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Australian Journal of Management
1–22
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DOI: 10.1177/03128962211022041
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Australian women with good financial knowledge fare better in divorce

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Abstract
Divorce dissolves couple households, who likely specialised in household financial decision-making tasks, into singles who need to learn new skills. Financial decisions will be particularly challenging for those newly separated people that are lacking knowledge and confidence. Given the substantive literature supporting the lack of financial knowledge of women in comparison to men, women are likely to be more disadvantaged by this aspect of divorce. We employ the HILDA Survey and find support for the role of financial literacy in improving wealth outcomes in divorce, particularly for women. We find that the positive impact is significant over the long term. This research contributes to knowledge of the role of financial education in building resilience to endure financial shocks.

JEL classification: **D14; G53; G50; J12; J16**

Keywords
divorce, financial decision-making, financial literacy, gender

1. Introduction

Inequities in income and wealth between genders have garnered a lot of attention over the past decade, leading to many companies in Australia reporting on the gender wage gap (Workplace Gender Equality Agency, 2020). News bulletins make salient the difference in superannuation account balances of women and men at retirement – just $68,499 for women compared to $111,853 for men (Association of Superannuation Funds of Australia, 2017). More recently, alarming statistics showed that older women are the fastest growing cohort of homeless Australians, increasing

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Final transcript accepted 14 May 2021 by Barry Oliver (AE Finance).

by 31% between 2011 and 2016 (Australian Human Rights Commission, 2019). Many factors contribute to inequalities of income and wealth between men and women, but what leads to single-headed female households finding themselves in such a precarious financial position? This article considers one life event that may be part of the story – divorce.

While the divorce rate has been declining since the early 1990s, it remains high at 2.0 per 1000 resident population (Australian Bureau of Statistics, 2017). De facto couples are also experiencing high rates of separation (AIFS, 2018; Spallek et al., 2018). This life event requires numerous financial decisions, including a division of property and child-rearing arrangements. The division of assets coincides with a loss of the division of labour and economies of scale (Davidson et al., 2018; Nelson, 1988). Each newly formed household therefore becomes solely responsible for housing tenure, utilities, insurance, their share of child raising and other household expenses. Researchers have documented that divorce has a greater impact on women than men (André et al., 2019; De Vaus et al., 2017; Sharma, 2015). We extend prior work by focusing on understanding whether good financial literacy can moderate the adverse financial impacts on women.

In undertaking this study, we acknowledge that household dynamics have evolved over time. Contemporary households are more likely to include women combining or forfeiting economic participation alongside caring labour, which differs from the financial impacts experienced by traditional households that comprise a breadwinner and a caregiver (Jayawarna et al., 2020; Smock et al., 1999). However, men still earn more in many households. The financial vulnerability of women is exacerbated by gender wage gaps and difficulties re-entering the full-time labour force due to disproportionate child-rearing responsibilities. We acknowledge that Family Court decisions do seek to redress this imbalance with the division of asset rulings. We also acknowledge that divorce impacts are not homogeneous, and some divorces financially benefit women more than men, for a range of reasons that may include problematic financial behaviours and abusive relationships. Furthermore, during cohabitation, women tend to manage household budgeting and men are involved in the high stakes financial decisions (Fonseca et al., 2012). Consequently, women have less practice at making high stakes financial decisions like housing and investments. For these multitude of reasons, we posit that women experience a higher degree of long-term adverse financial impacts compared to men, but that the degree of the impact may be mitigated by good financial knowledge.

Accordingly, we utilise the *Wealth Module* in the *Household and Labour Dynamics in Australia (HILDA) Survey* to examine the financial impacts of divorce and the role of financial literacy in mitigating these impacts. As the *Wealth Module* is included every 4 years, we can observe 11 asset class balances, noting changes after the divorce occurred using a dynamic model. This method was previously employed by Coile and Milligan (2009) to analyse the impact of a health diagnosis on retiree wealth and has also been used to examine the reasons for change in home ownership (West and Worthington, 2018, 2019).

We find evidence to suggest that a good level of financial literacy overcomes the adverse impacts of divorce on wealth accumulation. We find this association is stronger for women, and for both genders the significance of the relationship is stronger over the long term. We also find evidence that both men and women with lower levels of financial literacy experience a loss in net wealth that is amplified and observed over the medium to long term.

We begin by providing an overview of the family law setting in Australia. We then provide a survey of the literature on the financial literacy of men and women, and research on the financial impacts of divorce. The discussion of our hypothesis precedes the overview of the data and methodology. The analysis follows and the article concludes with a discussion.

2. Family law setting in Australia

Divorce in Australia is governed by the *Family Law Act 1975* and established on a no-fault principle. All that is needed to satisfy the Court is that the relationship has broken down irretrievably, demonstrated by a separation period of 12 months and 1 day. The granting of a divorce by the Federal Circuit Court of Australia does not determine issues of financial support, property distribution or arrangements with children. To settle the division of property and support payments, parties submit a property settlement application within 1 year of the divorce, or within 2 years of separation for de facto partners. This time difference is the only variation between married couples and de facto relationships in property settlements since 2009 (Family Court of Australia, 2016). Before the application, each party must provide each other with full financial disclosure and make reasonable attempts to resolve disagreements. If matters cannot be resolved, then the application is made to the Federal Circuit Court of Australia (routine cases) or the Family Court of Australia (complex cases). The court undertakes four steps when considering the division of assets:

1. The identity and value of all property of the parties (the shared property pool);
2. Assessment of the contributions of each of the parties (including caring contributions);
3. Identification of the needs of the parties (current and future needs including ability to earn, caring responsibilities, age and health);
4. Determination of what a just and equitable division would be.

These steps allow for the specific circumstances of each case to be considered, making the division of assets between partners difficult to generalise. The court often views the husband's financial contribution to be equal to that of the wife's caring contribution (in such households), leading to equal division of assets (Mitchells Solicitors, 2017).

If the caregiver has spent time out of the workforce, then their superannuation balance is low in comparison to the main breadwinner. Superannuation is treated as a different type of asset by the *Family Law Act 1975* because it is held in trust (Family Court of Australia, 2020). But superannuation can be divided upon divorce. Splitting superannuation payments does not convert it into a cash asset – it is still subject to superannuation laws and cannot be withdrawn before preservation age. Trustees of the superannuation fund need to be advised about the court order so they can attend the court hearing for reasons of 'procedural fairness'.

Finally, maintenance payments form part of the settlement arrangements. Spousal maintenance is often awarded in cases where only one spouse worked. This differs to child support. Child support is a set amount that a non-primary care-giving parent pays for their children's day-to-day expenses. It is calculated based on the parent's income, the income of the other parent and the needs of the child.

The cost of getting a divorce can be onerous, especially if the division of assets is contested. Filing fees and hearing fees cost hundreds of dollars (there are concessions on some fees if eligible) and are set by Federal Government Regulations. Legal aid is available from community legal centres and family relationship centres. Litigation can cost tens of thousands of dollars, or more (Trainor, 2017). This cost adds to the stressful period involving heightened emotions, time out of work to attend court or arbitration, and resettling. If the divorce results in an urgent need for income support, the Australian Government, through Services Australia and Centrelink, offer support payments that assist families and children. These include the Parenting Payment, Family Tax Benefit A and B, Child Care Subsidy, Additional Child Care Subsidy, Single Income Family Supplement, Energy Supplement, Rent Assistance, and Telephone Allowance (Australian Government, 2020). Centrelink can also assist with handling the Child Care Support payment

between parents and refer the parties to counselling support services. Each payment differs in amount and eligibility requirements.

Some couples with sizable assets or inheritance might consider entering into a binding financial agreement (known as a prenuptial agreement). A survey in 2019 shows that only 6% of married couples in Australia currently have a prenuptial agreement (Parry-Okeden, 2019). These agreements can cost $10,000–$20,000 (Newbould, 2020). Decisions made by courts under the *Family Law Act 1975* tend to uphold these agreements but the requirements are strict and they can be set aside for technical reasons.

The introduction of the no-fault *Family Law Act 1975* in 1976 was controversial and came after much debate (Lorimer, 2020). Since its introduction, there have been numerous reviews, resulting in a complex *Act.* All reviews have identified the same fundamental issues, namely the court structure, parenting orders and time delays. The split between the Federal Court system to deal with parenting and property matters and state and territory courts that deal with child protection and domestic violence causes information sharing and power limitation problems. For example, Federal Family Courts have limited investigative powers to follow up allegations on safety risks and rely on information from state and territory courts or agencies. Parenting orders are often criticised for being too complex and confusing. 'Shared parental responsibility' has been conflated with a presumption for equal time with a child, instead of following the principle of prioritising children's best interests.

The number of cases waiting to be heard has increased over time, to a reported backlog of 20,000 cases in 2018 (Whitbourn, 2018). Numerous factors are attributed to this, such as an increased number of self-represented litigants (limited access to legal aid) who have difficulties navigating the *Act*, and a shortage of judges (Australian Government, 2019). A comprehensive review of the family law system in 2019 known as the Australian Law Reform Commission (ALRC) made 60 recommendations, including a court restructure, revision of parenting orders and distribution of property and superannuation, and to rewrite and simplify the *Act* (Australian Government, 2019). In February 2021 the Australian Parliament passed legislation to amalgamate the Federal Circuit and Family Court of Australia, whereby family law and child support cases will be heard by judges of the Federal Circuit Court of Australia division (Family Court of Australia, 2021).

3. Literature review

Individuals are motivated to save for many different reasons. One of the primary savings motivations was highlighted in the Life Cycle Theory as facilitating retirement (Wisman, 2009). Couples have been found to accumulate wealth at a rate that is more than the sum of two incomes and shared expenses (Delhommer and Hamermesh, 2021). The ability to save, borrow and plan for retirement may be impeded by unforeseen events. Shocks such as ill health, job loss, births, death and divorce may have financial consequences. People may need to draw down on liquid assets, sell assets or borrow money, thereby decreasing net wealth and the ability to accumulate further wealth (Joo and Grable, 2004; Riitsalu and Põder, 2016).

Financial knowledge should improve the ability to manage the risk of unforeseen financial shocks and manage the situation. However, there is limited research on the association between financial literacy and managing financial shocks. Within the existing literature, financial literacy has emerged as the understanding individuals have when making financial decisions, and financial capability as the behaviours or skills that individuals manifest when making financial decisions (Hoelzl and Kapteyn, 2011). However, as these fields have developed, researchers have posited that such approaches fail to explain the paradox that despite financial knowledge and skills, individuals still make suboptimal decisions (Huston, 2010; Riitsalu and Põder, 2016).

The extent of the opportunity to enhance individual financial knowledge is quantified in aptitude tests. A large survey of adult financial literacy in OECD countries shows that on average, fewer than half of adults (48%) could answer 70% of the financial knowledge questions correctly, or in other words, meet the minimum target score (OECD, 2017). Knowledge of diversification and compounding interest are poor. In total, 40% of adults in the OECD survey did not understand diversification and only 27% were able to calculate simple interest and recognise the benefit of compounding. These concepts are essential for understanding the adverse financial impacts of only paying the minimum repayment on credit cards and not saving regularly for retirement.

In adulthood, many studies report sizable gender differences in financial literacy scores (Lusardi et al., 2010). The difference between men and women achieving the minimum target score for financial knowledge in G20 countries stands at 11 percentage points, with men significantly more likely to achieve this score than women in all but three of the countries with comparable data (China, Indonesia and the Russian Federation) (OECD, 2017). The reasons for the disparity point largely to the level of interest in money matters (Lusardi et al., 2010). Chen and Volpe (2002), for example, concluded that the financial literacy gender gap was due to women not knowing basic facts, terminology, or concepts of personal finance, or they do not perform well in mathematics-related questions. Other studies conclude that men feel more strongly about the importance of personal finance than women (Capuano and Ramsay, 2011; Lusardi and Mitchell, 2008; Wagland and Taylor, 2009).

Gender gaps in financial literacy exist for a variety of demographic and socioeconomic groups, including teenagers (Bottazzi and Lusardi, 2016), university students (Gerrans and Heaney, 2016; Zissimopoulos et al., 2008) and migrants (Karunarathne and Gibson, 2014). Gender gaps may also be related to lower levels of education, income and wealth when compared to men, as these characteristics are also indicators of poor financial literacy (West and Worthington, 2018). Related literature investigates the gender differences in attitudes to financial risk-taking, with women demonstrating persistent risk aversion (Farrell et al., 2016; West and Worthington, 2013, 2014a, 2014b). There is, therefore, little need for investment knowledge if you intend to avoid doing it, and hence another reason why women may score poorly on questions to assess knowledge.

Fonseca et al. (2012) provide insight as to the association between financial literacy and divorce. They included a financial literacy module in 2009 of the American RAND survey panel. In this module they collected responses to marital status and history, as well as how financial decisions were divided in the household. These questions were added to the financial literacy question set (23 questions) and demographic/socioeconomic data of respondents. They found that divorced people had an association with a lower level of financial literacy overall, but this effect was not gender significant. They also found that financial literacy had a positive coefficient for ‘years since relationship’, which was significant for both males and females. Accordingly, there is evidence that financial literacy may improve after divorce. However, causality can’t be claimed given the cross-sectional nature of the data.

A measure of financial capability that has evolved to include psychological variables is that of financial well-being. Single parent households report very low rates of financial well-being in the 2018 survey of 3,578 respondents by ANZ in Australia, entitled *Financial Wellbeing: A Survey of Adults in Australia* (ANZ Australia, 2018). Single parent households reported an average well-being score of 45 out of 100, which compares to a national average of 59. The average for males was 61 (above the national average) and women was 57 (below the national average). Such differences may help explain findings that those most at risk of economic hardship are single women with dependent children (De Vaus, 2007; Sheehan and Hughes, 2001; Smyth and Weston, 2000; Spallek et al., 2018), older women who have not re-partnered (Davidson et al., 2018; Sheehan and Hughes, 2001; Smyth and Weston, 2000; Spallek et al., 2018) and women who have suffered domestic violence (Sheehan, 2003).

In Australia, researchers have shown that women experience a more significant decline in household income and standard of living immediately after divorce than men and are hence more vulnerable (De Vaus et al., 2014; Sheehan and Hughes, 2001; Smyth and Weston, 2000). This is largely attributed to child-bearing responsibilities that result in limited career advancement and participation in the labour force. This in turn inhibits them from skill development and opportunities for promotion (Sheehan and Hughes, 2001; Smock et al., 1999; Smyth and Weston, 2000; Spallek et al., 2018). Furthermore, those women who do participate in the workforce may be limited in their earning capacity by gender wage gaps and higher likelihood of casual or part-time work to meet caring responsibilities (Smock et al., 1999; Smyth and Weston, 2000).

Research on financial resilience is mixed. De Vaus et al. (2017) employed the *Household, Income and Labour Dynamics in Australia* survey data to quantify changes in income before and after divorce for each gender. They find that the most severe financial consequences in respect to income of divorce are felt 1 year after the event, and within 6 years most women have recovered. The recovery is attributed to re-partnering, the use of social security and the maturing of dependants (Smyth and Weston, 2000; Spallek et al., 2018). However, Davidson et al. (2018), in their report on *Poverty in Australia*, have noted that too much reliance on social security could impede financial recovery (Davidson et al., 2018). Furthermore, when comparing genders, women are less likely to remarry than men, and women of lower financial resources are even more unlikely to remarry (Hughes, 2000). Therefore, these sole parent households, the majority of which are headed by women, have lower incomes compared to men (13.0%), and women are more likely to live below the poverty line (13.4%) (Davidson et al., 2018).

A review of the literature revealed several limitations that this study addresses. Primarily, we do not know if financial literacy helps to mitigate adverse financial impacts of a life event. Divorce is a life event that results in a male/female household dividing into a male-headed household and a female-headed household, and thus the gender differences in financial literacy performance may become quite meaningful. Divorce is also likely to engage financial decision-making skills due to the property division process. We make contributions to the existing research of Fonseca et al. (2012) and others on divorce and extend this work by providing insights into gendered impacts of divorce on wealth, and the role of financial literacy of mediating adverse financial outcomes.

4. Hypotheses

To address the gaps in knowledge, we focus on two lines of enquiry. First, we hypothesise that divorce has an adverse impact on net wealth for individuals and that this adverse impact is greater for women than men, especially over the long term. We also propose that the asset decumulation pathways are different for men and women, but prior literature does not provide a firm basis for assumptions on which asset classes are significantly affected. The only exception may be that women may prefer to divest of equities based on the risk aversion literature.

Second, we hypothesise that women with good levels of financial literacy have the same wealth outcomes as men with good financial literacy after divorce and that these wealth outcomes are better than those with lower levels of financial literacy. We posit that the same asset classes are utilised to improve wealth by higher financially literate men and women.

5. Data and method

This study utilises Waves 2 to 18 (years 2002–2018) of the *Household, Income and Labour Dynamics in Australia* (HILDA) Survey. The HILDA Survey tracks the responses of 19,914 participants on various aspects of daily living in Australia. We draw data from the Self-Complete

Table 1. Number of divorces (DIV).

Divorces (DIV)	2001–2002	2003–2006	2007–2010	2011–2014	2015–2018	Total
Females	305	1064	931	1219	1202	4721
Percentage change		248.85%	−12.50%	30.93%	−1.39%	
Males	249	857	765	1004	936	3811
Percentage change		244.18%	−10.74%	31.24%	−6.77%	
Total	554	1921	1696	2223	2138	8532

Questionnaire that asks participants questions annually regarding life events such as divorce and individual characteristics, as well as the Household Questionnaire that collects information on wealth (the *Wealth Module*) every 4 years (2002, 2006, 2010, 2014 and 2018).

Responses to the life event questions identify 8,532 people report a divorce (DIV) over the sample period, shown in Table 1. This is in response to a question, 'Did any of these happen to you in the past 12 months?', with 'Separated from spouse or long-term partner' being one of the options. Accordingly, we treat this indication of a separation as a 'divorce' (DIV) for the purpose of simplicity. We also use the term 'reconciliation' (REC) to refer to recoupling in de facto relationships and legal marriage. While Table 1 includes some double-counting of divorces by the male and female partners that have participated in HILDA data collection for a long period, attrition and sample top-up (particularly in 2009) mean that the number of divorces reported by women and men differ. We find that women report higher levels of divorce than men.

We extend prior work of Coile and Milligan (2009) and West and Worthington (2018, 2019) to apply a dynamic model and treat divorce as a financial 'shock'. As the *Wealth Module* data is available every 4 years, we align more frequent data to this timeline by recoding. For the divorce 'shock' dummy variable (DIV), we aggregate the annual responses from the period in between *Wealth Modules* to signify a 'shock' occurred in the preceding period. For example, if a respondent indicates positively to a divorce occurring in 2003, then the dummy variable for the positive response will be denoted for 2006 (the next *Wealth Module* year) and is labelled as a 'divorce'. Accordingly, divorces identified in 2001 and 2002 are denoted in 2002, divorces that occurred in 2003/4/5/6 are identified in 2006, divorces that occurred in 2007/8/9/10 are identified in 2010, divorces in 2011/12/13/14 are identified in 2014 and divorces in 2015/16/17/18 are identified in 2018. Then, lead variables are coded to indicate the number of periods after the shock, with each period representing a 4-year period. The lead variables are labelled as DIV1, DIV2, DIV3 and DIV4. Each divorced person will differ in their lead dummy variables, depending on which year the divorce was identified. This dynamic model takes advantage of the longitudinal data and enables us to detect significant intertemporal changes in asset class holdings, as well as the size and direction of the relationship.

We run regressions for Net Wealth (NW) and 11 asset classes, leaving these variables at their dollar level. These include bank accounts (BNK), cash investments (CSH), equities (EQT), superannuation (SPR), life insurance investments (INS), trusts (TST), family home (HOM), other investment property (OTH), vehicles (VEH) and collectibles (COL). Net Wealth is comprised of the sum of total assets and is a separate variable in HILDA comprised of subtracting the negative net wealth amount from the positive net wealth amount. The values associated with the 11 asset classes are derived from the interviews with the household representative, and where possible the interviewer asked the respondent to check statements to confirm balance amounts, else the value is the estimation of the respondent.

We employ a Tobit model as best suited by the censored nature of the dependent variables. Within Stata, it is not possible to use a fixed-effects Tobit model for panel data as the unconditional fixed estimates are biased for panel data (StataCorp, 2011), however it does provide for random effects. A random-effects Tobit panel data model is appropriate for this research as it allows for control over the effects of time-invariant (or latent) variables that might influence the dependent variables and assumes that any latent time-invariant variables that have been omitted are uncorrelated with the time-varying covariates (Bollen and Brand, 2010). The dynamic random-effects panel data Tobit model is expressed as

$$y_{it} = x_{it}\beta + v_i + \varepsilon_{it} \tag{1}$$

where y_{it} is the observed response that equals zero and is distributed over only positive values, in other words, it cannot be negative. For $i = 1, \ldots, n$ panels, where $t = 1, \ldots, n_i$. The regressors or vectors of explanatory variables are x_{it} and random effects are v_i and are uncorrelated with x_{it}. The idiosyncratic error is ε_{it} which may vary across time and participants (Islam, 2007; StataCorp, 2011).

The following base regression model will be estimated

$$\begin{aligned} y_{it} = {} & \beta_0 + \beta_1 AGE + \beta_2 EDU + \beta_2 INC + \beta_2 CEN + \beta_2 DEP \\ & + \beta_2 REC + \beta_2 MAR + \beta_2 FINLIT + \beta_3 DIV1 + \beta_4 DIV2 \\ & + \beta_5 DIV3 + \beta_6 DIV4 + \alpha_i + \varepsilon_{it} \end{aligned} \tag{2}$$

where y_{it} = the set of asset classes from the *Wealth Module* (NW, BNK, CSH, EQT, SPR, INS, TST, HOM, OTH, BUS, VEH, COL);

AGE = age of respondent as a continuous variable.[1]

EDU = level of highest educational attainment, where 1 = postgraduate qualification; 2 = graduate diploma/certificate; 3 = bachelor's degree; 4 = advanced diploma; 5 = certificate 3 or 4; 8 = year 12; 9 = year 11 and below, 10 = undetermined.

INC = annual disposable income of respondent as a continuous variable.[1]

CEN = annual cash and other benefit payments received from Centrelink, the Commonwealth Government agency for social services.[1]

DEP = number of dependent children, aged under 18 years old.[1]

REC and MAR = dummy variable of response to the question in the life event module 'Did any of these happen to you in the past 12 months?', with 'Married' being the option for MAR or 'Reconciled with spouse' being the option for REC. We aggregate the annual responses from the period in between *Wealth Modules* to signify a marriage occurred in the preceding period.

FINLIT = For each respondent, the financial literacy score (FINLIT) is derived from correct responses to five diagnostic questions included in the 2018 HILDA Survey. These questions include knowledge of concepts such as compound interest, inflation, diversification, risk and return, and are also found in *American National Longitudinal Survey of Youth*, the *American Life Panel* and the *American Financial Capability Study* (Lusardi and Mitchell, 2011). FINLIT scores can rate from 0 to 5, and we utilise interaction variables of gender (FEM) and lead DIV variables in the regression.[1]

DIV1, DIV2, DIV3, DIV4 = the set of lead DIV variables, DIV1 = up to 4 years; DIV2 = up to 8 years; DIV3 = up to 12 years and DIV4 = up to 16 years from the DIV.

α_i = random individual specific effect of financial impacts – assumes that this is random and therefore *s*, and ε_{it} = idiosyncratic error.

We first run regressions of NW and asset classes on the general population to obtain a base level understanding of the relationship between wealth, financial literacy and gender. To garner more

insights into decision-making, regressions on the 11 asset classes reveal significant changes in investment and the direction of the change. We then run regressions limited to the sample of divorced people to understand the impact of divorce on wealth, and interactions between gender and divorce, and the time it takes for the financial impacts to work through. We finally run regressions on the asset classes to understand the pathways to wealth accumulation/decumulation for divorced men and women.

The use of HILDA Survey data is beneficial for making generalisations to the Australian population. However, there are limitations of the analysis imposed by the data. First, the sample size of non-heterosexual relationships is very small, and therefore, we do not include analysis of same-sex relationships. Second, the *Wealth Module* data is determined through responses to a questionnaire completed by the representative of the household. Therefore, its accuracy is reliant on these responses to be a truthful reflection of the actual financial data. We also limit the analysis to assets and recommend an investigation of liabilities and income for future research. In addition, we anticipate important insights on causality will be able to be derived from intertemporal observations of financial knowledge, especially over the lifecycle and in response to significant life events, when this data is available in the HILDA Survey.

6. Results

Table 2 provides descriptive statistics for the demographic characteristics for the separated male and female households with a comparison to couple households. Most divorced adults are aged between 25 and 34, while couples are aged 35–44 years (AGE). Most of the sample has an educational qualification of Year 12 or below, men tend to have higher levels of vocational qualifications and couples have slightly higher levels of education than divorced people (EDU). Most divorced women are in a lower income category than divorced men or people in couples (INC). They are consequently recipients of higher levels of government support, although a good proportion of them receive no support (CEN). Divorced women are more likely to have dependent children than others (DEP). Most divorced couples do not reconcile (REC). With regard to marriages, the coding recognises whether a marriage has taken place over the sample period, and we do not include code to recognise second or third marriages. Consequently, most divorced people have been married (MAR). Around 70% of couples have married.

Descriptive statistics for the asset classes are found in Table 3, providing mean levels for divorced men and women, in comparison to wealth held by couple households. Significantly different means between divorced men and women are bolded. The table shows that divorced individuals are more likely to be in the NW1 category (67.7% for females and 69.4% for males), while 48.9% of couples are likely to be in NW1, followed by 23.2% in NW2. However, the mean NW is significantly different for divorced men and women. Overall, couples have higher mean level investment across all asset classes, particularly in HOM and SPR. When comparing divorced women and men, men have higher level investment in EQT, SPR, BUS and VEH, while women have higher level investment in HOM (but the mean value is not significantly different).

The descriptive statistics for correct responses to the five financial literacy questions in Table 4 show an interesting difference between divorced and coupled adults. Table 4 shows that divorced females have higher financial literacy scores (FINLIT) than coupled women (2.906 vs 2.316), and similarly, divorced men have higher financial literacy scores than coupled men (3.195 vs 2.417). It is important to highlight that divorced women have higher financial literacy scores than coupled men (2.906 vs 2.417). This finding may provide insight into pathway enablers for women to improve financial literacy. While divorce is not a recommended pathway, it is more the role of financial decision-making within couples, including delegation (or lack thereof) of tasks, that may

Table 2. Descriptive statistics, 2001–2018.

Demographic characteristics		Female (DIV) (*N* = 4721)		Male (DIV) (*N* = 3811)		Female (CPL) (*N* = 123,166)		Male (CPL) (*N* = 125,391)		Couples (*N* = 248,557)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age category (AGE)	0–17 years	0.049	0.216	0.037	0.189	0.273	0.446	0.276	0.447	0.275	0.446
	18–24 years	0.241	0.428	0.205	0.404	0.089	0.285	0.082	0.274	0.086	0.280
	25–34 years	0.256	0.436	0.246	0.431	0.143	0.350	0.132	0.339	0.137	0.344
	35–44 years	0.196	0.397	0.195	0.396	0.152	0.359	0.141	0.348	0.146	0.353
	45–54 years	0.149	0.356	0.163	0.370	0.137	0.344	0.136	0.343	0.137	0.343
	55–64 years	0.066	0.248	0.086	0.280	0.106	0.307	0.110	0.313	0.108	0.310
	Over 65 years	0.043	0.203	0.068	0.251	0.101	0.301	0.122	0.328	0.112	0.315
Education (EDU)	Bachelor's degree and above	0.183	0.387	0.151	0.358	0.264	0.441	0.231	0.421	0.247	0.432
	Vocational qualification	0.281	0.449	0.352	0.478	0.246	0.430	0.368	0.482	0.306	0.461
	Year 12 and below	0.536	0.499	0.497	0.500	0.491	0.500	0.401	0.490	0.446	0.497
Household income (INC)	Less than $19,999	0.123	0.329	0.113	0.316	0.026	0.158	0.025	0.157	0.026	0.158
	$20,000 to $49,999	0.361	0.480	0.346	0.476	0.188	0.391	0.188	0.391	0.188	0.391
	$50,000 to $99,999	0.355	0.479	0.362	0.481	0.422	0.494	0.423	0.494	0.423	0.494
	$100,000 and over	0.161	0.368	0.180	0.384	0.364	0.481	0.364	0.481	0.364	0.481
Centrelink benefits (CEN)	$0	0.412	0.492	0.610	0.488	0.545	0.498	0.564	0.496	0.554	0.497
	$1 to $4999	0.106	0.308	0.126	0.332	0.201	0.401	0.205	0.404	0.203	0.402
	$5000 to $9999	0.103	0.303	0.078	0.269	0.104	0.305	0.095	0.293	0.099	0.299
	$10,000 to $14,999	0.124	0.330	0.096	0.295	0.082	0.274	0.073	0.260	0.077	0.267
	$15,000 and over	0.255	0.436	0.090	0.287	0.068	0.252	0.063	0.243	0.066	0.248
Dependent children (DEP)	Yes	0.190	0.393	0.048	0.214	0.182	0.386	0.177	0.382	0.180	0.384
	No	0.810	0.393	0.952	0.214	0.818	0.386	0.823	0.382	0.820	0.384
Reconciled couples (REC)	Yes	0.138	0.353	0.128	0.345	0.008	0.089	0.006	0.079	0.007	0.084
	No	0.862	0.353	0.872	0.345	0.992	0.089	0.994	0.079	0.993	0.084
Marriages (MAR)	Yes	0.995	0.073	0.994	0.076	0.733	0.442	0.704	0.457	0.718	0.450
	No	0.005	0.073	0.006	0.076	0.267	0.442	0.296	0.457	0.282	0.450

Table 3. Descriptive statistics of asset classes for divorced people versus couples, *wealth module* years.

Asset Class	Female (DIV) (*N* = 1397)			Male (DIV) (*N* = 1098)			Couple (*N* = 72,270)		
	%	Mean ($)	SD ($)	%	Mean ($)	SD ($)	%	Mean ($)	SD ($)
Net Wealth (NW)									
<$0 (NW0)	0.119	−25,393.58	82,216.98	0.077	−23,583.59	38,629.67	0.028	−95,050.50	334,400.20
$1–$499,000 (NW1)	0.677	**119,807.10**	132,045.70	0.694	**130,695.30**	135,082.10	0.489	209,582.00	149,949.90
$500,000–$999,999 (NW2)	0.107	688,511.90	141,778.70	0.131	698,927.40	152,745.90	0.232	715,427.40	142,942.40
$1,000,000–$1,499,999 (NW3)	0.045	1,229,243.00	151,469.90	0.047	1,209,916.00	152,140.40	0.105	1,218,479.00	141,781.40
>$1,500,000 (NW4)	0.052	2,914,898.00	1,968,822.00	0.051	2,946,625.00	1,844,478.00	0.146	3,064,750.00	1,955,339.00
Balances									
Bank accounts (BNK)	0.966	24,117.49	97,148.28	0.953	23,186.51	102,478.10	0.99	45,622.54	139,108.60
Cash investments (CSH)	0.006	675.09	19,830.25	0.953	871.50	22,240.04	0.02	1694.83	27,668.38
Equities (EQT)	0.212	**13,872.68**	111,409.50	0.252	**25,021.04**	175,749.80	0.39	44,811.75	223,408.70
Superannuation (SPR)	0.836	**93,459.85**	246,125.70	0.872	**110,280.60**	268,897.60	0.92	205,567.90	365,011.40
Insurance (INS)	0.045	6063.52	56,408.74	0.058	4679.34	45,020.47	0.09	16,139.04	128,036.80
Trusts (TST)	0.035	10,210.99	110,783.60	0.029	10,317.97	121,345.00	0.05	18,709.48	196,900.90
Family home (HOM)	0.421	203,421.30	398,267.60	0.423	183,303.10	307,922.80	0.76	450,527.00	504,727.40
Other property (OTH)	0.156	86,071.38	386,432.30	0.178	83,441.79	338,835.60	0.26	163,209.70	497,248.20
Businesses (BUS)	0.084	**15,873.66**	160,390.60	0.107	**32,595.80**	251,391.80	0.17	75,024.68	435,108.60
Vehicles (VEH)	0.845	**17,197.74**	28,705.15	0.888	**21,708.44**	37,070.38	0.97	33,983.20	49,416.28
Collectibles (COL)	0.120	3698.53	41,613.20	0.124	2187.83	13,428.17	0.15	4049.07	30,900.59

Statistically significant differences in means are denoted in bold and include up to 0.10 level of significance.

Table 4. Financial literacy measurement, 2016.

Correct responses	Female (DIV) (*N* = 299)	Male (DIV) (*N* = 257)	Female (CPL) (*N* = 8351)	Male (CPL) (*N* = 8544)
	Mean	Mean	Mean	Mean
Financial literacy				
Compound interest	**0.769**	**0.860**	**0.598**	**0.658**
Inflation	**0.552**	**0.673**	**0.479**	**0.558**
Diversification	0.682	0.712	0.559	0.568
Income and inflation	**0.736**	**0.790**	0.586	0.577
Risk and return	0.167	0.160	0.095	0.057
Total score (FINLIT)	**2.906**	**3.195**	**2.316**	**2.417**

Statistically significant differences in means are denoted in bold and include up to 0.10 level of significance.

be problematic. Most adults get the compound interest, income and inflation, diversification and inflation questions correct, in around that order. The risk and return question is answered incorrectly by most.

The base case regressions with the entire HILDA population in Table 5 show that NW is significantly and positively associated with AGE, EDU, INC and MAR, and significantly and negatively associated with CEN, DEP and REC. Therefore, people accumulate more wealth as they age, moderate level of education, and have higher incomes, but accumulation of wealth is hindered by receiving government support, having dependent children or reconciling with their spouse. These relationships hold true across many regressions and previous studies and we focus further analysis on the variables of interest.

We find that increasing levels of FINLIT are significantly associated with higher levels of wealth ($48,234.54) in regression NW(1). In regression NW(2), we differentiate by gender and level of financial literacy. We find that women (FEM) with a FINLIT level of 4 (the average FINLIT for all women is 2.36) have the highest significantly positive association ($224,995.20). Women with a FINLIT of 3 also have a $117,317.40 increase of NW. For men (MAL), a FINLIT of 3 is associated with a $43,223.95 increase in NW, a FINLIT of 4 is associated with $184,395.20, and FINLIT = 5 is $177,447.40. The average FINLIT for all men is 2.45. We are therefore satisfied that financial literacy and wealth are positively related.

The regressions on asset classes help identify pathways for wealth creation or decumulation. The asset class with the largest significant coefficient is HOM, with women with higher FINLIT levels showing the strongest associations ($108,378.30 for FINLIT = 5, $124,095.00 for FINLIT = 4, and $66,895.82 for FINLIT = 3 and $43,627.44 for FINLIT = 1). For men, the coefficients are $44,021.51 for FINLIT = 5, $91,871.02 for FINLIT = 4, $51,021.70 for FINLIT = 3 and $33,014.77 for FINLIT = 2. The next largest significant coefficients are found for SPR, which are positive for men and women of FINLIT levels of 3, 4, and 5. This is followed by OTH, with positive associations for men and women with FINLIT = 4, and for women with FINLIT = 3. Property and superannuation are therefore popular investment assets. In Australia, there are other factors such as favourable tax treatment of these asset classes which may be an additional demand-side factor that also requires financial knowledge.

For BNK and COL, significant positive coefficients are found for men and women with FINLIT of 4. Women with FINLIT of 2 and 3 also have significant positive coefficients with INS, while women with high financial literacy (FINLIT = 5) have a strong association with TSTs. VEH are positive for higher levels of FINLIT (3 and 4) for men and women.

Table 5. Base case regressions for gender, financial literacy and net wealth/asset classes, general population, *wealth modules*.

	NW(1)	NW(2)	BNK	CSH	EQT	SPR	
AGE	**16,091.31**	**16,003.41**	**1352.22**	**92.01**	**1464.76**	**3795.10**	
	263.28	263.76	33.24	6.83	55.63	80.97	
EDU	**12,897.62**	**14,170.62**	**505.34**	−30.41	536.45	−180.43	
	1779.88	1788.53	229.99	47.31	381.57	554.94	
INC	**6.80**	**6.80**	**0.52**	**0.01**	**0.54**	**2.04**	
	0.06	0.06	0.01	0.00	0.01	0.02	
CEN	**−13.00**	**−12.81**	**−0.70**	**−0.65**	**−1.30**	**−4.41**	
	0.53	0.53	0.08	0.02	0.12	0.17	
DEP	**−32,117.22**	**−31,823.50**	22.49	−200.63	1463.33	**−17,840.79**	
	6418.85	6417.41	971.45	216.35	1499.96	2134.44	
REC	**−45,961.15**	**−44,883.40**	−3537.54	−436.66	−6165.36	−5462.47	
	20,268.64	20,264.59	3085.41	690.33	4750.16	6750.48	
MAR	**101,115.00**	**103,057.60**	3641.46	**858.02**	**11,290.90**	**30,269.40**	
	15,577.67	15,584.88	2281.18	501.92	3571.36	5102.82	
FINLIT	**48,234.54**						
	3098.94						
MAL×FL1		−42,134.98	−6097.58	**−1964.18**	−12,605.77	8523.87	
		49,727.98	5839.92	1163.46	10,040.95	14,771.67	
MAL×FL2		8612.03	−277.27	**−1692.47**	**−15,621.09**	12,864.44	
		31,347.30	3701.67	740.34	6346.68	9330.09	
MAL×FL3		**43,223.95**	−812.39	**−1972.72**	**−12,095.38**	**18,307.76**	
		22,263.92	2646.40	531.91	4522.18	6642.08	
MAL×FL4		**184,395.20**	**6360.99**	**−1070.33**	4233.65	**57,675.53**	
		18,122.35	2183.96	442.87	3706.76	5434.14	
MAL×FL5		**177,447.40**	2130.74	−1473.44	−3816.40	**51,695.56**	
		58,458.33	6821.60	1352.60	11,767.11	17,325.66	
FEM×FL0		−17,863.65	−2286.95	−602.56	−3421.73	**−12,587.46**	
		18,274.41	2276.22	471.10	3802.14	5550.21	
FEM×FL1		−9315.75	249.38	−1308.29	−11,339.18	10,471.80	
		36,035.50	4226.61	841.00	7272.28	10,700.34	
FEM×FL2		11,988.73	−465.65	−896.32	**−9853.96**	**17,723.77**	
		26,040.84	3081.12	617.07	5277.68	7756.59	
FEM×FL3		**117,317.40**	3535.42	**−1662.61**	1855.12	**41,064.61**	
		20,890.61	2491.63	501.95	4250.47	6240.21	
FEM×FL4		**224,995.20**	**7291.98**	**−1118.87**	2917.17	**64,778.11**	
		18,806.46	2254.63	455.73	3836.68	5628.28	
FEM×FL5		63,271.21	−1399.26	**−2087.28**	**−16,602.45**	**25,633.94**	
		49,578.42	524.01	1127.14	9925.79	14,634.95	
Spearman's Rho	0.53	0.53	0.29	0.18	0.40	0.43	
	0.00	0.00	0.00	0.00	0.00	0.00	

	INS	TST	HOM	OTH	BUS	VEH	COL
AGE	−25.93	**215.96**	**6295.54**	**2054.42**	**361.28**	**111.56**	**64.82**
	23.63	43.68	111.43	111.77	92.55	10.75	7.40
EDU	**−406.43**	**937.36**	**2007.64**	−999.21	**3819.12**	**611.86**	**−140.53**
	163.45	302.63	753.36	771.35	639.06	74.23	51.33

(Continued)

Table 5. (Continued)

	INS	TST	HOM	OTH	BUS	VEH	COL
INC	**0.13**	**0.39**	**2.84**	**1.79**	**0.71**	**0.20**	**0.03**
	0.01	0.01	0.02	0.03	0.02	0.00	0.01
CEN	**−0.30**	−0.07	**−4.67**	**−3.33**	**−1.30**	**−0.46**	**−0.10**
	0.06	0.10	0.22	0.25	0.21	0.02	0.02
DEP	**6279.28**	−579.18	1830.26	709.46	3782.87	**884.40**	**−210.18**
	787.25	1321.92	2733.98	3149.64	2659.85	302.54	231.79
REC	−865.57	−1455.79	**−36,438.96**	12,011.98	**−15,998.51**	−1034.63	−637.84
	2519.53	4206.69	8637.73	9989.77	8440.48	959.27	739.04
MAR	−925.15	**5370.34**	**47,898.15**	**18,094.31**	2392.88	826.76	−20.18
	1815.69	3086.98	6621.71	7443.01	6261.37	715.03	538.63
FINLIT							
MAL×FL1	−2,364.23	−927.68	9368.10	−9971.74	−21,735.52	−2551.87	116.02
	3956.00	7573.26	20,755.72	19,903.79	16,341.72	1916.96	1267.85
MAL×FL2	−4094.87	−2881.89	**33,014.77**	3338.86	−10,765.19	1515.45	−308.28
	2524.92	4807.66	13,088.55	12,598.24	10,351.42	1213.28	806.22
MAL×FL3	−611.39	−841.64	**51,021.70**	7594.31	−9882.94	**4323.32**	**−191.74**
	1821.41	3443.76	9299.29	8991.68	7394.71	865.86	578.73
MAL×FL4	−642.64	2522.13	**91,871.02**	**27,042.32**	4013.01	**2435.87**	**91.68**
	1526.56	2852.18	7576.46	7396.17	6093.06	711.97	481.13
MAL×FL5	**11,584.88**	7038.98	**44,021.51**	37,459.28	26,543.20	2995.44	37.22
	4581.78	8829.85	24,392.20	23,287.80	19,102.98	2243.07	1475.20
FEM×FL0	1519.25	17.90	−1695.87	9372.53	947.29	**−1808.58**	**165.75**
	1647.24	2997.54	7655.69	7648.19	6328.47	736.03	510.08
FEM×FL1	−3727.38	−4025.99	**43,627.44**	−6748.50	**−19,896.26**	−1684.36	−1107.93
	2856.43	5478.56	15,039.90	14,410.62	11,829.30	1387.95	916.68
FEM×FL2	112.78	−2385.19	17,796.17	−3296.98	−2731.64	743.78	−754.68
	2106.77	4003.93	10,873.97	10,481.47	8614.54	1009.39	671.83
FEM×FL3	1730.58	−1667.94	**66,895.82**	**21,143.00**	−9889.14	**2200.35**	**14.17**
	1721.82	3245.28	8727.56	8458.65	6959.53	614.48	545.93
FEM×FL4	−1840.72	2221.71	**124,095.00**	**36,397.97**	2018.02	**2058.68**	**1161.97**
	1567.23	2940.68	7859.65	7644.82	9293.96	736.01	495.36
FEM×FL5	−909.13	−576.65	**108,378.30**	16,077.50	**−27,907.63**	1708.46	362.12
	3798.81	7388.59	20,673.07	19,591.44	16,048.25	1887.31	1230.74
Spearman's Rho	0.11	0.24	0.51	0.34	0.32	0.35	0.19
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Statistically significant coefficients are denoted in bold and include up to 0.10 level of significance.

For CSH and EQT, coefficients are significantly negative. BUS assets are significantly negative for women with high FINLIT(=5) and low FINLIT(=1). The negative associations are interesting, given we would expect people with a higher level of financial knowledge to diversify asset classes and to utilise their knowledge to target higher returns. Very highly financially literate women seemingly avoid own businesses, and this is an interesting area of future investigation.

In summary, higher FINLIT women have higher levels of wealth and this is through investment in HOM, SPR and OTH. Higher FINLIT men also have higher levels of wealth, although of less magnitude than the same women, and this is also through investment in HOM, SPR and OTH. Interestingly, higher financial literacy is not positively associated with higher level investment in

Table 6. Summary of regression results for gender, financial literacy and net wealth, divorced population, *wealth modules*.

NW	DIV	DIV1	DIV2	DIV3	DIV4
MAL	−63,465.33	−141,397.40	−147,594.40	−119,254.80	−60,929.72
FEM	4399.38	−104,724.40	−158,010.50	−71,861.15	−21,934.64
FINLIT = 1					
MAL					
FEM					
FINLIT = 2					
MAL				−241,261.30	
FEM			−161,534.20		
FINLIT = 3					
MAL		−115,562.80		105,282.00	
FEM	125,552.50				
FINLIT = 4					
MAL	94,965.84				104,614.10
FEM	200,256.60			175,858.40	238,329.60
FINLIT = 5					
MAL					
FEM					

EQT, BUS or CSH, asset classes that we would expect a higher association to be observed due to increased financial knowledge or skills required.

We next ran regressions on NW and the sub-sample of divorced people. We run 12 regressions that include interaction variables of gender and divorce (e.g. FEM×DIV), and gender and the lead variables (e.g. FEM×DIV1), and finally gender and financial literacy and lead variables (e.g. FEM×FL1×DIV1). We present a summary of the significant findings in Table 6, with full results available on request. Table 6 shows a gender disparity in wealth impacts of divorce that are unexpected. Over the entire sample period, the negative financial impact of divorce is −$28,997.08 for both genders. However, men have a significant adverse impact on wealth of −$63,465.33, in comparison to women with negligible impact of $4,399.38. Over time, both genders experience increasing NW losses that peak in DIV2, 8 years on from the divorce (−$158,010.50 for women and −$147,594.40 for men). Even though women experience the highest loss in NW, they also recover the fastest, with losses in DIV3 and DIV4 much less than that of their male counterparts.

We found evidence that an above-average level of financial literacy is beneficial for maintaining wealth after divorce, and about double the magnitude for women than men. A FINLIT = 4 for women shows the NW outcome of divorce is $200,256.60 and for men it is $94,965.84. This relationship between NW and FINLIT is supported over the long term, but not in the short term. In DIV3 (12 years on), the increase in NW for women is $175,858.40, and in DIV4 (16 years on), the increase is $238,329.60 for women and $104,614.10 for men.

The results for average financial literacy knowledge (FINLIT = 3) are less conclusive, but findings support positive NW outcomes for women experiencing divorce, but negative for men in DIV1 and then positive for men in DIV3. There were negative coefficients for women and men with FINLIT 2 in the short-to-medium term, providing some support that lower levels of financial literacy are associated with lower wealth outcomes, which can be exacerbated in divorce. If we compare the magnitude of the coefficient of FINLIT = 2 of −$161,534.20 in DIV2 for women and −$241,261.30 in DIV3 for men to the overall impact on NW of −$28,997.08 for

both genders, then indeed the financial outcomes seem much worse for those with low levels of financial literacy.

The 11 regressions to understand the pathway to wealth creation for divorced people is provided in Table 7. Focussing on the above-average financially literate males and females, the wealth accumulation is positive for females through investment in HOM, OTH, TST, BNK and INS (in that order), and for men it is through investment in HOM, OTH and VEH. For women, it is definitely not through investment in EQT or BUS (negative coefficients).

It must be noted that the sample period includes the Global Financial Crisis (GFC) in 2007–2009, for which we have not controlled. For context, the overall net wealth increased from 2006 to 2010 (the relevant *Wealth Modules*). There are asset classes that experienced overall valuation declines, including CSH (−52%), EQT (−19%) and OTH (−43%), and inclines including BNK (42%), SPR (23%) and HOM (21%) and BUS (6%). Both divorced males and females, therefore, were favourably impacted due to their holdings in HOM, and negatively impacted by holdings in OTH in 2010, if the 2010 year was included as a shock in the dynamic model (DIV1-3).

The data analysis finds evidence to suggest that a good level of financial literacy overcomes the adverse impacts of divorce on wealth accumulation. We find this association is stronger for women, and for both genders the significance of the relationship is stronger over the long term. We also find evidence that both men and women with lower levels of financial literacy experience a loss in net wealth that is amplified and observed over the medium to long term.

7. Discussion

This research makes an important contribution to the broader literature on the association between financial literacy and financial shocks with an analysis of divorce. When gendered gaps seem so pronounced, studying the financial outcomes of divorce provides an opportunity to learn about the supporting role of financial knowledge. Given the reports of other gender gaps – in superannuation, wages and poverty – we aim to contribute to the positive public policy debate on what works.

We extend previous research in three ways. First, literature on the association between financial literacy and divorce is limited. Second, quantifying the financial impact of divorce on wealth, and identifying wealth accumulation or decumulation pathways over time is non-existent. Third, the gender lens provides insights into the investment preferences of females with good levels of financial literacy, which has not been detailed previously in Australia.

This novel research provides wisdom that is practical for policymakers, financial educators and workplaces to employ. First, good financial literacy matters. Over the long term, people with higher levels of financial literacy have positive wealth accumulation outcomes after divorce, and our findings are similar in that respect to Fonseca et al. (2012). Unlike Fonseca et al. (2012), we found a significant gender difference, specifically that the magnitude of the change is better for women than for men. We also provide evidence that financial literacy may improve after divorce, especially for women. Investing in financial education programmes is therefore an investment in financial resilience of female-headed single households. These programmes need to be available over the life cycle – at school, at tertiary education institutions and in workplaces.

Second, women prefer property and superannuation investments over other investable assets like equities. While more research on pathways to increase women's confidence with equity investment would be supported, there is an opportunity for banks through the property loan process to provide women with educational support. In addition, superannuation funds can provide personalised support to assist women to actively choose their investment options inside their superannuation account, which usually range from 'high growth' to 'balanced'. As (usually) a substantial proportion of the superannuation fund is directly invested in equities, investment in

Table 7. Gender, financial literacy and asset, divorced population, *wealth modules*.

Asset classes	BNK	CSH	EQT	SPR	INS	TST
AGE	**936.48**	16.10	**1184.79**	**2399.24**	65.83	177.14
	94.96	16.17	152.59	229.77	69.53	124.53
EDU	**−934.52**	−67.67	392.48	−1412.33	200.43	288.76
	557.59	95.01	890.80	1317.59	408.34	727.36
INC	**0.43**	0.00	**0.58**	**2.10**	**0.20**	**0.30**
	−0.03	0.00	0.04	0.06	0.02	0.03
CEN	**−0.27**	0.03	−0.32	**−1.86**	−0.13	−0.14
	0.15	0.03	0.24	0.03	0.11	0.19
DEP	−2895.64	−456.86	1951.36	−4168.37	−1437.12	−1760.91
	3260.06	559.10	4866.39	6544.81	2390.46	3999.30
REC	−4408.47	−557.69	−1152.88	6457.03	2028.61	182.79
	3473.80	595.39	5212.52	7026.20	2546.91	4282.88
MAR	13,726.01	−3750.65	9417.85	5301.32	2371.38	−4986.54
	31,797.85	5462.87	47,039.14	63,224.46	23,332.54	38,675.02
MAL×FL1	−275.74	−579.11	−20,252.17	−35,093.96	3459.48	−9661.70
	11,746.31	1994.01	19,288.06	29,586.61	8595.82	15,711.26
MAL×FL2	8437.28	−543.82	−30,192.50	−31,718.81	2722.71	−10,414.85
	8272.28	1404.84	13,603.79	20,951.03	6053.28	11,077.67
MAL×FL3	−3243.24	−572.67	**−25,480.51**	−25,273.06	4479.90	−6227.06
	6261.70	1066.73	10,113.42	15,416.88	4585.32	8243.72
MAL×FL4	6992.07	1036.86	**−22,715.79**	1966.05	4048.34	−1106.07
	5418.26	924.02	8696.52	13,204.84	3969.07	7091.25
MAL×FL5	19,548.71	−536.19	−13,924.70	15,105.02	−1450.46	−3238.68
	12,963.32	2187.25	22,023.13	34,420.94	9471.75	17,899.83
FEM×FL0	2291.76	−123.47	−11,125.36	**−27,750.18**	3137.52	−1921.32
	6059.22	1035.14	9619.20	14,523.28	4439.95	7850.40
FEM×FL1	408.14	260.48	**−26,730.32**	−21,096.75	2310.24	−3611.75
	8712.12	1478.63	14,381.76	22,154.91	6375.50	11,710.11
FEM×FL2	3539.29	−477.71	−16,135.63	−12,218.29	**9001.67**	−556.39
	6716.15	1143.10	10,900.71	16,643.67	4921.00	8883.22
FEM×FL3	7336.93	329.38	**−18,734.34**	−3684.71	**9019.14**	−3693.89
	5819.31	991.39	9391.92	14,302.50	4261.39	7656.60
FEM×FL4	**12,713.63**	−528.18	**−18,639.10**	11,249.27	5206.36	1840.94
	5543.45	945.26	8905.72	13,520.98	4060.99	7260.15
FEM×FL5	−3252.91	−668.89	−28,298.82	−33,818.76	4203.98	**28,353.69**
	10,892.02	1850.09	17,910.87	27,557.00	7972.26	14,587.79
DIV1	−4936.90	−97.66	−6818.69	−10,029.43	−2460.76	1709.57
	4492.37	773.29	6333.11	7718.53	3298.36	5232.23
DIV2	**−12,396.84**	**2548.18**	−13,354.29	−17,715.72	−4259.30	−3402.73
	6935.87	1192.70	9681.28	11,701.55	5103.09	8018.27
DIV3	−7097.93	−903.68	−20,478.00	−11,877.00	−65,554.32	−7841.01
	9529.16	1640.44	13,225.53	15,890.42	6993.84	10,957.78
DIV4	−17,238.33	−1136.43	−23,019.87	35,272.10	8069.50	−7856.49
	15,504.01	2670.50	21,231.74	25,136.90	11,380.35	17,618.43

(Continued)

Table 7. (Continued)

Asset classes	HOM	OTH	BUS	VEH	COL
AGE	**4726.03**	**1623.54**	160.78	**86.69**	**59.00**
	335.88	315.03	216.13	35.49	23.71
EDU	926.59	−2083.53	1393.43	179.70	**−493.74**
	1946.67	1848.10	1245.84	206.76	137.74
INC	**3.29**	**1.86**	**0.56**	**0.21**	0.00
	0.08	0.08	0.05	0.01	0.01
CEN	**−3.10**	**−1.56**	−0.23	**−0.29**	**−0.06**
	0.50	0.51	0.32	0.05	0.04
DEP	**−17,012.01**	−10,612.75	−2826.75	441.85	−105.14
	10,176.12	10,567.43	6340.27	1112.44	728.66
REC	14,563.63	**29,474.28**	−5973.97	1199.10	−667.42
	10,908.09	11,286.10	6797.59	1191.92	780.92
MAR	−21,143.23	−454.50	−20,851.40	6008.17	1874.44
	98,240.85	102,657.70	61,220.02	10,746.24	7035.10
MAL×FL1	42,795.47	−1082.10	−16,628.60	−3681.81	−1699.94
	42,811.69	39,324.39	27,696.92	4501.20	3017.41
MAL×FL2	33,339.07	−6902.04	−16,257.11	−432.35	−422.28
	30,258.75	27,681.77	19,596.96	3177.18	2131.77
MAL×FL3	20,885.87	−3637.55	−17,700.75	**4696.86**	−460.28
	22,360.70	20,792.68	14,445.83	2356.12	1577.26
MAL×FL4	**40,923.75**	**36,965.91**	18,783.63	3093.28	−891.57
	19,183.96	17,945.92	12,380.95	2024.18	1353.85
MAL×FL5	17,975.94	**84,898.67**	−18,293.65	7816.77	1317.17
	49,421.18	44,032.89	32,116.34	5161.82	3474.68
FEM×FL0	37,254.28	12,400.86	4051.51	−2214.83	−1083.47
	21,152.23	19,977.09	13,631.38	2236.10	1493.80
FEM×FL1	51,007.30	−7424.85	−10,199.33	−3661.82	−1779.13
	32,003.00	29,218.05	20,723.73	3359.64	2254.30
FEM×FL2	31,832.24	−7716.60	−14,991.19	−1944.41	−559.20
	24,132.37	22,353.76	15,593.02	2540.77	1701.55
FEM×FL3	**72,570.53**	22,641.52	−20,897.35	65.96	1142.11
	20,757.31	19,320.80	13,405.71	2187.86	1464.32
FEM×FL4	**101,935.00**	**31,194.28**	**−21,099.67**	687.62	−43.45
	19,645.84	18,366.81	12,679.41	2072.53	1386.30
FEM×FL5	62,016.47	21,194.73	−24,837.84	−1260.73	205.98
	39,821.12	36,457.28	25,782.31	4182.53	2805.53
DIV1	**−27,726.38**	**−26,953.65**	−8397.44	166.88	−1361.45
	12,623.71	14,352.07	7651.90	1422.40	914.79
DIV2	−19,508.51	−16,039.00	−14,317.24	−933.76	580.60
	19,229.04	22,110.50	11,620.39	2173.59	1394.93
DIV3	**−76,552.72**	19,667.28	−15,682.96	−4798.68	−1284.90
	26,170.94	30,320.35	15,803.78	2965.24	1900.24
DIV4	6290.16	−56,318.68	−1341.94	323.00	−695.07
	41,698.31	49,180.05	25,069.74	4746.81	3033.56

Statistically significant coefficients are denoted in bold and include up to 0.10 level of significance.

superannuation goes some way to alleviating diversification issues women face with a two-asset class investment portfolio. However, from a macroeconomic perspective, concern arises in respect to the financial resilience of households to weather macroeconomic events, like the Global Financial Crisis (2007–2009). When particular asset classes are affected more than others, households with concentrated wealth in those affected asset classes fare worse than those with a diversified investment portfolio.

To help the most vulnerable men and women in our community, differentiated approaches are needed. There is a strong positive relationship between higher incomes and higher financial literacy, largely due to higher incomes affording the capacity to make, practice and learn from investment decisions. People on low incomes are excluded from such opportunity and live hand-to-mouth. Accordingly, the choices made by Government in important policy areas such as social safety-net payments, the minimum wage, affordable housing, and affordable childcare, education and training make a difference to the financial futures of this important cohort. Furthermore, policymakers can use their regulatory and behavioural tools in the financial markets to reduce sludges (complexity of decisions with too many options, paperwork burdens or hard-to-understand terms), make some things more automatic (like tax returns or rebates), and remove poor choices (predatory lenders, gambling licences, etc.). It is essential that this vulnerable cohort can access free and unbiased information and advice, especially in a time of crisis (such as divorce). Thus, ongoing funding of the financial counselling programme is indispensable.

Finally, for government, financial educators, counsellors, advisors and workplaces, it is important to note that it takes quite some time for financial recovery to begin after divorce (12 years). The affected individuals are likely to be quite financially stressed in the intervening period. We find that men are more adversely affected than women in terms of wealth over the sample period, so gendered assumptions are not helpful. What is constructive is to assist the individuals to set goals and plan for a better financial future.

Acknowledgements

This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the author and should not be attributed to either DSS or the Melbourne Institute.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

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Note

1. Represented in categories for the purpose of describing the sample in Table 2.

References

AIFS (2018) *Living Together in Australia*. AIFS Facts and Figures. Available at: https://aifs.gov.au/facts-and-figures/living-together-australia/living-together-australia-source-data (accessed 8 November 2019).

André S, Dewilde C and Muffels R (2019) What do housing wealth and tenure have to do with it? Changes in wellbeing of men and women after divorce using Australian panel data. *Social Science Research* 78: 104–118.

ANZ Australia (2018) Financial wellbeing: A survey of adults in Australia. Available at https://www.financialcapability.gov.au/files/anz-financial-wellbeing-summary-report-australia.pdf (accessed 28 October 2020).

Association of Superannuation Funds of Australia (2017) Superannuation account balances by age and gender. Available at: https://www.superannuation.asn.au/ArticleDocuments/359/ASFA_Super-account-balances_Dec2015.pdf.aspx (accessed 12 November 2020).

Australian Bureau of Statistics (2017) *Marriages and Divorces, Australia, 2017*. Canberra, ACT, Australia: Australian Bureau of Statistics. Available at: http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3310.0Main%20Features42017?opendocument&tabname=Summary&prodno=3310.0&issue=2017&num=&view= (accessed 8 November 2019).

Australian Government (2019) *Family law for the future- An inquiry into the family law system*. ALRC report 135, March. Available at: https://www.alrc.gov.au/wp-content/uploads/2019/08/alrc_report_135_final_report_web-min_12_optimized_1-1.pdf (accessed 24 February 2021).

Australian Government (2020) Services Australia Income support payments. Available at: https://www.servicesaustralia.gov.au/individuals/services/child-support/child-support-assessment/how-we-work-out-your-assessment (accessed 28 October 2020).

Australian Human Rights Commission (2019) Older women's risk of homelessness: Background Paper 2019. Available at: https://humanrights.gov.au/sites/default/files/document/publication/ahrc_ow_homelessness2019.pdf

Bollen KA and Brand JE (2010) A general panel model with random and fixed effects: A structural equations approach. *Social Forces* 89: 11–34.

Bottazzi L and Lusardi A (2016) *Gender differences in financial literacy: Evidence from PISA data in Italy*. Available at https://institute.eib.org/wp-content/uploads/2016/10/gender-diff.pdf (accessed 12 November 2020).

Capuano A and Ramsay I (2011) *What causes suboptimal financial behaviour? An exploration of financial literacy, social influences and behavioural economics*. University of Melbourne Legal Studies research paper no 540, 23 March. Melbourne, VIC, Australia: University of Melbourne.

Chen H and Volpe R (2002) Gender differences in personal financial literacy among college students. *Financial Services Review* 11: 289–307.

Coile C and Milligan K (2009) How household portfolios evolve after retirement: The effect of aging and health shocks. *Review of Income & Wealth* 55: 226–248.

Davidson P, Saunders P, Bradbury B, et al. (2018) *Poverty in Australia, 2018*. ACOSS/UNSW poverty and inequality partnership report no. 2. Sydney, NSW, Australia: Australian Council of Social Service.

De Vaus D (2007) *The consequences of divorce for financial living standards in later life*. Report no. 38. Melbourne, VIC, Australia: Australian Institute of Family Studies.

De Vaus D, Gray M, Qu L, et al. (2014) The economic consequences of divorce in Australia. *International Journal of Law, Policy and the Family* 28: 126–147.

De Vaus D, Gray M, Qu L, et al. (2017) The economic consequences of divorce in six OECD countries. *Australian Journal of Social Issues* 52: 180–199.

Delhommer SM and Hamermesh DS (2021) Same-sex couples and the gains to marriage: The importance of the legal environment. *Journal of Policy Analysis and Management*. Epub ahead of print 11 February. DOI: 10.1002/pam.22287.

Family Court of Australia (2016) *De facto relationships*. Available at: http://www.familycourt.gov.au/wps/wcm/connect/fcoaweb/family-law-matters/separation-and-divorce/defacto-relationships/ (accessed 28 October 2020).

Family Court of Australia (2020) Family law and superannuation, Fact Sheet. Available at: http://www.familycourt.gov.au/wps/wcm/connect/3814d0d9-a5d5-483f-afb6-052dd3b43d80/FSFINSUP_0313V2.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE-3814d0d9-a5d5-483f-afb6-052dd3b43d80-lLd0Pg2 (accessed 28 October 2020).

Family Court of Australia (2021) Media release-Statement from the Family Court of Australia and Federal Circuit Court of Australia, February 23. Available at: http://www.familycourt.gov.au/wps/wcm/connect/fcoaweb/about/news/mr230221 (accessed 24 February 2021).

Farrell L, Fry TRL and Risse L (2016) The significance of financial self-efficacy in explaining women's personal finance behaviour. *Journal of Economic Psychology* 54: 85–99.

Fonseca R, Mullen KJ, Zamarro G, et al. (2012) What explains the gender gap in financial literacy? The role of household decision making. *Journal of Consumer Affairs* 46: 90–106.

Gerrans P and Heaney R (2016) The impact of undergraduate personal finance education on individual financial literacy, attitudes and intentions. *Accounting & Finance* 59: 177–217.

Hoelzl E and Kapteyn A (2011) Financial capability. *Journal of Economic Psychology* 32: 543–545.

Hughes J (2000) Repartnering after divorce: Marginal mates and unwedded women. *Family Matters* 55: 16–25.

Huston SJ (2010) Measuring financial literacy. *Journal of Consumer Affairs* 44: 296–316.

Islam N (2007) *A dynamic Tobit model of female labor supply*. Working papers in economics 259. Gothenburg: Department of Economics, University of Gothenburg.

Jayawarna D, Marlow S and Swail J (2020) A gendered life course explanation of the exit decision in the context of household dynamics. *Entrepreneurship Theory and Practice* 24: 1–37.

Joo S and Grable J (2004) An exploratory framework of the determinants of financial satisfaction. *Journal of Family and Economic Issues* 25: 125–150.

Karunarathne W and Gibson J (2014) Financial literacy and remittance behaviour of skilled and unskilled immigrant groups in Australia. *Journal of Asian Economics* 30: 54–62.

Lorimer C (2020) Reform of family law. *Law and Bills Digest*. Available at: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook46p/FamilyLaw (accessed 28 October 2020).

Lusardi A and Mitchell OS (2008) Planning and financial literacy: How do women fare? *The American Economic Review* 98: 2413–2417.

Lusardi A and Mitchell OS (2011) Financial literacy around the world: An overview. *Journal of Pension Economics and Finance* 10: 497–508.

Lusardi A, Mitchell OS and Curto V (2010) Financial literacy among the young. *Journal of Consumer Affairs* 44: 358–380.

Mitchells Solicitors (2017) Are financial contributions worth more in a divorce? *Property Settlements Digest*, 28 November. Available at: https://divorcelawyersbrisbane.com.au/financial-contributions-worth-divorce/ (accessed 28 October 2020).

Nelson J (1988) Household economies of scale in consumption: Theory and evidence. *Econometrica* 56: 1301–1335.

Newbould J (2020) Unromantic? Maybe, but a pre-nup is your insurance policy. *Money Magazine*, 2 October. Available at: https://www.moneymag.com.au/should-you-get-a-pre-nup (accessed 28 October 2020).

OECD (2017) G20/OECD INFE Report on adult financial literacy in G20 countries. Report presented at the 2017 G20 Leader's Summit meeting in Hamburg on July 8, 2017. Available at: http://www.oecd.org/daf/fin/financial-education/G20-OECD-INFE-report-adult-financial-literacy-in-G20-countries.pdf (accessed 12 November 2020).

Parry-Okeden E (2019) Pre-nup or pre-yup: Pros and cons of prenuptial agreements. *Canstar Life Insurance Bulletin*, 4 December. Available at: https://www.canstar.com.au/life-insurance/prenuptial-agreement/ (accessed 28 October 2020).

Riitsalu L and Põder K (2016) A glimpse of the complexity of factors that influence financial literacy. *International Journal of Consumer Studies* 40: 722–731.

Sharma A (2015) Divorce/separation in later-life: A fixed effects analysis of economic well-being by gender. *Journal of Family and Economic Issues* 36: 299–306.

Sheehan GR (2003) Financial aspects of the divorce transition in Australia: Recent empirical findings. *International Journal of Law, Policy and the Family* 16: 95–126.

Sheehan GR and Hughes J (2001) *Division of Matrimonial Property in Australia*. Melbourne, VIC, Australia: Australian Institute of Family Studies.

Smock PJ, Manning WD and Gupta S (1999) The effect of marriage and divorce on women's economic well-being. *American Sociological Review* 64: 794–812.

Smyth B and Weston R (2000) Financial living standards after divorce. *Family Matters* 55: 10–15.

Spallek M, Haynes M, Baxter J, et al. (2018) *Relationship separation and length of time in receipt of income support payments: A longitudinal analysis of Australian Government administrative data*. Life Course Centre Working Paper 2018-11, 20 July. Indooroopilly, QLD, Australia: Institute for Social Science Research, The University of Queensland.

StataCorp (2011) *Stata Survey Data Reference Manual Release 13*. College Station, TX: Stata Press Publication.

Trainor T (2017) How to save tens of thousands on the cost of your divorce. *Money Magazine*, 8 November. Available at https://www.moneymag.com.au/save-thousands-divorce (accessed 28 October 2020).

Wagland SP and Taylor S (2009) When it comes to financial literacy, is gender really an issue? *Australasian Accounting Business & Finance Journal* 3: 113–125.

West T and Worthington AC (2013) A canonical correlation analysis of financial risk-taking by Australian households. *Consumer Interests Annual* 59: 1–4.

West T and Worthington AC (2014a) Macroeconomic conditions and Australian financial risk attitudes 2001-2010. *Journal of Family and Economic Issues* 35: 263–277.

West T and Worthington AC (2014b) Personal attributes and financial risk-taking in Australia. *Financial Services Institute of Australasia (JASSA)* 1: 1–25.

West T and Worthington AC (2018) Synthesizing an index of financial literacy using not-for-purpose survey data: Synthesizing an index of financial literacy. *Economic Notes* 47: 2–3: 331352.

West T and Worthington AC (2019) The impact of major life events on household asset portfolio rebalancing. *Studies in Economics and Finance* 36: 334–347.

Whitbourn M (2018) The long wait: Sydney mum's protracted fight in family law system. *The Sydney Morning Herald*, 19 August. Available at: https://www.smh.com.au/national/the-long-wait-sydney-mum-s-protracted-fight-in-family-law-system-20180817-p4zy4p.html (accessed 28 October 2020).

Wisman JD (2009) Household saving, class identity, and conspicuous consumption. *Journal of Economic Issues* 43: 189–114.

Workplace Gender Equality Agency (2020) Gender equity insights report. Available at: https://www.wgea.gov.au/data/wgea-research/gender-equity-insights-series (accessed 12 November 2020).

Zissimopoulos JM, Karney B and Rauer A (2008) *Marital histories and economic well-being*. Michigan Retirement Research Center research paper no. WP 180. Available at: https://www.rand.org/pubs/working_papers/WR645.html