

A (W)HOLE IN THE FINANCIAL BUDGET: BUDGETING'S INFLUENCE ON THE EFFECTIVE USE OF CREDIT CARD DEBT IN AUSTRALIA

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ABSTRACT

Credit card debt has become intrinsic to the way of life and are accepted as part of modern day living. This paper examines to what extent personal budgeting can influence the effective use of Australian credit card debt. The findings suggest that the most effective credit card debtors are those who consider they do not need a budget due to low income and expenses followed by those without a budget but often earning in excess of \$180,000 p.a. Participants with the lowest effective use of credit card debt are those who do have a budget but rarely follow it.

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Introduction

Unlike previous generations, credit card debt today is used as a preferred payment method to purchase everything, including groceries and services (Kamleitner & Kirchler, 2007; Lea *et al.*, 1993; Yilmazer & DeVaney, 2005). The Australian Bureau of Statistics (ABS) (2009) identified that 55 percent of Australian households incur credit card debt, and a number of studies observe that not only has personal debt become socially acceptable, but also that some consumers observe it as a life saving instrument (Ahmed, Amanullah, & Hamid, 2009; Kamleitner & Kirchler, 2007; Starr, 2007). Indeed at the end of August 2015 there were more than 16 million credit card accounts with more than \$50.5 billion in outstanding end of month balances in Australia (RBA, 2015).

If used properly, personal debt can simultaneously bring prosperity to the financial institutions and also to consumers (Berg, 2005; Watkins, 2009). Advantages to consumers include use in offset strategies, security (easy access in emergency), efficient payment, funds transfer and recording keeping. However, personal debt is not without risks. When used inappropriately, personal debt has a tendency to be the most important contributing factor to distress, financial difficulty or even bankruptcy, particularly when experiencing cash flow difficulties (Baek & Hong, 2004; Berg, 2005; Cava & Simon, 2005; Kamleitner & Kirchler, 2007). Despite this, little is known about the influence of the effective use of credit card debt in Australia. This raises the question of how effectively credit card debt is used by Australian consumers and the extent to which personal financial budgeting affects this.

There have been a number of prior studies concerning credit use, one which focused on credit card misuse (Norvilitis & Santa Maria, 2002; Watson, 2009). A small study conducted by Norvilitis *et al.* (2006) indicated that individuals with an extremely basic or non-existing financial knowledge do not understand the implications of accumulating excessive credit card debt. Others found that while credit cards enable consumers to satisfy their need for instant gratification as well as maintaining or improving their existing lifestyle (Griffiths, 2007; Kamleitner & Kirchler, 2007; Scott, 2007), there is little consideration of the costs (interest and fee) related to these purchases (Griffiths, 2007; Kamleitner & Kirchler, 2007; Scott, 2007). Despite these concerns, little attention has been given to the notion of 'effective use' of credit card debt and how this may be related to money management skills, in particular budgeting.

The purpose of this study is to examine the effect of simple personal financial management strategies (such as budgeting) have on the effective use of consumer debt, and in particular credit card debt. Given the growth in consumer debt and anecdotal evidence of consumers struggling with credit cards that advisers and the media report, we contend this is an important area to gain further understanding of the effectiveness of the use of debt and how simple personal financial management tools (e.g. budgets) impact upon this. In addition, we note that there is little empirical evidence on this issue in Australia to inform practitioners and policy makers.

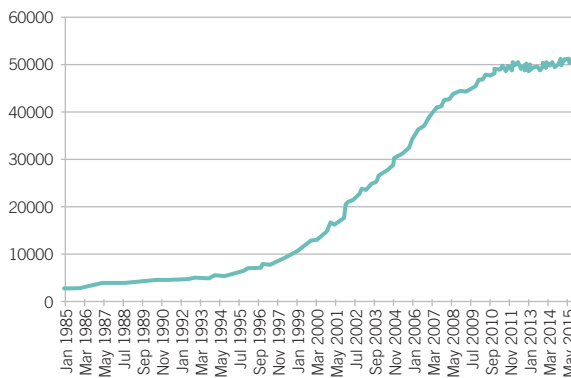
This paper details an Australian survey of 680 people which explored their use of credit card debt, and whether this was regarded as effective or ineffective in terms of having a tendency to increase an individual's financial wealth. The study then considers individuals' credit card effective debt score in terms of their financial management strategies, in particular personal budgeting. It was found that those individuals without a personal or family budget due to the low income and expense levels as well as those with a written budget that they follow 'most of the time', utilised credit card debt more effectively. In contrast, those individuals who have a written budget but rarely follow it use credit card debt less effectively.

The remainder of the paper is structured as follows. The next section contains a review of the literature, followed by a discussion of the data and method. This is followed by the results and discussion, with the final section including the limitations and future research before the paper concludes.

Credit card debt in Australia

The number of credit cards issued in Australia has consistently grown over since 1990s (RBA, 2015). This is reflected by the fact that a number of issued credit cards in Australia increased from 6.5 million in June 1994 to 16.1 million in August 2015 (RBA, 2015). During the same period, the Australian population increased at a slower rate, from 17.8 million in 1994 to 23.7 million in 2015 (ASB, 2002, 2008, 2015). Also the monetary value of Australian consumer's purchases and cash withdrawals obtained through credit cards increased approximately 11 times during the same period (RBA 2015) see figure below. In June 1994 credit card expenditure was \$1.8 billion, but in June 2013 that expenditure was approximately \$24.4 billion (RBA, 2015).

Figure 1: Credit card balances in Australia (RBA, 2015)



The growth of personal debt is partly attributed to the financial deregulation in Australia (Mandell & Klein, 2009), and it appears to be putting a financial pressure on Australians. Prior to major regulatory reform in the 1990s, when Australian financial institutions were heavily regulated, obtaining a credit card was more difficult (Green *et al.*, 2009; Griffiths, 2007). After financial deregulation personal lending criteria were relaxed, resulting in consumers become able to borrow more easily against the existing equity for consumption purposes with the potential to improve existing lifestyle (Kamleitner & Kirchler, 2007). For example, financial institutions frequently offer credit cards to consumers with a predetermined limit (Scott, 2007) without considering their financial position (Mandell & Klein, 2009). Processes for increasing credit limits on existing cards were also streamlined, increasing accessibility and enabling consumers to satisfy their need for instant gratification as well as maintaining or improving their existing lifestyle (Griffiths, 2007; Kamleitner & Kirchler, 2007; Scott, 2007). In addition, personal debt allows consumers to purchase desired goods and services they could not otherwise immediately afford (thus bringing purchases forward), and frequently without considering higher annual interest rates or penalties imposed by financial institutions (Griffiths, 2007; Kamleitner & Kirchler, 2007; Scott, 2007). Evidence suggests that Australian consumers are spending up to 50 percent of their after tax income to meet minimum repayment demands on existing personal debt, that includes credit card and other types of personal debt (Griffiths, 2007). This is approximately 1.7 times higher than 30 percent of consumers' gross income that was used as a gauge for the standard permissible debt servicing ratio (Griffiths, 2007). Further, statistics from the ABS (2009) indicate that approximately one-tenth of Australian consumers with a lower earning capacity spend more than 50 percent of gross income meeting their debt repayment demands.

Factors influencing debt

Research indicates that poor personal money management exhibited by careless budgeting, combined with a lack of knowledge and understanding of financial matters may predispose consumers to obtain personal debt (Lea *et al.*, 1995; Norvilitis *et al.*, 2003). In a study of 583 individuals classified as non-debtors, mild debtors or serious debtors, Lea, Webley & Walker (1995) found that participants with poor money management (for example, lack of budgeting to monitor spending, having no savings to assist with unexpected expenses or having unrealistic expectations of future income) were overcommitted with personal debt (Walker, 1996). In a study of 100 mothers of new babies, Walker (1996) found that those participants who implemented budgeting techniques to control additional expenditure due to a new baby experienced lower financial difficulties than those without a budget.

In addition, research suggests that credit cards are used for a wide range of purchases (daily living expenses to luxury goods and holidays) creating risk for consumers who utilise them as a source of financing (Kamleitner & Kirchler, 2007; Livingstone & Lunt, 1992; Schooley & Worden, 2010). Others distinguished credit card users between convenience (tend to pay outstanding balance monthly) and instalment credit card users (a form of financing with ongoing balances) (Ahmed *et al.*, 2009; Dellandale & Saporoschenko, 2004; Rutherford & DeVaney, 2009).

In the later case, the impact of instant gratification and/or lifestyle maintenance cannot be ignored with some not being able to manage temptations and overspending despite the financing costs (Borden *et al.*, 2008; Dellandale & Saporoschenko, 2004; Flatherty, 2003, Kamleitner and Kirchner, 2007). Furthermore, this overspending can be exploited by marketing techniques employed by the retail industry and financial institutions offering 'enrichments' and rewards programs based on spending volume (Scott, 2010; Ahmed *et al.*, 2009; Norvilitis & Santa Maria, 2002). Thus, behavioural influences appear to be a key part of personal debt accumulation.

This paper will contribute to this literature by considering the possible relationship between credit card debtors in Australia and budgeting methods as a key personal financial management tool. In particular we examine the question: *How does the use of personal budgeting influence the effective use of credit card debt?*

Data and method

This paper utilises a two stage mixed method approach to examine above stated research question. In Stage One semi structured interviews and focus groups are used to scope out effective use of consumer debt, the results of which informed the development of a survey used in Stage Two.

Stage one: Interviews

Stage One explored participants' opinions and personal experiences about debt, factors influencing debt and their insights on managing and controlling different types of personal debt. It incorporated two different samples, consisting of finance professionals and Australian consumers. A total of 22 (15 with finance professionals and 7 with consumers)¹ semi-structured interviews were conducted. A further 13 consumer individuals shared their beliefs and experiences in regards to debt by participating in three focus groups providing a total of 35 participants.

Stage two: Survey

The results of stage one informed the development of a three part survey. The first section was to collect data regarding participants' money management skills. The second section was divided into two parts: participant's perception of debt utilisation and debt related questions.² The final section focused on participants demographic data. The instrument was reviewed and pilot tested by ten individuals for jargon, improper vocabulary bias and ambiguity (Andrews *et al.*, 2003). The instrument was distributed to consumers with the assistance of associations and businesses including professional associations, consumer advice organisations and financial services entities.

¹ The selection of finance professional participants was based on purposive sampling (Palys, 2008) from various finance occupations including bankers, financial planners, financial counsellors, mortgage brokers and university academic personnel specialising in finance subjects. The selection of the consumer sample was based on the convenience sampling (Anderson, 2010) resulting in a number of participants from different age groups, gender and nationality. This facilitated a variety of opinions and experiences from both professional and consumer participants.

² Survey participants indicated their responses by using a Likert-style scale of choices including strongly disagree, disagree, neutral, agree, strongly agree, not sure and not applicable (Neuman, 2011).

To gain an understanding of the relationship between credit debt and its effective or ineffective utilisation, participants were asked a range of questions measuring their attitude towards different debt categories.³ Only responses to those questions were used to generate the credit card 'Effective Debt Score' (EDS). Participants' debt attitude was measured by using a Likert-style scale of choices, ranging from strongly disagree, disagree, neutral, agree, strongly agree to not applicable (Neuman, 2011).⁴ A list of 29 questions were used to calculate participants' EDS are detailed in the Appendix. The sample was then split out at the median credit card EDS which was 3.44 out of five. Those scoring above 3.44 would have a tendency to use debt effectively, whereas those below do not.

A total of 823 participants commenced the survey with 680 entirely completing it, providing 82.6 percent of usable survey responses. Of these, 613 participants (90.1%) reported they utilised personal debt, whilst 67 participants (9.9%) were debt free. Of those with incurred personal debt, 334 (49.1%) reported a current credit card debt, ranging from \$1 to over \$10,000 (see Table 1). The sample of credit card debtors is well distributed across gender, age, marital status, children, income and occupation (see Table 2). The credit card debtor sample was categorised into four groups, depending on their budgeting methods (see Table 4)⁵.

In terms of credit use, 334 participants (45 percent of males and 55 percent of females) had credit card debt (see Table 2). Credit card debt was reported to be used more by participants aged 25 to 34 (29%), 35 to 44 (29%) and 45 to 59 (24%), and much less by participants aged 18 to 24 (11%); and considerably less by participants over 60 years of age. Further, credit card debt was used more by married or defacto participants (71%), followed by single participants (22%) and divorced or widowed participants (8%).

³ These factors were drawn from the literature and the stage 1 focus groups.

⁴ Only responses for strongly disagree, disagree, neutral, agree and strongly agree were used to calculate the EDS of credit card debt. For effective credit card debt responses, coding options ranged from 1 for 'strongly disagree' to 5 for 'strongly agree'. Ineffective personal debt responses were coded the opposite. For example, survey question "I have used my credit card to purchase sale items without paying the credit card balance in full when due" was classified as an ineffective use of credit card debt. Hence, each participant that had 'strongly agree' with this statement was coded with 1, whereas responses 'strongly disagree' were coded with 5. Responses 'not sure' and 'not applicable' were ignored when calculating credit card EDS.

⁵ Participants utilising a written budget that was followed most of the time were classified under Group 1, whilst participants with a written budget that was rarely followed were part of Group 2. Group 3 consisted of participants with no budget. Participants that indicated no utilisation of budgeting methods due to the low income and expenses were classified under Group 4.

Table 1: Current credit card debt value of participants

Credit card debt	N	Percentage
\$0	346	50.9%
\$1 - \$1,000	32	4.7%
\$1,001 - \$5,000	105	15.4%
\$5,001 - \$10,000	47	6.9%
Over \$10,001	52	7.6%
Paid in full	90	13.2%
Other*	8	1.2%

* Includes responses for 'Prefer not to answer', 'Not sure', and 'Don't care'

In terms of the four budget groups, it appears that females were more likely to prepare a budget (see Table 2). Group 1, where participants followed a written budget most of the time consisted of 65 percent females, whereas Group 2 where a written budget was rarely followed consisted of 63 percent females. A higher percentage of participants between 18 and 24 years of Group 4 where a budget is not maintained due to the low income and expenses incurred a credit card debt when compared to the pooled sample. They may represent mature age children still living at home, with their parents paying for a large proportion of their living expenses (such as accommodation and food). Most credit card debtors had completed a university degree (42 percent undergraduate and 25 percent postgraduate degrees). However, 33 percent of Group 4 indicated Year 12 as a higher level of completed education, which may be indicative of them considering that their income is low or they are still currently studying at the tertiary level.

Overall the sample is considered to be generally representative, however the higher than usual proportion of the sample with post-graduate qualifications should be considered when generalising our results (ABS, 2008b).

Table 2: Descriptive statistics of credit card debtors

		Pooled		Group 1		Group 2		Group 3		Group 4	
		N	%	N	%	N	%	N	%	N	%
		334	100%	125	37%	57	17%	134	40%	18	5%
Gender	Male	149	45%	44	35%	21	37%	74	55%	10	56%
	Female	185	55%	81	65%	36	63%	60	45%	8	44%
Age	18-24	37	11%	13	10%	7	12%	10	7%	7	39%
	25-34	98	29%	39	31%	19	33%	35	26%	5	28%
	35-44	97	29%	35	28%	18	32%	43	32%	1	6%
	45-59	80	24%	31	25%	12	21%	34	25%	3	17%
	60+	22	7%	7	6%	1	2%	12	9%	2	11%
Marital status	Married/Defacto	236	71%	86	69%	38	67%	104	78%	8	44%
	Single	72	22%	27	22%	12	21%	25	19%	8	44%
	Separated/Divorced	23	7%	11	9%	6	11%	4	3%	2	11%
	Widow/widower	3	1%	1	1%	1	2%	1	1%	0	0%
Children	No	203	61%	78	62%	33	58%	80	60%	12	67%
	Yes	131	39%	47	38%	24	42%	54	40%	6	33%
Education	Year 10	10	3%	2	2%	1	2%	4	3%	3	17%
	Year 12	38	11%	15	12%	7	12%	10	7%	6	33%
	Vocational	62	19%	27	22%	14	25%	20	15%	1	6%
	University (bachelor)	141	42%	56	45%	23	40%	58	43%	4	22%
	Postgraduate (PhD)	83	25%	25	20%	12	21%	42	31%	4	22%
Occupation	Financial planners	27	8%	11	9%	4	7%	12	9%	0	0%
	Bankers	2	1%	1	1%	1	2%	0	0%	0	0%
	Accountants	43	13%	15	12%	2	4%	25	19%	1	6%
	Mortgage brokers	1	0%	0	0%	0	0%	1	1%	0	0%
	Financial counsellors	12	4%	5	4%	5	9%	2	1%	0	0%
	Professionals	22	7%	9	7%	2	4%	11	8%	0	0%
	Clerical and administration	102	31%	40	32%	21	37%	36	27%	5	28%
	Technicians and trade	25	7%	12	10%	3	5%	9	7%	1	6%
	Self-employed	7	2%	2	2%	1	2%	3	2%	1	6%
	Hospitality workers	1	0%	0	0%	0	0%	1	1%	0	0%
	Medical workers	9	3%	3	2%	2	4%	4	3%	0	0%
	Sales workers	18	5%	8	6%	2	4%	6	4%	2	11%
	Machinery operators	1	0%	1	1%	0	0%	0	0%	0	0%
	Labourers	1	0%	0	0%	0	0%	1	1%	0	0%
	Students	29	9%	8	6%	6	11%	8	6%	7	39%
Education (lecturers)	30	9%	9	7%	7	12%	13	10%	1	6%	
Other	4	1%	1	1%	1	2%	2	1%	0	0%	

Income (Individual)	\$0 - \$18,200	19	6%	7	6%	3	5%	6	4%	3	17%
	\$18,201 - \$37,000	38	11%	16	13%	6	11%	8	6%	8	44%
	\$37,001 - \$80,000	144	43%	56	45%	28	49%	54	40%	6	33%
	\$80,001 - \$180,000	81	24%	33	26%	14	25%	33	25%	1	6%
	\$180,001 +	39	12%	11	9%	1	2%	27	20%	0	0%
	Not applicable ¹	13	4%	2	2%	5	9%	6	4%	0	0%
Income (Partner)	\$0 - \$18,200	44	13%	18	14%	4	7%	19	14%	3	17%
	\$18,201 - \$37,000	29	9%	7	6%	4	7%	16	12%	2	11%
	\$37,001 - \$80,000	94	28%	43	34%	19	33%	28	21%	4	22%
	\$80,001 - \$180,000	68	20%	21	17%	12	21%	35	26%	0	0%
	\$180,001 +	6	2%	2	2%	1	2%	3	2%	0	0%
	Not applicable ¹	93	28%	34	27%	17	30%	33	25%	9	50%

This table presents summary descriptive statistics of a sample of 334 credit card debtors

¹Includes responses for 'Prefer not to answer', 'Not sure' and 'Don't care'

Group 1 = I have a written budget that I follow most of the time

Group 2 = I have a written budget which I rarely follow

Group 3 = I don't have a budget

Group 4 = I don't need a budget as both my income and expenses are low

Results and discussion

The first stage (interviews and focus groups) revealed a range of factors that influence consumer behaviour in relation to credit card use. A key issue is the agreement on the importance for consumers' welfare (and the Australian economy) and that debt is effectively, but often that is not the case. It was noted that without debt, consumers' expenditure would be limited to their savings or disposable income, consequently preventing access to wealth building strategies that could assist with interest offsets, tax deductions, capital growth and dividend paying investments. This was also linked to the purchase of a family home which may not be achievable without obtaining a debt. Other uses of debt (purchase of products and services such as holidays or consumables that provides no residual asset in value) were deemed ineffective use of debt and that credit cards were often used in this regard, and promoted over spending. It was acknowledged however that, in terms of financial difficulty, utilising credit card debt, for a short period only, could be appropriate.

Key to the successful use of these instruments was disciplined budgeting and the type and level of personal debt obtained. This is because an effective budget assists with planning, monitoring and controlling of consumers' expenses and disposable income, thus minimising the possibility of overspending. While acknowledging this, many participants admitted to not consistently monitoring their income and expenses levels with several pointing out that budgeting is time consuming. Furthermore, seeking the assistance from finance professionals (when in financial difficulty) was not a priority of consumer participants. These points informed the development of the effective debt measurements for credit cards.

It also highlights the potential and perceived role of budgeting, yet the dichotomy that most participants, while acknowledging these, either do not budget or do so with little consistency.

In terms of the survey data, most participants indicated that they did not have a budget (Group 3: 40.1%) followed by Group 1 (37.4%) where participants followed their written budget most of the time (see Table 3). Of these in Group 3, approximately 83 percent spent an hour or less each week managing their finances. They were mainly males (52%), aged 35 to 44 (35%), married or in defacto relationship (77%), without children (63%) with university degree (42% with bachelor and 29% with postgraduate degree) and mostly performing clerical and administration duties (30%). Similarly, a majority of participants of Group 1 [with an existing budget followed most of the time] spent an hour or less a week managing their finances (75.2%). In contrast to Group 3, these participants of Group 1 were females (68%), aged 25 to 44 (with 31% aged 25 to 34 and 30% between 35 and 44). However, they were also without children (62%), with university degree (43% with a bachelor degree) and clerical or administration workers (34%).

Table 3: Budgeting methods

Questions – General debt	Pooled		Group 1		Group 2		Group 3		Group 4	
Total credit card debtors	N	%	N	%	N	%	N	%	N	%
	334	100%	125	37.4%	57	17.1%	134	40.1%	18	5.4%
Hours spend managing finances										
Less 1 hour	159	47.6%	47	37.6%	31	54.4%	68	50.7%	13	72.2%
1 hour	109	32.6%	47	37.6%	16	28.1%	44	32.8%	2	11.1%
2 hours	47	14.1%	21	16.8%	9	15.8%	15	11.2%	2	11.1%
3 hours	8	2.4%	4	3.2%	0	-	3	2.2%	1	5.6%
More than 3 hours	11	3.3%	6	4.8%	1	1.8%	4	3.0%	0	-
Meeting an unexpected \$1,000 expense										
Credit Card	122	36.5%	41	32.8%	26	45.6%	53	39.6%	2	11.1%
Increase credit card limit	9	2.7%	4	3.2%	3	5.3%	1	0.7%	1	5.6%
Savings	169	50.6%	67	53.6%	20	35.1%	71	53.0%	11	61.1%
Other	34	10.2%	13	10.4%	8	14.0%	9	6.7%	4	22.2%
Credit card debt										
Usually paid in full when due	90	26.9%	37	29.6%	10	17.5%	36	26.9%	7	38.9%
Up to \$1,000	32	9.6%	10	8.0%	5	8.8%	13	9.7%	4	22.2%
\$1,000 - \$5,000	105	31.4%	39	31.2%	17	29.8%	45	33.6%	4	22.2%
\$5,001 - \$10,000	47	14.1%	20	16.0%	7	12.3%	18	13.4%	2	11.1%
\$10,001 - \$20,000	32	9.6%	9	7.2%	12	21.1%	11	8.2%	0	-
Over \$20,001	20	6.0%	7	5.6%	3	5.3%	10	7.5%	0	-
Not sure	1	0.3%	1	0.8%	0	-	0	-	0	-
Don't care	1	0.3%	0	-	1	1.8%	0	-	0	-
Prefer not to say	6	1.8%	2	1.6%	2	3.5%	1	0.7%	1	5.6%

Group 1 = I have a written budget that I follow most of the time

Group 2 = I have a written budget which I rarely follow

Group 3 = I don't have a budget

Group 4 = I don't need a budget as both my income and expenses are low

Groups 1, 3 and 4 preferred method of meeting an unexpected expense of \$1,000 was to use savings (53.6%; 53% & 61%). In comparison, 45% of Group 2 would use a credit card to meet the unexpected expense. Group 4 had the lowest reliance on the use of credit card to the unexpected expenses (11.1%), even though they had the highest percentage (5.6%) indicating that they would need to increase their credit card limit to meet the unexpected expense.

It is of interest that participants without a written budget, due to low income and expenses, also pointed to using their existing savings (61.1%) when meeting an unexpected expense.

Of these, 54 percent were males, married (78%), with Year 10 (17%) and Year 12 (33%) as their higher level of education. It may be that these people are more aware of their budget circumstances and thereby control their spending and save for a 'rainy day'. This may be more related to psychological factors of control or something else, which will be explored in upcoming research. However, 22% of Group 4 indicated that they would use 'other' to meet the unexpected expense – which may relate to borrowings from friends/family or payday lending.

Whilst the number of individuals (38.9% in Group 4 and 29.6% in Group 1) usually paid the outstanding credit card balance in full each month, only 17.5 percent of Group 2 [with a written budget that is rarely followed] did the same. This would suggest that Group 2 were more inclined to carry an outstanding balance each month incurring interest, when compared to other three groups. It would appear that Group 2 are more inclined to rely on their credit card to meet unexpected expenses and carry forward an outstanding balance. It appears that the illusion of having a budget (but not following it) is more detrimental, as they may think by taking the time to initially formulate a budget that it will look after itself, and they do not then have the responsibility to monitor their income and/or expenses.

Approximately 31.2% percent of Group 1 and 33.6 percent of Group 3 participants reported a credit card debt between \$1,000 and \$5,000. However, the results suggest that Group 3 (7.5%) that had no budget were most likely to incur an outstanding credit card debt in excess of \$20,000. A high level of their income may be one of the reasons for this occurrence. Group 3 reported to earn the highest income as 20 percent had an individual annual income over \$180,000 and 26 percent of their spouses earned between \$80,001 and \$180,000 per annum, when compared to other three groups (see Table 2). It appears that those on a high income do not perceive themselves as needing a budget, this may be because their regular high income can meet their credit card debt and spending. It would be interesting to consider what would happen should their income stream cease.

Further examination of the survey responses pointed to a discrepancy between participants believing they benefit from credit card debt whilst actually they incurred fees and charges on unpaid balances each month. For example, 65 percent of those with a written budget that is rarely followed (Group 2) and 66 percent of those without a budget (Group 3) responded 'strongly agree' or 'agree' to the survey question "*I benefit from the interest free period that my credit card gives me*". This is despite that 82.5 percent of participants in Group 2 and 73.1 percent of those in Group 3 carry an outstanding balance each month. This may demonstrate how those participants have limited understanding of how credit cards operate including the calculation of fees and charges, minimum payments, consequences of cash advances or they know that they should have paid the balance each month. It is argued that this mis-perception between how they think and what is in fact occurring is of particular concern. It may be this non-alignment between thoughts and actions that could lead to ineffective use of credit card debt.

In order to ascertain the effectiveness of the minimum repayment warning that financial institutions have included on credit card statements from July 2012, participants with credit card debt were asked to rate the following question "*The Minimum Repayment Warning on my credit card statement made me aware of the interest cost*".

While 42 percent of participants in Group 2 ‘strongly agreed’ or ‘agreed’ with this statement, only a minority of them (17.5%) paid in full the outstanding credit card balance each month. This may lead to the suggestion that some participants tend to tolerate incurring interest for the convenience credit cards offer, or that they use credit card debt as an easy source of credit or they may not be able afford to pay the outstanding balance. In comparison, half of participants (50%) without a budget due to low income and expenses ‘strongly agreed’ or ‘agreed’ with that statement whilst they were most likely (38.9%) of all groups to pay the outstanding balance in full when due. It could be that Group 4 has the greatest alignment between their thoughts and actions, as due to their low income levels they need to monitor their spending (even without a formal budget).

Responses to the survey question “*I sometimes buy items (e.g. clothes) with my credit card that I would not normally buy if I didn't have a credit card*” appear to indicate that following a budget may prevent overspending. This is because 54 percent of those with written budget followed most of the time ‘disagreed’ or ‘strongly disagreed’ with the survey question, compared to only 35 percent of those who rarely followed a written budget.

In regards to the credit card EDS, it appears that Group 1 (3.45) [where participants followed a written budget most of the time]; as well as participants of Group 3 (3.51) [where participants did not have a budget] and Group 4 (3.53) [where participants did not have a budget due to the low income and expenses] scored above the median value of 3.44. This would indicate that they have a tendency to use credit card debt more effectively. It is of interest that Group 4 had the highest credit card EDS (3.53). However, for Group 1 they are just above the median value – thus questioning how important the use of the budget that they follow in the effective use of credit card debt. This suggests the complexity of one’s financial affairs may drive the usefulness of a budget. In contrast, participants of Group 2 (3.09) [that rarely followed a written budget] scored below the median value, indicating a less effective use of credit card debt (see Table 4).

Table 4: Credit card effective debt score (EDS)

Group	Group 1	Group 2	Group 3	Group 4
EDS	3.45***	3.09	3.51***	3.53*

* denotes statistical significance at the 5% level

** denotes significance at the 1% level

*** denotes significance at 0.5% level.

Group 1 = I have a written budget that I follow most of the time

Group 2 = I have a written budget which I rarely follow

Group 3 = I don't have a budget

Group 4 = I don't need a budget as both my income and expenses are low

The conducted t-tests indicated that there was a statistical significant difference between those participants in Group 1 [written budget followed most of the time] and Group 2 [written budget rarely followed]: $t(182) = 3.155$; $p < 0.001$. Also, the t-test $t(191) = -3.623$; $p < 0.05$ showed that participants of Group 2 utilise credit card debt significantly less effectively than those in Group 3 as well as those in Group 4 ($t(75) = -2.158$; $p < 0.05$).

Overall, the examination of the credit card debtor sample found a significant difference between the median credit card EDS and Group's EDS. Participants of Group 2 [written budget rarely followed] with credit card EDS of 3.09 were the only group that scored below the median value of 3.44. Findings that Group 3 [without a budget] scored 3.51 and of Group 4 [without a budget due to the low income and expense levels] scored above those in Group 1 (3.45) [written budget followed most of the time] would tend to indicate that following a budget is not by itself a determinative of effective credit card use rather ones awareness of their financial circumstances and the overall approach and attitude to personal financial management. Thus, in some cases not having a formal budget may be compensated for by a greater awareness of income, expenses, use of credit card debt together with a greater degree of discipline and self-control. In the case of Group 2 (having a budget that is not followed), the opposite affect may be true, by luring consumers in to a false sense of financial control and confidence.

Limitations and future research

The current research has several limitations. First, the scope is limited to the Australian residents over 18 years of age with personal debt. Second potential limitation was participants' education levels as participants with tertiary education were overrepresented. Third limitations included the electronic nature of the survey questionnaire since Australians without the internet access or limited knowledge how to operate a computer would have prevented some individuals participating. This may also be part of the reason for the lower percentage of participants over 60 years of age. Finally, the data was self reported by participants, which may result in reporting errors.

Given these findings it would be interesting to consider the locus of control of participants and how this is related to the effective use of debt, as well as budgeting. Future research could include measuring the financial capability, the demographic characteristics of participants' family and friends as well as the current level of their assets, outstanding debt levels and the level of their income level to search for possible relationships.

Future research could use case studies about everyday people that have increased their wealth with personal debt, especially amongst participants with both low and high income levels. Conducting case studies research would tend to eliminate self reporting limitations. Another possible future research topic could be to study the efficacy of the information sources and to what extent participants find the sources useful and reliable with their effective use of personal debt.

Conclusion

The availability and use of credit cards in Australia has become prevalent, with a greater percentage of Australians being able to access and use this type of personal debt. Credit cards provide a ready and easy source of credit that has become a common form of purchasing in the modern world. However, this convenience comes at a cost as credit card debt can carry the highest rate of interest, which can compound daily. It is because of the combination of ease of access and interest rates, that credit card debt may cause people undue hardship as they purchase things spontaneously that they do not really need and/or struggle to pay off the outstanding balance at the end of each month.

It is important to have a greater understanding about what are the characteristics that would tend to indicate if people use credit card debt more effectively than others, and thereby increase their personal wealth.

This study of 680 Australians found that those with a budget that they followed most of the time had the third highest effective use of credit cards (represented by their EDS). However, those with the highest effective use were those who regarded that their income and expenses too low to warrant a budget. It may be that these people due to their low wealth automatically place spending restrictions on themselves without the need for a formal documentation/budget. Further, those participants may observe using credit cards as a payment method as unreal expense whereas using cash money may seem more realistic to maintain and focus on maintaining positive cash flow.

Interestingly, it appears that those with the lowest effective use of credit card debt are those who do have a written budget which is rarely followed. It may be that these people are luring themselves into a false sense of financial control. This is further demonstrated by this group being more likely to use their credit cards to meet an unexpected expense of \$1,000 (45.6%), or increase their credit card limit (5.3% – which would indicate that their credit card is already 'maxed out'), and are the least likely to rely on savings (35.1%). Also, this group is less likely to pay off their credit card in full when it is due (17.5%). Hence, it appears that having a 'pseudo' budget may be worse for these people as it gives them a false impression that they have their spending under control, and that for a budget to be effective it must actually be followed most of the time.

Consequently, it appears that the [w]hole of the story in terms of budgeting and the effective use of credit card debt is a mixed story. Although, it does appear if someone does go to the trouble of formulating a budget but rarely follows it, then this could lead to a hole in the financial budget through the ineffective use of debt.

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