.194^{**}	0.070	-0.321	
Rural				0.198

Table 3 Scenarios that would trigger more savings

Respondents were asked which of the following scenarios would trigger them to increase their level of retirement savings. Panel A provides simple statistics by country. Panel B reports Probit regression statistics by country where the dependent variable is an indicator variable that is equal to one when the respondent agreed with the specific statement. The regression is equation is:

$$\text{SCENARIO}_i = \alpha_i + B_i * (\text{male, young, old, low income, high income, rural}) + \varepsilon_i$$

where all variables are indicator variables. Income variables are not included in UK regressions due to lack of income information and the indicator variable for rural was substituted for the UK only. Number of observations is 1,521 in Australia, 1,085 in the US, 1,172 in Canada and 1,047 in the UK.

Panel A Simple statistics

	<u>AUS</u> (1,521)	<u>USA</u> (1,085)	<u>Canada</u> (1,172)	<u>UK</u> (1,047)	<u>All</u> (4,825)
Get a raise	724 (47.6%)	397 (36.6%)	446 (38.1%)	395 (37.7%)	1,962 (40.7%)
Pay off all your debt	808 (53.1%)	388 (35.8%)	498 (42.5%)	300 (28.7%)	1,994 (41.3%)
Get married	97 (6.4%)	98 (9.0%)	116 (9.9%)	105 (10.0%)	416 (8.6%)
Have a baby	56 (3.7%)	94 (8.7%)	122 (10.4%)	123 (11.7%)	395 (8.2%)
Didn't receive expected inheritance	223 (14.7%)	57 (5.3%)	77 (6.6%)	63 (6.0%)	420 (8.7%)
Turn 40	48 (3.2%)	97 (8.9%)	104 (8.9%)	104 (9.9%)	353 (7.3%)

Table 3 Scenarios that would trigger more savings (continued)**Panel B** Probit analysis**i. The respondent would increase their level of retirement savings in the following scenario: "Get a raise"?**

Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.359*	-0.539**	-0.268	-0.010
Male	0.199***	0.311***	0.043	0.050
Young	0.398***	0.229*	0.136	0.455***
Old	-0.673***	-0.411***	-0.678***	-0.373***
Low Income	-0.413***	0.331**	0.137	
High Income	0.152*	0.202***	0.175***	
Rural				0.272

ii. The respondent would increase their level of retirement savings in the following scenario: "Pay off all debts"?

Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.288	-0.106	0.451*	0.425*
Male	-0.004	0.086	0.024	0.133
Young	-0.346**	-0.124	-0.238**	0.179*
Old	-0.270***	-0.215*	-0.442***	-0.387***
Low Income	-0.010	0.309**	0.024	
High Income	0.247***	0.474**	0.273*	
Rural				0.288

Table 3 Scenarios that would trigger more savings (continued)**Panel B Probit analysis (continued)**

Panel iii. The respondent would increase their level of retirement savings in the following scenario: "Get married"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.297^{***}	0.302	0.819^{**}	0.985^{***}
Male	0.163	0.479^{***}	0.292^{***}	0.231^{**}
Young	0.996^{***}	0.624^{***}	0.611^{***}	0.478^{***}
Old	-0.766^{***}	-0.574^{**}	-0.632^{***}	-0.825^{***}
Low Income	0.238	0.474^{***}	0.126	
High Income	-0.357^{**}	0.548^{**}	0.356[*]	
Rural				0.647^{***}
iv. The respondent would increase their level of retirement savings in the following scenario: "Have a baby"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.255^{***}	0.810^{**}	0.665[*]	1.163^{***}
Male	0.130	0.379^{***}	0.255^{**}	0.048
Young	0.857^{***}	0.488^{***}	0.704^{***}	0.759^{***}
Old	-0.304	-0.630^{**}	-0.631^{***}	-0.866^{***}
Low Income	-0.025	0.338[*]	0.146	
High Income	-0.026	0.342	0.420^{**}	
Rural				0.269

Table 3 Scenarios that would trigger more savings (continued)

Panel B Probit analysis (continued)

v. The respondent would increase their level of retirement savings in the following scenario: "Didn't receive expected inheritance"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.549**	0.338	0.932***	1.271***
Male	0.046	0.010	0.197*	-0.181
Young	0.048	0.468***	0.316**	0.521***
Old	0.411***	0.014	-0.376**	-0.264
Low Income	0.207*	0.282	0.140	
High Income	-0.077	0.678***	0.480**	
Rural				0.243

vi. The respondent would increase their level of retirement savings in the following scenario: "Turn 40"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.326***	1.067***	0.948***	1.362***
Male	0.205	0.207*	0.074	-0.064
Young	0.619***	0.356**	0.375***	0.331***
Old	-0.360*	-0.233	-0.707***	-0.514**
Low Income	0.127	0.140	0.201	
High Income	0.081	-0.004	0.567***	
Rural				0.173

Table 4 Age to begin retirement saving

Respondents were asked at what age should people begin saving for retirement. Simple statistics are provided for each country.

	<u>AUS</u> <u>(1,521)</u>	<u>USA</u> <u>(1,085)</u>	<u>Canada</u> <u>(1,172)</u>	<u>UK</u> <u>(1,047)</u>	<u>All</u> <u>(4,825)</u>
When you begin working	1,064 (70.0%)	757 (69.8%)	786 (67.1%)	716 (68.4%)	3,323 (68.9%)
At age 30	170 (11.2%)	204 (18.8%)	237 (20.2%)	196 (18.7%)	807 (16.7%)
At age 40	130 (8.5%)	40 (3.7%)	83 (7.1%)	59 (5.6%)	312 (6.5%)
At age 50	105 (6.9%)	64 (5.9%)	44 (3.8%)	51 (4.9%)	264 (5.5%)
Did not answer	52 (3.4%)	20 (1.8%)	22 (1.9%)	25 (2.4%)	119 (2.5%)

Table 5 Fear and retirement savings

Respondents were first asked if they are afraid that they will not have enough to retire. They were given additional options about whether they had increased their savings or if they saved the same amount even though they were afraid. In the case where they were not afraid, they were asked whether they save enough or if they planned not to retire.

	<u>AUS</u> <u>(1,521)</u>	<u>US</u> <u>(1,085)</u>	<u>Canada</u> <u>(1,172)</u>	<u>UK</u> <u>(1,047)</u>	<u>All</u> <u>(4,825)</u>
Yes, I am afraid but I save the same amount	567 (37.3%)	330 (30.4%)	417 (35.6%)	367 (35.1%)	1,681 (34.8%)
Yes, I am afraid and I save more	282 (18.5%)	231 (21.3%)	208 (17.7%)	167 (16.0%)	888 (18.4%)
No, I am not afraid, I save enough	411 (27.0%)	347 (32.0%)	357 (30.5%)	317 (30.3%)	1,432 (29.7%)
No, I am not afraid, I will not retire	98 (6.4%)	149 (13.7%)	133 (11.3%)	147 (14.0%)	527 (10.9%)
Did not answer	163 (10.7%)	28 (2.6%)	57 (4.9%)	49 (4.7%)	297 (6.2%)

Table 6 Fear and retirement savings

Respondents were asked whether they agreed with a series of statements that relate to fear and financial hardship stories. Simple statistics by country are provided in Panel A where cross-sectional tests of difference are done using a non-parametric Kruskal-Wallis test. Panel B reports Probit regression statistics by country where the dependent variable is an indicator variable that is equal to one when the respondent agreed with the specific statement. The regression is equation is:

$$\text{AGREE}_i = \alpha_i + B_i^*(\text{male, young, old, low income, high income, rural}) + \varepsilon_i$$

where all variables are indicator variables. Income variables are not included in UK regressions due to lack of income information and the indicator variable for rural was substituted for the UK only. Number of observations is 1,521 in Australia, 1,085 in the US, 1,172 in Canada and 1,047 in the UK.

Panel A Simple statistics

	AUS (1,521)	US (1,085)	Canada (1,172)	UK (1,047)	All (4,825)	KW
I am scared to put money in the stock market	308 (20.2%)	152 (14.0%)	273 (23.3%)	232 (22.2%)	965 (20.0%)	36.4***
I save more after the 2008 financial crisis	96 (6.3%)	124 (11.4%)	108 (9.2%)	116 (11.1%)	444 (9.2%)	26.1***
I save more after my friend lost a job	29 (1.9%)	50 (4.6%)	54 (4.6%)	67 (6.4%)	200 (4.1%)	33.8***
Financial hardship stories make me save more	172 (11.3%)	173 (15.9%)	193 (16.5%)	165 (15.8%)	703 (14.6%)	19.2***
I am scared of risk	332 (21.8%)	145 (13.4%)	259 (22.1%)	212 (20.2%)	948 (19.6%)	36.4***

Panel B Probit analysis

i. Do you agree with the statement "I am scared to put money in the stock market"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.384***	0.449	0.971***	0.549**
Male	-0.074	0.035	0.038	-0.078
Under 25	0.071	0.382***	0.119	0.182*
65 and older	-0.308***	0.005	-0.415***	-0.358**
Low Income	-0.174	0.143	-0.044	
High Income	-0.222**	0.167	0.0311	
Rural				0.450**

Table 6 Fear and retirement savings (continued)

Panel B Probit analysis (continued)

ii. Do you agree with the statement "I save more after the 2008 financial crisis"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.960^{***}	1.333^{***}	1.118^{***}	0.507[*]
Male	0.221^{**}	0.190[*]	0.319^{***}	0.214^{**}
Young	0.229	0.034	0.026	0.363^{***}
Old	0.014	-0.172	-0.367^{**}	-0.218
Low Income	-0.062	-0.507^{**}	0.081	
High Income	0.402^{***}	0.434^{**}	0.307	
Rural				0.574^{***}
iii. Do you agree with the statement "I save more after my friend lost a job"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	7.445	1.733^{***}	2.365^{***}	1.132^{***}
Male	0.358^{**}	0.136	0.261[*]	-0.064
Under 25	0.229	0.299[*]	0.394^{***}	0.389^{***}
65 and older	-5.2635	-0.360	-0.920^{***}	-0.138
Low Income	-0.559	-0.243	-0.230	
High Income	-0.114	0.221	0.028	
Rural				0.264

Table 6 Fear and retirement savings (continued)

Panel B Probit analysis (continued)

iv. Do you agree with the statement "Financial hardship stories make me save more"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.596^{***}	0.331	0.424	0.266
Male	0.094	-0.013	0.233^{***}	0.024
Young	0.131	0.332 ^{**}	0.402^{***}	0.572^{***}
Old	-0.410^{***}	-0.199	-0.361^{***}	-0.126
Low Income	-0.255[*]	0.274[*]	0.160	
High Income	0.012	0.329	0.310[*]	
Rural				0.427^{**}
v. Do you agree with the statement "I am scared of risk"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.271^{***}	1.149^{***}	1.081^{***}	1.132^{***}
Male	-0.136[*]	0.108	-0.253^{***}	-0.144
Under 25	0.260[*]	0.203	0.117	0.282^{***}
65 and older	-0.324^{***}	-0.018	-0.466^{***}	-0.633^{***}
Low Income	-0.160	0.084	0.144	
High Income	-0.322^{***}	-0.322	-0.019	
Rural				0.122

Table 7 Other factors affecting savings behaviour

Respondents were asked which of the following statements that they agreed with in order to identify factors which may contribute to savings behaviour. Panel A provides simple statistics by country. Panel B reports Probit regression statistics by country where the dependent variable is an indicator variable that is equal to one when the respondent agreed with the specific statement. The regression is equation is:

$$\text{AGREE}_i = \alpha_i + B_i^*(\text{male, young, old, low income, high income, rural}) + \varepsilon_i$$

where all variables are indicator variables. Income variables are not included in UK regressions due to lack of income information and the indicator variable for rural was substituted for the UK only. Number of observations is 1,521 in Australia, 1,085 in the US, 1,172 in Canada and 1,047 in the UK.

Panel A Simple statistics

	AUS (1,521)	US (1,085)	Canada (1,172)	UK (1,047)	All (4,825)	KW
I save to reduce my taxes	118 (7.8%)	129 (11.9%)	212 (18.1%)	82 (7.8%)	541 (11.2%)	37.1***
I save to be able to pay for health care	240 (15.8%)	180 (16.6%)	140 (11.9%)	93 (8.9%)	653 (13.5%)	86.4***
I invest in property/real estate	233 (15.3%)	142 (13.1%)	191 (16.3%)	117 (11.2%)	683 (14.2%)	14.8***
In my culture we save 20% of each paycheck	59 (3.9%)	115 (10.6%)	108 (9.2%)	71 (6.8%)	353 (7.3%)	50.4***
I send money overseas to help relatives	44 (2.9%)	38 (3.5%)	62 (5.3%)	48 (4.6%)	192 (4.0%)	11.6***
My parents have influenced how much I save	282 (18.5%)	265 (24.4%)	302 (25.8%)	239 (22.8%)	1,088 (22.5%)	23.2***
When I retire I'll take care of my sibling	39 (2.6%)	76 (7.0%)	93 (7.9%)	105 (10.0%)	313 (6.5%)	64.8***
I support my parents in their retirement	104 (6.8%)	128 (11.8%)	170 (14.5%)	146 (13.9%)	548 (11.4%)	49.6***
My children will help me in my retirement	58 (3.8%)	69 (6.4%)	105 (9.0%)	95 (9.1%)	327 (6.8%)	39.0***
I can retire if I receive an inheritance	149 (9.8%)	100 (9.2%)	138 (11.8%)	103 (9.8%)	490 (10.2%)	4.7

Table 7 Other factors affecting savings behaviour (continued)**Panel B Probit analysis results**

i. Do you agree with the statement “I save to reduce my taxes”?

Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.299^{***}	0.397	0.418	0.784
Male	0.509^{***}	0.310^{***}	0.190^{**}	0.990[*]
Young	-0.037	0.298^{**}	-0.196	0.376^{**}
Old	-0.106	0.060	-0.062	0.270
Low Income	-0.166	0.261	-0.047	
High Income	0.182[*]	0.159	0.712^{***}	
Rural				0.270

ii. Do you agree with the statement “I save to be able to pay for health care”?

Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.931^{***}	0.794^{**}	0.995^{***}	0.837^{***}
Male	0.050	0.158	0.090	0.107
Under 25	-0.025	0.185	0.240^{**}	0.551^{***}
65 and older	0.268^{***}	0.148	0.048	-0.340
Low Income	-0.217[*]	0.042	0.075	
High Income	0.063	-0.207	-0.166	
Rural				0.385[*]

Table 7 Other factors affecting savings behaviour (continued)**Panel B** Probit analysis results

iii. Do you agree with the statement "I invest in property/real estate"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.994^{***}	1.317^{***}	0.136	1.297^{***}
Male	0.074	0.407^{***}	0.354^{***}	-0.134
Young	-0.810^{***}	-0.377^{**}	-0.039	-0.151
Old	-0.495^{***}	-0.212	-0.230[*]	-0.084
Low Income	-0.278[*]	0.146	-0.028	
High Income	0.640^{***}	0.081	1.019^{***}	
Rural				0.060
iv. Do you agree with the statement "In my culture we save 20% of every paycheck"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	2.049^{***}	0.925^{***}	1.417^{***}	1.570^{***}
Male	0.325^{***}	0.119	0.179[*]	0.108
Under 25	0.283	0.131	0.415^{***}	0.522^{***}
65 and older	-0.584^{**}	0.183	-0.590^{***}	-0.460[*]
Low Income	-0.358	-0.082	0.004	
High Income	0.170	0.097	0.026	
Rural				-0.101

Table 7 Other factors affecting savings behaviour (continued)**Panel B Probit analysis results**

v. Do you agree with the statement "I send money overseas to help relatives"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.625^{***}	1.358^{***}	1.357^{***}	1.727^{***}
Male	0.231[*]	0.722^{***}	-0.000	-0.009
Young	0.417[*]	0.455^{**}	0.615^{***}	0.509^{***}
Old	-0.370[*]	-0.036	-0.359	-0.431
Low Income	0.127	0.253	-0.050	
High Income	-0.041	-0.123	0.185	
Rural				-0.018
vi. Do you agree with the statement "My parents have influenced how much I save"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	0.544^{**}	-0.047	0.149	0.326[*]
Male	-0.009	0.102	-0.143[*]	-0.092
Young	0.665^{***}	0.606^{***}	0.556^{***}	0.864^{***}
Old	-0.153	-0.289^{**}	-0.283^{**}	-0.228
Low Income	-0.342^{***}	0.062	-0.072	
High Income	0.234^{***}	0.203^{**}	0.464^{***}	
Rural				0.469^{**}

Table 7 Other factors affecting savings behaviour (continued)**Panel B Probit analysis results**

vii. Do you agree with the statement "When I retire I'll take care of my sibling"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.452^{***}	1.286^{***}	0.893^{**}	1.009^{***}
Male	0.465^{***}	0.360^{**}	0.132	0.114
Under 25	0.588^{***}	0.688^{***}	0.516^{***}	0.291^{**}
65 and older	-0.143	-0.165	-0.303[*]	-0.053
Low Income	-0.241	0.135	0.114	
High Income	0.094	-0.458	0.240	
Rural				0.040
viii. Do you agree with the statement "I support my parents in their retirement"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	2.058^{***}	0.107	0.806^{**}	1.091^{***}
Male	0.068	0.112	0.182	0.214^{**}
Young	0.409^{**}	0.621^{***}	0.766^{***}	0.769^{***}
Old	-0.847^{***}	-0.044	-0.534^{***}	-0.807^{***}
Low Income	-0.355[*]	0.150	-0.117	
High Income	0.127	0.457^{**}	0.177	
Rural				0.076

Table 7 Other factors affecting savings behaviour (continued)**Panel B Probit analysis results**

ix. Do you agree with the statement "My children will help me in my retirement"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.841^{***}	1.241^{***}	1.408^{***}	0.533[*]
Male	0.171	0.022	0.146	0.141
Under 25	0.371[*]	0.249	0.592^{***}	0.716^{***}
65 and older	0.024	-0.200	-0.218	-0.055
Low Income	-0.400[*]	-0.091	0.007	
High Income	-0.221	0.345	-0.414	
Rural				0.282

x. Do you agree with the statement "I can retire if I receive an inheritance"?				
Dependent Variable =1 if agree	Australia	USA	Canada	UK
Intercept	1.728^{***}	1.129^{***}	1.704^{***}	1.113^{***}
Male	0.152[*]	-0.013	0.085	0.094
Young	0.001	-0.017	-0.081	0.132
Old	-0.294^{**}	-0.444^{**}	-0.450^{***}	-0.238
Low Income	-0.250[*]	0.161	0.007	
High Income	-0.079	0.496^{**}	-0.126	
Rural				0.254