

**An investigation into the
financial knowledge levels of
New Zealand
senior secondary school students.**

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December, 2001

ABSTRACT

There are international and New Zealand concerns about poor financial knowledge levels among students about to leave school. To take advantage of the choices resulting from the deregulation of the finance sector, consumers require greater levels of financial knowledge than ever before. Both the US and the UK have identified financial knowledge education as a key area lacking in their education system, but the level of financial knowledge among New Zealand teenagers is unknown. The purpose of this study was to investigate the financial knowledge levels of New Zealand senior secondary school students. A 30-item multi-choice questionnaire about financial knowledge was administered to 804 senior secondary students from a cross section of New Zealand schools which represented all decile levels, ethnic groups, geographical regions and both genders. The questionnaire was the same as that used in a study of American senior secondary students (Mandell, 1998). New Zealand students answered on average 55 percent of the questions correctly. 52 percent of the students failed to attain the pass mark of 60 percent correct responses. In general, mid-decile socio-economic groups (deciles 3-8) had significantly higher financial knowledge than the very low deciles (1 and 2) and the very high deciles (9 and 10). Overall, New Zealand Europeans were significantly more financially knowledgeable (mean of 59 percent correct) than Maori (mean of 48 percent correct), Asians (mean of 52 percent correct), Pacific Islanders (mean of 44 percent correct) and others (mean of 46 percent correct). There were no significant differences among regions or between genders. The results demonstrated that these New Zealand senior secondary students were not financially knowledgeable and cannot attain a satisfactory grade in a fundamental knowledge-based test. It is concluded that at least half of New Zealand senior secondary school students have a poor understanding of their personal financial management and knowledge levels. Therefore the international and national concerns expressed are well-founded. It is recommended that these concerns be addressed.

EXECUTIVE SUMMARY

The financial environment is fast changing and increased choice has meant that consumers today require greater levels of financial knowledge than previously. Having financial knowledge equips people with the capability to make wise decisions and is fundamental to being financially literate. Because such decisions have long-term consequences for future financial well-being, financial literacy is an important life skill.

American studies carried out in the last decade have concluded that American teenagers were poorly prepared for the financial independence that they encountered when they left high school (Mandell, 2001). Researchers and policy makers in the USA concluded that critical accumulation decisions must be made with high levels of financial knowledge and that these same teenagers were leaving school inadequately prepared. The United Kingdom education system has recognised a potential problem arising from inadequate knowledge. A Personal Financial Education Curriculum has been developed to improve knowledge levels at all ages of compulsory schooling. Both the US and the UK have identified financial knowledge education as a key area lacking in their education system, but the level of financial knowledge among New Zealand teenagers is unknown.

The present study sought to gauge the levels of financial knowledge among New Zealand senior secondary school students. The decision to test this age group was made because these students are at the end of their compulsory schooling years and many may not progress to further education. A 30-item multi-choice questionnaire about financial knowledge was administered to 804 senior secondary students from a cross section of New Zealand secondary schools which represented all decile levels, ethnic groups, geographical regions and both genders. The questionnaire was the same as that used in a study of American senior secondary students (Mandell, 1998). One of the purposes of the 1997 American study was to establish a benchmark, and it was followed up with a subsequent study in 2000. The results of the American 2000 study showed a decline in financial knowledge levels over the intervening three years.

New Zealand students answered on average 55 percent of the questions correctly. 52 percent of

the students failed to attain the pass mark of 60 percent correct responses. In general, mid-decile socio-economic groups (deciles 3-8) had significantly higher financial knowledge than the very low deciles (1 and 2) and the very high deciles (9 and 10). Overall, New Zealand Europeans were significantly more financially knowledgeable (59 percent correct) than Maori (48 percent correct), Asians (52 percent correct), Pacific Islanders (44 percent correct) and others (46 percent correct). There were no significant differences among regions or between genders.

The results demonstrated that these New Zealand senior secondary students were not financially knowledgeable and cannot attain a satisfactory grade in a fundamental knowledge-based test. The questions were those with which the students could reasonably be expected to be familiar. Given the nature of the questions, the results are disappointing. Two thirds of the questions were recall of factual information or based on simple arithmetic calculations. The other questions did not require complex application of knowledge.

Some topics were somewhat better answered than others. Questions relating to spending, banking and budgeting were better answered than those relating to saving, investing, credit and borrowing. However, no absolute trend emerged as questions from all topics were both well and poorly answered.

As twenty-three of the questions were common to both the American and the New Zealand survey, some comparisons were possible. Overall, in the 1997 study, American twelfth grade (senior secondary) students were slightly more financially literate than their New Zealand age counterparts. The second study in 2000 showed that the average level of financial knowledge had declined to a level below the level in this first New Zealand study.

The common questions showed there were significant differences in particular areas of knowledge. In the 1997 survey, the American students were significantly better informed about the value of education, retirement income, progressive taxation and deductions from pay, including tax. They were more likely to know about tax on savings, car insurance, spending instruments, and credit cards. In contrast, New Zealand students more easily identified their income as likely to be sourced from wages and salaries, were more aware of indirect tax, had a better idea that shares provided

higher growth opportunities and were more familiar with ATM operations.

It is concluded that at least half of New Zealand senior secondary school students have a poor understanding of their personal financial management and knowledge levels. Therefore the international and national concerns expressed are well-founded. The implications of these concerns affect these students, society and the education system. Students do not have the financial knowledge base sufficient to make wise personal decisions in the future and decisions at the household level accumulate into national characteristics. High levels of financial knowledge impact on national savings levels, and without savings, New Zealanders are unlikely to accumulate income earning assets. The levels of net wealth accumulation have implications for retirement policies.

It is recommended that the concerns regarding poor knowledge levels be addressed. Parents and schools together must play a part in ensuring that young people are provided with a sufficient financial knowledge-base.

ACKNOWLEDGEMENTS

I am grateful for the encouragement and support given by Ken Baker, Executive Director, Enterprise New Zealand Trust.

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1. INTRODUCTION

1.1 Background

The world financial environment of the 21st century has changed and globalisation has meant that New Zealand has increasingly become part of this changed environment. The Scottish Consultative Council on the Curriculum (Scottish CCC, 1999) recently outlined the impact of these many social and cultural changes and the consequential financial impacts on society, that have been a substantial feature of recent decades.

Greenspan (2001), Chairman of the US Federal Reserve Bank, commented that the US evolving economic and financial systems have been highly successful overall in promoting growth and higher standards of living for the majority of American citizens. However, he also said that the results of the Federal Reserve's most recent Survey of Consumer Finances, indicated that families with low-to-moderate incomes and some minority groups had not appeared to fully benefit from the highly favourable economic developments of the mid-1990s. The gap in income and material wealth between the richer and poorer members of society has also been growing in the UK (Scottish CCC, 1999). The Scottish CCC (1999) stated that in the UK, whilst there had been an increase in people's ownership of such products as cars and shares, there was also a significant proportion of people without bank accounts or indeed any other financial product.

One of the major changes for Western economies has been their increasing consumer orientation. While these economies are relatively affluent, providing opportunities for those with education and skills, much of the affluence results from increased market freedom for producers, consumers and economic resources. Market freedom is highly beneficial to those who are knowledgeable and capable, and disastrous to those who are not (Mandell, 1998).

In these Western economies, when the baby boomers, the parents of today's teens and twenty-somethings, started their careers and were leaving school, life and decision-making were considerably less complex. Many employers had a history of offering superannuation schemes and the government superannuation pension scheme appeared a permanent and natural part of income for those who reached retirement age. Employee superannuation schemes are now infrequently

offered to employees on a regular basis.

Recent deregulation of the financial services industry has increased the number and range of financial products, providing increased choice for many. In previous decades, cheque accounts were often through recommendation. New Zealanders joined the queue for house mortgages and saved at low interest rates, often through the government-owned Post Office Savings Bank. Credit and loans have now become more widespread and acceptable. The changing nature and functions of banks, building societies, insurance companies and credit unions has resulted in highly complex and interrelated financial institutions (Scottish CCC, 1999).

To take advantage of these choices, today's consumers require greater levels of financial knowledge than those of three decades ago. Credit cards are offered to students over the age of eighteen, often with enticing interest rates. Education costs have become more expensive for the consumer, with student loans taking a high profile in both student and parental thinking. Taxation rates have fallen from the levels experienced three decades ago. Additionally, the Inland Revenue Department has taken on functions such as collection of ACC levies and repayment of student loans. Government moves since the mid-eighties to manage or reduce the cost of welfare, health and education have forced all consumers to plan their lives with greater care and insure themselves against possible personal risks and catastrophes (Mandell, 1998).

All these changes mean that parents are likely to have had a very different money experience from that which their children may encounter. Young people have always needed financial management skills. Several factors are making acquisition of these skills more important in the twenty-first century than before. Changes in the funding of post-secondary school education mean students are likely to be leaving tertiary institutes with large debts (Winz, 2001). Flexible working patterns have led to career changes and a need to retrain three to four times in a working life, which has meant that financial management may need to cover varying levels of income and times of potential lack of income. Better health has resulted in greater life expectancy with the need to plan for a longer retirement period. Changes to the welfare state are encouraging people to take more responsibility for the unforeseen events that will occur in their lives (Mandell, 1998).

It is unlikely that all parents will have sufficiently strongly developed money management skills to enable them to educate their children to the extent necessary for living in today's commercial environment. Unless parents themselves are both financially literate and capable of teaching these financial principles to their own children, available tools such as allowances and even discussion of family financial circumstances appear to be of little benefit (Mandell, 2000).

Most students in the United States leave high school with few of the personal financial skills they need to support themselves (Mandell, 1998). A benchmark study of US twelfth graders (senior secondary students) was undertaken by the JumpStart Coalition in 1997. Of the sample high school seniors who participated in the survey, only 10.2 percent were able to answer three-quarters of the basic, age-relevant questions correctly (Mandell, 1998). The average grade in the "exam" was 57.3 percent, a failure under the US grading system.

Are New Zealand students better or worse able to cope with the significant financial changes that have taken place in recent decades than their American counterparts? The level of financial knowledge of New Zealand senior secondary school students is unknown, despite the fact that students have access to more money now than they have in previous decades, especially compared with their parents and grandparents. This study seeks to answer that question.

1.2 Why financial knowledge is important

Greenspan (2001) claimed that as market forces continued to expand the range of providers of financial services, consumers would have more choice and flexibility in how they managed their financial matters. Consumers would also need to make financial decisions in an informed manner. More money, more spending choices, and more financial products did not necessarily mean that consumers had the financial knowledge or were well-equipped to operate their finances to their best advantage.

The acquisition of knowledge or information has been a fundamental educational objective (Bloom, Englehart, Furst, Hill & Krathwohl, 1956). It has been the base of the educational taxonomy of learning since formulated by Bloom et al. (1956). Knowledge is crucial to higher forms of thinking and problem solving. The most common justification for gaining knowledge as an educational

objective was that with the increase in knowledge or information there was a development of one's acquaintance with reality (Bloom et al., 1956).

Knowledge was also justified in that it was frequently regarded as basic to all the other ends or purposes of education (Bloom et al., 1956). Problem solving or thinking cannot be carried out in a vacuum but must be based upon knowledge of some of the realities. Unless a person has knowledge, it would be difficult to comprehend a problem, undertake application and analysis skills, synthesise elements to solve a problem and evaluate the results or outcome. Attitudes and appreciations are regarded as having some base in knowledge or information (Bloom et al., 1956).

Wise decisions are based on appropriate and sufficient knowledge. Difficulties arise when individuals attempted to make the best decisions for themselves, within their cultural and economic values, but did not have a satisfactory knowledge base from which to operate. Only when they had appropriate knowledge levels could they make behaviour-changing decisions or recognise whether their current behaviour pattern was likely to allow them to reach their goals. Financial knowledge is fundamental to being financially literate.

2. LITERATURE REVIEW

2.1 Poor levels of financial knowledge exist

Chen and Volpe (1998) maintained that the ability to manage personal finances has become increasingly important in today's world. Americans have inadequate knowledge of personal finances (Chen et al., 1998) and consequently have failed to make correct decisions because they have not received a sound personal finance education. Cutler and Devlin (1996) stated that the baby boom was a generation of prolific spenders, not savers, and they were not appropriately planning for their financial future. They reported that people lacked the key components of the financial knowledge needed to make crucial decisions which would secure their financial well-being in older age (Cutler et al., 1996). Acquisition of their financial knowledge occurred through a process of trial and error. This process could lead to significant difficulties, leading to insolvency, repossession of property or homelessness (Scottish CCC, 1999).

Prior studies reported by Chen et al. (1998) of high school students consistently found that they were not receiving a good education in personal financial fundamentals and had poor knowledge. In addition, adults did not have a good command of personal finance and investments. In the literature review conducted by Chen et al. (1998), it was reported by Certified Financial Planners (NEFE, 1993-1996) that survey results showed participants generally answered fewer than 60% of survey questions correctly.

Chen et al.'s 1998 study used a comprehensive questionnaire designed to cover all aspects of personal finance: it included knowledge on general knowledge, savings and borrowing, insurance, and investments. The overall mean was 52.87 percent. The researchers concluded that one reason for the low level of knowledge was the systematic lack of sound personal finance education in college curricula. Given the lack of personal finance education, it was not surprising that results showed that college students had inadequate knowledge of the components of personal finance.

2.2 Today's students' financial situation

The American Savings Education Council's (ASEC) survey "Youth and money 1999" highlighted the situation that today's students were indeed making and saving money. The Pritchard, Myers and Cassidy (1989) study examined the saving and spending behaviours of employed high school seniors and discussed the phenomenon of pre-mature affluence, noted by Bachman (1983). This term described the large influx of cash available to adolescents, and their inability to sustain this affluent level of consumption. Greenberger (1984) noted that adolescent savings patterns failed to support constructive development toward self-sufficiency. Yet at the same time, adolescents were expected to move from dependency to a considerable state of self-sufficiency.

The ASEC (1999) survey found only 21 percent of students between the ages of 16 and 22 had taken a personal finance course through school, and two-thirds admitted that they should know more about money management. It was reported in the ASEC (1999) survey that while many students were saving, it would appear those students who did save did not value saving or what it could do for them. Furthermore, saving was not a high priority among students. The 1997 JumpStart Coalition Financial Literacy Survey (Mandell, 1998) found twelfth grade students averaged 57.3 percent, and in the follow up 2000 survey, the average fell to 51.9 percent, both scores being a fail grade according to the American system of grading.

2.3 Recognition of personal benefits of high financial knowledge

American current policy makers and researchers have recognised the importance of high levels of financial knowledge. With student spending power of such magnitude, Wilcox (2000) believed students would inevitably become the targets of enormous marketing pressures and that they needed to be equipped to deal with those pressures.

Chen et al. (1998) determined that statistically there were significant consequences of having inadequate knowledge. The importance placed on keeping records was statistically significant between those with more knowledge compared with those with less knowledge. Recognition of the importance of spending less than their income was also a characteristic of those who were more knowledgeable. The survey results tended to show that the level of finance knowledge was likely to influence people's opinions and affect their decisions.

Greenspan (2001) believed that through a fundamental understanding of the mathematics of compounding interest, students could appreciate the cumulative benefit of routine saving, while Cutler et al. (1996) believed critical accumulation decisions, relating to appropriate planning for one's financial future, must be made with high levels of financial knowledge. Mandell (1998) held that increasing financial knowledge might go a long way to decreasing the misery caused by personal bankruptcies.

2.4 Recognition of social benefits of high financial knowledge

The benefits of individual financial capability accrue to society as a whole. The Chen et al. (1998) study showed that there was a systematic lack of personal finance education in the US education system and that the lack of education has resulted in the serious financial illiteracy found in the American public. When individuals cannot manage their finances, it becomes a problem for society.

US Treasury Secretary Summers recently indicated that one of the top priorities he has set was to work to improve the practice of personal finance in America today (Wilcox, 2000). The issue was viewed as one requiring national priority status, for the Treasury Department as well as many other Federal Agencies (Wilcox, 2000).

In a speech to the Federal Reserve Bank of Dallas, Wilcox (2000) stated that perhaps the most important reason was that greater financial proficiency very likely would translate into greater national saving — and increasing saving deserved a prominent place on the list of national priorities, because boosting national saving was the surest method known for boosting the standard of living. Wilcox (2000) claimed that the US national saving rate in 1999 was only a little above its average over the past 20 years and lower than it was in any year between 1950 and 1980, despite the fact that the US ran the largest federal surplus ever.

At the macro level, increased saving remains a national imperative. Wilcox (2000) has considered that promoting financial proficiency and increasing saving were critical factors for the well-being of the US and for the personal financial security of American families.

2.5 Calls to improve financial knowledge via schools

Calls have been made for educational programmes and resources to improve financial knowledge. Greenspan (2001) believed that, in many respects, improving basic financial education at the elementary and secondary school level was essential to providing a foundation for financial knowledge that could help prevent younger people from making poor financial decisions that could take years to overcome.

Cutler et al. (1996) stated that to know where to focus educational programmes and resources required a better understanding of public strengths and weaknesses with respect to financial knowledge. They developed a core set of questions measuring both financial knowledge and financial consumer decision-making. Cutler et al (1996) concluded that there was a need for both more financial knowledge and earlier (younger) financial knowledge.

Bernheim, Garrett and Maki (1997) considered that education could alleviate these problems by contributing pertinent knowledge and/or specific decision-making skills. They pointed out that early financial education may also increase comfort and familiarity with financial matters, thereby removing psychological barriers that impede proper decision-making. Bernheim et al. (1997) made the analogy with computers — the early acquisition of computer literacy appeared to have a long-term effect on an individual's general level of comfort with computers.

Greenspan (2001) agreed that just as it has been recognised how critical it was to demystify technology and to increase workers' comfort and familiarity with the new tools required for their success, so work to educate consumers should be undertaken to evaluate the broad array of products offered by financial service providers and to empower them to make the choices that contribute to their overall economic well-being.

In their research, Chen et al. (1998) discovered that students do not learn about personal finance by staying at tertiary institutes longer — they learn through business courses, seminars or their own mistakes. They concluded that the results suggested that tertiary students needed to improve their knowledge of personal finance as none of the mean scores for any section was above 65%, the weakest area being investment. Those with less knowledge tended to hold wrong opinions and

make incorrect decisions in the areas of general knowledge, savings and borrowing and investments. The predictive ability of personal finance knowledge showed that improving tertiary students' knowledge was important. Without knowledge they were more likely to make mistakes in the real world. As a result, student incompetency would limit their ability to make informed financial decisions.

2.6 Calls to improve financial knowledge via parents

Wilcox (2000) maintained that habits that are ingrained early on tend to be habits kept for a lifetime. The initial ASEC survey (1999) found that financial attitudes and beliefs developed when young — whether positive or negative — can last a lifetime and had a dramatic impact on an individual's ultimate economic security.

The follow up ASEC survey, "Parents, Youth and Money" (2001) found that parents felt they understood financial matters well, but were more critical about the job they do managing their own finances. Some of the reported behaviours confirmed these assessments. Almost all parents felt that they were effective when it came to providing their children with financial guidance, but the evidence from the survey suggested that many are not (ASEC, 2001). While almost all parents thought they should play a role in providing children with financial education, many parents did not appear to be adequately prepared to be teachers and role models to their children with respect to financial matters. Lower income parents felt less equipped to be adequate role models and teachers of financial education (ASEC, 2001).

2.7 Courses available — what is being done

The USA and UK have both recognised that their students are in need of financial education. Steps have been taken to improve the lack of knowledge evident.

2.7.1 UK developments

Curriculum has been developed by the Department for Education and Employment for all four key stages of education, which spans five to sixteen year olds. The financial literacy curriculum is a component of the Personal Social and Health Education at all age levels and is referred to as an entitlement for all students. The Personal Finance Education Group (Pfeg) has been set up to

implement the teaching of the curriculum and train teachers. Termed financial capability, the curriculum comprises four aspects - financial understanding, financial competence, financial enterprise and financial responsibility. The UK curricula widely encompass not only knowledge, but application and values-based judgements.

The NatWest Financial Literacy Programme, based at the University of Warwick, has been developing course materials since 1995 (NatWest, 1999). The programme, funded by the NatWest Bank, operates by providing material for their staff to use in classrooms. Material is produced on a topic by topic basis. The topics include student money management, enterprise and creditworthiness.

2.7.2 USA developments

Some educators, policy makers, and business professionals are calling for state mandates to provide personal finance education in public schools (Tennyson, Nguyen & Bristow, 2000). Several recent studies evaluating specific high school curricula demonstrate that carefully designed personal finance courses do generally improve student knowledge (Tennyson et al., 2000).

The National Endowment for Financial Education was set up in 1984 to increase the financial knowledge of America's youth (NEFE, 2001). NEFE's High School Financial Planning Program (HSFPP) is available free of charge to all high schools in the USA. In a recent evaluation study of the HSFPP, it was found that students who participated in this seven-unit course significantly improved in financial knowledge and money management behaviours at the conclusion of the course and over time (Boyce and Danes, 1998).

The JumpStart Coalition was founded in 1995 as a non-profit organisation comprising various financial and educational groups to encourage curriculum enrichment to ensure that basic personal financial management skills were obtained during the K-12 educational experience (JumpStart, 2001). The Coalition developed a set of educator guidelines to enable schools to develop their own programmes. Other American organisations have developed financial knowledge programmes either using their own benchmarks or the JumpStart guidelines (through the Junior Achievement Finance programme). The US federal system does not require the teaching of financial knowledge

in all schools. It is expected that demand from parents influence what the school teaches. Parent Teacher Associations are targetted by JumpStart as part of the recruitment drive to provide these programmes in American schools.

2.7.3 The New Zealand programme

The New Zealand Financial Literacy Programme, created by Enterprise New Zealand Trust, covers income, budgeting, financial protection, credit and borrowing, taxation, banking, saving and investing and financial planning. Again it is a mixture of knowledge, behaviour recognition, values, application and decision-making.

2.8 The 1997 JumpStart survey

In early 1997, the JumpStart Coalition for Personal Financial Literacy conducted a nationwide survey of twelfth grade students (ie those in their final year of secondary education) to determine the ability of young people to survive in today's complex economy (Mandell, 1998). The survey had three purposes. The first was to gauge whether American young adults possessed the necessary tools and knowledge of personal finance required to get started in life without mishap. As a result of the survey, the JumpStart Coalition clearly believed that these students did not have these requirements. The average grade was 57.3 percent, which was considered a fail by the American grading system.

The second purpose was to find out which tools and knowledge were most lacking so that the problems could be addressed by concerned schools and school systems (Mandell, 1998). The third purpose of the survey was to form a baseline measurement of financial knowledge so that the effectiveness of interventions could be measured in periodic follow-up studies (Mandell, 1998).

The study found differences in financial knowledge in particular categories of students (Mandell, 1998). Differences existed for students of different racial backgrounds, with native Americans and African-Americans scoring less well than Hispanic, Asian and European Americans. Contrary to expectations, scores were not dependent on family income, although average scores were slightly

lower for students in the top income bracket compared with the bracket below, and those in the lowest bracket averaged less than those in the top income bracket. Scores also varied by region and females scored slightly higher than males.

A follow-up survey was carried out in 1999/2000 by the JumpStart Coalition, using an almost identical survey (Mandell, 2001). The changes in the survey were made to avoid teachers "teaching to the exam". The average grade for the year 2000 survey was 51.9 percent (Mandell, 2001).

2.9 The USA research survey questions

Knowledge about finance covers a wide range of topics, from budgeting, income, saving and investing, to risk management. It is therefore necessary to ensure a sufficient range of topics exists in any questionnaire. The 1997 JumpStart survey instrument contained 31 questions which constituted the "test" aspect of the survey. The test questions covered the areas which were considered "key" to financial understanding. As categorised in the USA survey, these areas were (1) income, (2) money management, (3) saving and investing, and (4) spending and credit. The test questions attempted to cover the four key areas and their major sub-categories such as taxation, budgeting, insurance matters and long term financial strategy. The questions were carefully reviewed by the members of the JumpStart Coalition and were further examined for comprehension by a literacy specialist at Marquette University (Mandell, 1998).

2.10 The survey author

Dr Lewis Mandell, who conducted the initial survey, has a recognised reputation in the area of financial knowledge. He is the Dean of the School of Management at the State University of New York at Buffalo. Prior to that he served as the Dean of the College of Business Administration and Professor of Finance at Marquette University, where he established the Executive MBA programme. He is a member of the board of directors of the Variable Annuities of the Travelers Insurance Company, Delaware North Corporation, the JumpStart Coalition for Financial Literacy and the American Financial Services Association Education Foundation. He has served as a consultant for Aetna, American Express, Chase Manhattan Bank, Fleet Bank and General Motors. He has authored 18 books and more than 30 articles in scholarly journals, such as the *Journal of Finance, Credit and Banking* and the *American Economic Review*. He was the founding editor-

in-chief of the *Financial Services Review*. (Mandell, 2001)

2.11 Why is it important that New Zealanders be financially knowledgeable?

New Zealand is facing similar problems experienced by other developed nations. As in other countries, greater access to lending resulting from financial deregulation has provided opportunities and financial flexibility, but also brought greater responsibility. Blair (2001), New Zealand's Retirement Commissioner, has made the point that over the past ten years, New Zealanders' household debt levels relative to income have doubled and while borrowing is not a bad thing, New Zealanders need to be fully aware of the implications and consequences that will have on New Zealand's financial well-being, both individually and as a nation. Blair (2001) states that the social, technological, economic and political change New Zealand has experienced over the last few decades means, more than ever before, New Zealand must teach its young people about money.

It is generally thought that New Zealand students are more likely to have part-time jobs and work for longer hours in part-time jobs than their parents. Because of this phenomenon, which is also evident in the US, family economists are concerned about the economic socialisation processes which may lead to "pre-mature affluence" (Bachman,1983). Another issue is that privileged adolescents who are allowed to spend their income on discretionary items may be socialised into viewing themselves as being entitled to life's luxuries, while others are not so entitled (Pritchard, Kimes Myers & Cassidy, 1989).

Social situations loom, requiring stronger financial management competence by New Zealand citizens. The population is ageing as well as bulging in the pre-retired age group. In the year 2020, there will be two employed people supporting one retired person, compared with a ratio of four to one at present. The implication of this is that retirement income in the form currently known as national superannuation paid to all over 65 years old may not be sustainable or may be paid at a level which is only enough to cover basic needs. If a person wants more than what the level of superannuation currently provides, early saving is imperative. However, if a person is not financially literate, neither the implications of saving at a later age, nor the instruments for saving and the reasons for reducing debt, are appreciated, particularly at an early age. New Zealanders have very low savings rates (OECD, 2000). It is generally considered that New Zealanders are not

financially knowledgeable and that they do not understand what it is they need to know. How knowledgeable do people "feel" and to what extent do people who "feel" knowledgeable, are really knowledgeable or are they just kidding themselves (Cutler et al.)?

3. THE PRESENT STUDY

3.1 The research question - what the study addresses

The American surveys to date indicate that senior secondary students do not have adequate levels of financial knowledge (Mandell, 1998 and 2001). There is concern in the UK that this situation also exists there. Key New Zealand interest groups assume that this is likely to be the situation here as well. However it has not been definitely established whether New Zealand students are financially literate or not.

This research is attempting to identify what senior secondary students actually know about managing their money. What is the level of financial knowledge of these students in New Zealand?

The primary objective of this study is to investigate the knowledge level of financial knowledge among New Zealand senior secondary school students. Secondary objectives are to investigate the following research questions:

- a. is there a difference among socio-economic groups in their level of financial knowledge?;
- b. is there a difference among ethnicities in their level of financial knowledge?;
- c. is there a difference among regions of New Zealand in their level of financial knowledge?;
- and
- d. is there a difference between males and females in their level of financial knowledge?

An outcome of achieving the primary objective will be the provision of a financial knowledge benchmark of New Zealand senior secondary school students for further reference and follow up studies.

3.2 The materials/instrument — how can financial knowledge be tested?

This research is a New Zealand replication of an American based financial knowledge survey that has been administered to the same age group of students in 1997 and 2000 in the USA. Thirty multi-choice questions covered a range of topics, including financial planning, income and taxation, budgeting, insurance, credit and borrowing, spending and banking, and saving and investing. The questions are a mix of knowledge recognition and recall, terminology recall and knowledge

application. As much as possible, the questions are put in context to facilitate easy recognition for the respondent. The equivalent test used for testing the same age cohort in America was regarded as being teen relevant. The questionnaire is in Appendix 3.

Where possible, comparisons will be made regarding the level of financial knowledge of New Zealanders with that of their American counterparts.

4. METHODS

4.1 The sample

4.1.1 *The initial sample*

An initial sixty-eight schools were requested to take part in the survey. The sample of schools approached was expected to match the groupings for the research questions as closely as possible. The list of schools approached appears in Appendix 4.

The Principals in each of the selected secondary schools were written to, asking them if they were prepared to allow the questionnaire to be administered in their school. The letter is in Appendix 5. It detailed who was collecting the information, the purpose of collection, an assurance of confidentiality and a request to administer the questionnaire to a generic class (for example an English class, rather than an Economics one) in order to ensure that a fair cross section of students was attained.

At the same time, a letter was addressed to the English teacher of the school, with the idea that this person might encourage the Principal to take part (Appendix 7). A faxback was included, providing the school with easy means of reply (Appendix 6). A request was made that the survey be completed by a set date and administered to senior secondary students (i.e. year 12 or 13).

Some schools declined. Their reasons for declining included a lack of available time and an oversupply of requests for research surveys. A few said they would not be able to persuade their English teachers to give up the time. Several did not respond to the request at all. A follow up letter was sent to those Principals not responding (Appendix 8). Those schools that responded to the survey represented the spectrum of schools nationwide both on a decile basis and regionally.

Responding schools were sent the number of questionnaires requested, with a copy of their faxback, and a stamped addressed envelope or courier bag (depending on the number of questionnaires requested) to expedite speedy and easy return (Appendix 9). Several schools were not able to complete the number of questionnaires originally requested as circumstances had prevented them from administering the questionnaire to the number anticipated. Several came back

apologising for completing fewer questionnaires than promised.

4.1.2 Ethical considerations

The Massey University code of ethics was complied with. A sample of secondary principals was contacted to check on their school's policy regarding the administration of anonymous questionnaires (included as Figure 1: Ethical considerations complied with, Appendix 10).

4.2 The participants

The participants were New Zealand senior secondary school students. These students were selected by the school. No attempt was made to influence the school's choice of participants. As the students were likely to be sixteen or older, permission to participate was not needed from their parents.

The mix of gender and ethnicity taking part in the survey was a result of the school's willingness to hand out the surveys to convenient classes. Questions relating to the profile of the questionnaire respondent were attached the end of the survey. In order to identify gender, students were asked "What gender are you?" In order to identify what ethnic group the respondent belonged to, the students were asked "What ethnic group do you believe you belong to?"

4.2.1 Socio-economic distribution

Schools have a decile ranking, which is a formula designed by the Ministry of Education. It encompasses household incomes (including income support payments received by parents), parents' occupation and educational qualifications, household crowding, and Maori and Pacific Islands ethnicity.

Therefore, the decile ranking was used as a proxy for the socio-economic status. Decile 1 is the lowest ranking and decile 10 is the highest ranking. There are not 10% of all schools at each decile level. Schools were also selected so that they represented the spread of school deciles.

4.2.2 Ethnic composition

The ethnic composition of school rolls, 2000, according to the Ministry of Education website is as

follows:

NZ European	65%
Maori	20%
Pacific Island	8%
Asian	6%
Other	1%

(Source: Ministry of Education, 2001)

Schools were selected to reflect this proportional breakdown. The initial group of schools chosen represented 19.6% Maori, 7.4% Pacific Island, 5.9% Asian and the rest NZ European and other.

4.2.3 Regional distribution

Schools were selected regionally according to the Ministry of Education regional breakdown on the Ministry of Education's website. New Zealand was divided into four regions as follows:

North North Island - Northland, Auckland, Waikato, Bay of Plenty and Gisborne (referred to as Auckland)	53%
South North Island - Hawke's Bay, Taranaki, Manawatu/Wanganui, Wellington (referred to as Wellington)	24%
North South Island - Nelson/Marlborough/Tasman, West Coast, Canterbury (referred to as Canterbury)	16%
South South Island - Otago, Southland (referred to as Otago)	7%

(Source: Ministry of Education, 2001)

Schools were selected to reflect this proportional breakdown. In the initial selection of 65 of the approximately 400 secondary schools in New Zealand there were 4 schools from Otago/Southland, 10 from Canterbury, 21 from the Wellington region and 33 from the Auckland region. The chosen schools also had a geographical spread within their regions.

4.3 A second sample

As the returns came in, it became obvious that the sample was not as representative of the deciles

nor of the population mix as was originally expected. A further selection of 19 schools was made, this time concentrating on the under-represented decile groups. These decile groups (deciles 1 - 3) were also the ones where the Maori population was more likely to be concentrated and hence there was under-representation of Maori in the number of respondents.

4.4 The research instrument — the questionnaire

The questions in the 1997 survey fairly reflected the personal finance education guidelines and benchmarks, as set out by the Jump\$tart Coalition. Wherever possible the questions were put into age and life cycle appropriate "case studies" to make them relevant to students. The follow up questionnaire in 2000 reduced the number of questions by one. Of the 30 questions, seven tested income, four tested money management, there were eight savings questions and eleven spending questions (of which nine were credit questions). The questions were re-ordered to avoid the teachers "teaching to the test". Cosmetic changes were made to questions including names of person used in the case studies.

4.4.1 How the New Zealand questionnaire was devised

Given that the Jump\$tart questionnaire had high credibility, it was deemed a suitable starting point for a New Zealand questionnaire. Several issues however needed to be addressed. Was the language of this American questionnaire suitable for a New Zealand student target market? Were the financial situations being tested also relevant in a New Zealand market?

4.4.2 Specific issues for the design of the questionnaire

Several of the questions were American specific in reference. For example, the distinction between "high school" and "college" would not be made in New Zealand. Questions containing these terms were altered so that it was clear that secondary school and tertiary institutes were being referred to. Terms such as "federal income tax" and "Medicare contributions" would not be familiar to New Zealand students. In order for the test to be language friendly in a New Zealand environment, the Reserve Bank of New Zealand (RBNZ) was approached for assistance. The Communications Officer at the RBNZ offered the services of one of their staff who dealt with financial instruments and was also an American. This staff member checked the questions and converted the American terms and financial instruments into their New Zealand equivalents.

Although the questions covered what was considered appropriate for American students according to the JumpStart curriculum, they were not all necessarily the most appropriate questions for testing financial knowledge understanding in New Zealand. Six questions were then culled as being less relevant to New Zealand students. The 24 questions remaining were matched with the topics covered in the New Zealand financial literacy programme and a further six added, some from the Chen and Volpe survey (1998) and some specific to the New Zealand environment to balance the range of questions per topic. These topics are income and taxation, budgeting, risk management and insurance, credit and borrowing, taxation, spending and banking, saving and investing, and financial planning.

The spread of topics and questions were

Topic	Number of questions
Financial planning	5
Income and taxation	8
Budgeting	2
Insurance	2
Credit and borrowing	3
Spending and banking	4
Saving and investing	6

4.5 Procedure

The questionnaires (Appendix 3) were administered to classes of students in their English class time. The front page of the questionnaire contained a description of the purpose of the questionnaire, a guarantee of anonymity and a right of refusal to fill the questionnaire in. The researcher's contact details were also included.

Participants were asked to answer thirty multichoice questions which were either knowledge- based or an application of knowledge. A small number of students did not complete the questionnaire. The completed questionnaires were placed in the stamped addressed envelope provided and returned to the researcher.

Schools were not asked for their decile rating or their region as this information was known, provided the school could be identified in the survey return. To manage this situation, each questionnaire from each school included a code at the back of the questionnaire, identifying the school. The school was entered into the questionnaire results database anonymously, but with its decile rating and regional identification.

The data was entered on an SPSS statistical analysis programme. The data for each questionnaire received included the region, the decile, the ethnicity and gender, and the answers to the thirty questions. When data entry was completed, a print out was obtained and the data entry was cross checked by two people and any errors corrected.

5. RESULTS

The thirty questions were basic age-relevant questions. Many students were able to answer some questions correctly, due to several questions testing terminology rather than reasoning ability. In total, 48% of all students gained the pass mark (60% or more). The average mark was 55.1% and the mean was 56.6%. The lowest mark was four and the highest mark 28.

5.1 Participants' profile

Of the initial 68 schools approached, 24 returned questionnaires. A further 19 schools were approached in an attempt to attain the desired population mix. Sixteen of these schools returned questionnaires. Several schools from both groups requested questionnaires but failed to return them. A total of 40 schools, approximately ten percent of the number of New Zealand schools, took part of the survey. The number of questionnaires usable returned was 804, with the number requested by the schools, 999. 195 questionnaires were requested but were either not returned at all or were unusable because they were incomplete.

The participant population had the following characteristics:

5.1.1 *Socio-economic profile*

In the national figures, each decile does not contain 10 percent of all schools. This means that, nationally, schools are not evenly spread throughout the decile range. The responses to the questionnaire were spread over all deciles. Overall there is a fair representation of socio-economic groups, although it would have been desirable if a larger number of participants from decile nine and ten had returned questionnaires.

The lowest socio-economic group (in deciles 1-3) is represented by 32.1% of all responses. The highest socio-economic group (in deciles 8-10) is represented by 17.6% of all responses. The middle socio-economic group (in deciles 4-7) is represented by 50.3% of all responses.

Table 1: Response by socio-economic proportion(decile)

Socio-economic profile (Decile)	Anticipated proportion	Response proportion
1	6.7%	4.5%
2	9.4%	17.8%
3	9.7%	9.8%
4	9.4%	8.8%
5	13.9%	16.5%
6	11.4%	14.6%
7	9.7%	10.4%
8	10.7%	11.3%
9	7.4%	2.4%
10	11.7%	3.9%

5.1.2 Ethnicity

The sample population was selected on the basis that the respondent population would match the year 2000 ethnic composition of school rolls.

Schools which identified a high proportion of Maori students on their rolls did not return responses which reflected their roll composition. It could be speculated that the higher proportion of Maori in a school are likely to be in the junior secondary rather than senior secondary classes i.e. Maori are leaving school in greater number at fifth form level than the other population groups. The "Other" ethnic group was diverse — including American, South African, Middle Eastern and Eastern European students.

The results were as follows:

Table 2: Anticipated and actual response by ethnicity

Ethnicity	Anticipated response	Actual response
NZ European	65%	67.1%
Maori	20%	13.2%
Pacific Island	8%	10.3%
Asian	6%	5.8%
Other	1%	3.6%

5.1.3 Geographical region

The regional responses were dependent on the schools' willingness to participate in the survey. Although a further selection of schools was made, the responses meant that it was inevitable that the actual regional distribution would not necessarily match exactly with the Ministry of Education distribution figures.

Table 3: Anticipated and actual participation by region

Region	Anticipated	Actual
Auckland	53%	50.9%
Wellington	24%	32.0%
Canterbury	16%	10.3%
Otago	7%	6.8%

5.1.4 Gender

The gender balance deviated from the expected 50:50 balance. However, it was deemed inappropriate to request a particular selection of participants from the schools, as this may have upset the ethnic balance.

Table 4: Response by gender

Gender	Actual responses
Male	41%
Female	59%

5.2 Overall marks

The marks overall showed a lack of financial knowledge. The grading system for the American survey on which this was based graded a "C" as 75 percent or better (23/30 or more). A pass grade for the exam was 60 percent (18/30).

Table 5: Summary of total marks

Summary of total marks	
Highest	93% (28/30)
Lowest	13% (4/30)
"C" grade or above (75%)	8.6% of all participants
Pass grade (60%) or above	48% of all participants
Mean mark	55% (16.54/30)
Median mark	56.7% (17/30)

The frequency distribution of the 804 respondents is shown in Table 45, Frequency of total marks, in Appendix 2.

5.3 Cross-tabulation with the secondary variables

In order to discover if there were differences among a range of variables, a series of cross-tabulations were carried out. The variables were school decile rating, ethnicity, gender and region.

5.3.1 Decile cross-tabulation with total marks

The overall marks were subjected to an Analysis of Variance with the decile as the variable, $F(9, 794) = 11.54, p = .000$. The result indicated that socio-economic status, using school decile rating as its proxy, was of significant importance in the overall result. The results are outlined in Table 6,

Analysis of Variance, Totals by Deciles.

Figure 1: Summary of comparative decile results

The mean of students in:

Decile 1	is significantly lower than the mean of	deciles 3 - 8.
Decile 2	is significantly lower than the mean of	deciles 3,4,5,7 and 8.
Deciles 3 and 4	is significantly higher than the mean of	deciles 1,2 and 9.
Decile 5	is significantly higher than the mean of	deciles 1,2,6 and 9.
Decile 6	is significantly higher than the mean of but lower than and marginally lower than	decile 1 decile 7 decile 5.
Decile 7	is significantly higher than the mean of	deciles 1,2,6,9 and 10.
Decile 8	is significantly higher than the mean of	deciles 1,2 and 9.
Decile 9	is significantly lower than the mean of	deciles 3,4,5,7 and 8.
Decile 10	is significantly lower than the mean of	decile 7.

Questions totals' means and deciles are somewhat erratically related. The bulk of the mid-deciles, 3 - 8, have better financial knowledge than the very low and very high deciles.

Table 6: Analysis of Variance, Totals by Deciles

Group	Mean	Std dev.	95 Pct Conf Int for Mean		
1	13.0000	3.7645	11.7263	TO	14.2737
2	14.8322	5.0462	13.9980	TO	15.6664
3	17.3544	4.0416	16.4492	TO	18.2597
4	17.7465	3.5646	16.9028	TO	18.5902
5	17.5714	4.4996	16.7996	TO	18.3432
6	15.8034	4.4706	14.9318	TO	16.6751
7	19.0357	3.3227	18.2061	TO	19.8653
8	17.2088	4.5498	16.2613	TO	18.1563
9	12.7368	6.2614	9.7190	TO	15.7547
10	15.6452	4.6155	13.9522	TO	17.3382
Total	16.5398	4.7463	16.2112	TO	16.8684

5.3.2 Ethnicity cross-tabulation with total marks

The overall marks were subjected to an Analysis of Variance with ethnicity as the variable, $F(4, 799) = 30.2019$, $p = .0000$. The result indicated that ethnicity was of significant importance in the overall result. The ethnicity effect was stronger than the decile effect, and decile results were influenced by the ethnicity results.

The results are outlined in Table 7, Analysis of Variance, Totals by Ethnicity.

Table 7: Analysis of Variance, Totals by Ethnicity

Group Mean	Std dev.	95 Pct Conf Int for Mean			
NZ European	17.6994	4.2547	17.3394	TO	18.0594
Maori	14.4340	4.4444	13.5780	TO	15.2899
Pacific Island	13.2169	4.2341	12.2923	TO	14.1414
Asian	15.5532	5.9666	13.8013	TO	17.3051
Other	13.7931	5.3210	11.7691	TO	15.8171

The mean score of New Zealand Europeans is significantly higher than any other ethnic group. There is no significant difference in means between Maori and the other three groups (Pacific Islanders, Asian or others). The Asian mean is slightly significantly higher than that for Pacific Islanders. Overall, New Zealand Europeans are significantly more financially literate than all other ethnic groups but Asians are slightly more financially literate than Pacific Islanders.

Allowing for decile differences, the following results emerge:

	Type I SS	df	MS	p
Decile	2092.5	9	232.5	<0.001
Ethnicity	1445.1	4	361.3	<0.001
Error	14552.1	790	18.4	

The means, adjusted for decile differences are:

NZ European	17.1 (SE = 0.22)
Maori	14.1 (SE = 0.47)
Pacific Island	13.3 (SE = 0.54)
Asian	15.1 (SE = 0.64)
Other	13.6 (SE = 0.81)

The same patterns of significant differences apply. New Zealand Europeans were higher than all others; Asians higher than Pacific Islanders.

Even if school-to-school differences are allowed for within deciles, the ethnicity effect remains.

	Type I SS	df	MS	p
Decile	2092.5	9	232.5	0.05 (compared to school-to-school variation)
School	3264.2	32	102.0	<0.001
Ethnic	1445.1	4	361.3	<0.001 (compared to error/individual variation)
Error	14552.1	758	15.7	

5.3.3 Regional cross-tabulation with total marks

The overall marks were subjected to an Analysis of Variance with the region as the variable, $F(3,800) = 1.1670$, $p = .3213$. The results indicated that regional differences were not of significant importance, at the 5 percent level, in the overall result. The results are outlined in Table 8, Analysis of Variance, Totals by Region.

Table 8: Analysis of Variance, Totals by Regions.

Group	Mean	Std dev.	95 Pct Conf Int for Mean		
Auckland	16.5110	4.6013	16.2112	TO	16.9583
Wellington	16.3074	4.9144	15.7037	TO	16.9111
Canterbury	17.4217	4.5132	16.4362	TO	18.4072
Otago	16.5091	5.3050	15.0749	TO	17.9432

5.3.4 Gender cross-tabulation with total marks

The overall marks were subjected to an Analysis of Variance with gender as the variable, $F(1,802) = .9898$, $p = .3201$. The result indicated that gender was not of significant importance, at the 5 percent level, in the overall result. The results are outlined in Table 9, Analysis of Variance, Totals by Gender.

Table 9: Analysis of Variance, Totals by Gender.

Group Mean	Std dev.		95 Pct Conf Int for Mean		
Male	16.7394	4.9255	16.2060	TO	17.2728
Female	16.4008	4.6177	15.9841	TO	16.8176

5.3.5 *Key finding*

The total marks indicate that significant differences exist for deciles and ethnicity but not for gender or regions.

5.4 Summary of frequencies for all questions

The summary of frequencies for all questions is outlined in Table 10, Summary of frequencies for all questions.

The best answered question was Question 3 with 93.2% of all respondents answering correctly and the least well answered question was Question 25 with 8.3% of all respondents answering correctly.

Table 10: Summary of frequencies for all questions

Question	Topic	(a)	(b)	(c)	(d)
1	Income/taxation	5.0%	36.3%	50.1%*	8.6%
2	Income/taxation	84.7%*	9.8%	4.2%	1.2%
3	Income/taxation	93.2%*	3.2%	2.0%	1.6%
4	Income/taxation	7.3%	31.3%	46.5%*	14.8%
5	Income/taxation	6.3%	8.2%	45.6%	39.8%*
6	Financial planning	84.3%*	9.3%	2.6%	3.7%
7	Saving/investing	45.9%	20.0%	10.8%	23.3%*
8	Income/taxation	42.4%*	32.2%	20.8%	4.6%
9	Income/taxation	77.5%*	9.3%	5.7%	7.5%
10	Budgeting	15.0%	71.8%*	7.2%	6.0%
11	Income/taxation	26.2%	10.3%	24.5%*	38.9%
12	Insurance	6.5%	59.3%*	6.8%	27.4%
13	Insurance	10.2%	39.6%	5.6%	54.9%*
14	Saving/investing	3.4%	87.8%*	5.8%	3.0%
15	Saving/investing	55.1%	21.3%*	19.3%	4.4%
16	Saving/investing	10.6%	10.8%	25.1%	53.5%*
17	Saving/investing	34.5%*	22.0%	7.0%	36.6%
18	Saving/investing	8.3%	27.1%	9.1%	55.5%*
19	Spending/banking	8.6%	4.2%	82.1%*	5.1%
20	Spending/banking	13.6%	12.9%	14.2%	59.3%*
21	Spending/banking	23.3%	17.2%	39.4%*	20.1%
22	Credit/borrowing	78.6%*	6.1%	8.7%	6.6%
23	Credit/borrowing	14.7%	12.6%	8.0%	64.8%*
24	Credit/borrowing	13.1%	52.7%*	10.2%	24.0%
25	Credit/borrowing	37.1%	8.3%*	12.8%	41.8%
26	Budgeting	5.7%	71.0%*	14.3%	9.0%
27	Financial planning	6.3%	10.0%	35.4%	48.3%*
28	Financial planning	7.7%	14.2%	16.5%	61.6%*
29	Financial planning	16.7%	29.4%	43.7%*	10.3%
30	Financial planning	31.2%	39.9%*	10.6%	18.3%

* indicates the correct answer

5.5 Questions listed by topic

The questions were listed by topic to identify if any one topic was better answered than any other. Table 11 lists the questions by topic. The questions of budgeting (71.8% and 71%) and insurance (59.3% and 54.9%) were answered consistently by a similar number of respondents.

Other topics had a range of correct percentage of respondents. For example in the saving and

investing category, the highest proportion of correct answers was scored by question 14 with 87.8% of correct responses, and the lowest proportion was question 15 with 21.3% correct responses.

Table 11: Question results by topic

Topic	Question	% answering correctly	Average for group
Income/taxation	1	50.1%	57.34%
	2	84.7%	
	3	93.2%	
	4	46.5%	
	5	39.8%	
	8	42.4%	
	9	77.5%	
	11	24.5%	
Financial planning	6	84.3%	55.56%
	27	48.3%	
	28	61.6%	
	29	43.7%	
	30	39.9%	
Budgeting	10	71.8%	71.4%
	26	71.0%	
Saving/investing	7	23.3%	45.98%
	14	87.8%	
	15	21.3%	
	16	53.5%	
	17	34.5%	
	18	55.5%	
Insurance	12	59.3%	57.1%
	13	54.9%	
Spending/banking	19	82.1%	73.33%
	20	59.3%	
	22	78.6%	
Credit/borrowing	21	39.4%	41.3%
	23	64.8%	
	24	52.7%	
	25	8.3%	

5.6 Questions ranked by topic

The mix of correct responses among questions by topic is readily noted in the following table, Table

12, Question results ranked.

Table 12: Question results ranked

Topic	Question	% answering correctly
Income/taxation	3	93.2%
Saving/investing	14	87.8%
Income/taxation	2	84.7%
Financial planning	6	84.3%
Spending/banking	19	82.1%
Spending/banking	22	78.6%
Income/taxation	9	77.5%
Budgeting	10	71.8%
Budgeting	26	71.0%
Credit/borrowing	23	64.8%
Financial planning	28	61.6%
Insurance	12	59.3%
Spending/banking	20	59.3%
Saving/investing	18	55.5%
Insurance	13	54.9%
Saving/investing	16	53.5%
Credit/borrowing	24	52.7%
Income/taxation	1	50.1%
Financial planning	27	48.3%
Income/taxation	4	46.5%
Financial planning	29	43.7%
Income/taxation	8	42.4%
Financial planning	30	39.9%
Income/taxation	5	39.8%
Credit/borrowing	21	39.4%
Saving/investing	17	34.5%
Income/taxation	11	24.5%
Saving/investing	7	23.3%
Saving/investing	15	21.3%
Credit/borrowing	25	8.3%

5.7 Analysing the individual questions

Each question was analysed by decile, ethnicity, gender and region. The significance of each of these profile variables is outlined in Table 13, Significance by profile factor. Most of the significant differences relate to decile and ethnic factors. Questions 4,11,12,13, 15 and 17 are significant by gender differences. Questions 13,15 16, 18 and 19 are significant by region. The tables with the

analyses for each question are in Appendix 1.

Table 13: Significance by profile factor.

Question number	Significance by decile	Significance by ethnicity	Significance by gender	Significance by region
1	0.134	0.069	0.359	0.773
2	0.050*	0.095	0.503	0.827
3	0.000***	0.000***	0.173	0.543
4	0.192	0.017*	0.038*	0.093
5	0.081	0.018*	0.187	0.111
6	0.000***	0.000***	0.096	0.678
7	0.055	0.000***	0.574	0.771
8	0.329	0.509	0.176	0.229
9	0.169	0.000***	0.201	0.667
10	0.000***	0.000***	0.586	0.175
11	0.038*	0.014*	0.001***	0.339
12	0.000***	0.000***	0.039*	0.06
13	0.000***	0.000***	0.022*	0.006**
14	0.378	0.013*	0.104	0.976
15	0.004**	0.0548	0.01**	0.033*
16	0.007**	0.000***	0.515	0.048*
17	0.003**	0.007**	0.015*	0.780
18	0.000***	0.000***	0.698	0.047*
19	0.000***	0.000***	0.244	0.047*
20	0.005**	0.000***	0.787	0.698
21	0.469	0.012*	0.072	0.175
22	0.000***	0.000***	0.845	0.912
23	0.000***	0.000***	0.594	0.742
24	0.006**	0.003**	0.840	0.173
25	0.043*	0.019*	0.279	0.853
26	0.000***	0.000***	0.292	0.582
27	0.001**	0.001**	0.082	0.757
28	0.001**	0.000***	0.853	0.160
29	0.253	0.195	0.823	0.143
30	0.000***	0.030*	0.830	0.216

* ($p \leq 0.05$), ** ($p \leq 0.01$) and *** ($p \leq 0.001$) - indicate a significant difference in choice of answers which does not necessarily reflect a significant difference in correct answers by different groups.

5.8 Comparison with the USA results

As many of the questions were common to both the New Zealand and the American survey, a comparison of how each nationality scored was possible. The comparison of the common questions is listed in Table 14, Comparison with the USA results.

Table 14: Comparison with the USA results

NZ Question no.	NZ correct	USA correct	p	significance
1 Income/taxation	50.1%	59.4%	0.059	ns
2 Income/taxation	84.7%	92.0%	<0.000	***
3 Income/taxation	93.2%	88.7%	<0.000	***
4 Income/taxation	46.5%	63.5%	<0.000	***
5 Income/taxation	39.8%	49.2%	<0.000	***
8 Income/taxation	42.4%	68.1%	<0.000	***
9 Income/taxation	77.5%	71.0%	<0.000	***
10 Budgeting	71.8%	75.2%	0.073	ns
11 Income/taxation	24.5%	32.1%	<0.000	***
12 Insurance	59.3%	57.5%	0.396	ns
13 Insurance	54.9%	66.7%	<0.000	***
14 Saving/investing	87.7%	85.9%	0.198	ns
15 Saving/investing	21.3%	14.4%	<0.000	***
16 Saving/investing	53.3%	52.3%	0.582	ns
18 Saving/investing	55.5%	52.0%	0.1134	ns
19 Spending/banking	82.1%	89.0%	<0.000	***
20 Spending/banking	59.3%	69.3%	<0.000	***
21 Credit/borrowing	39.4%	50.3%	<0.000	***
22 Spending/banking	78.6%	73.9%	0.018	0
24 Credit/borrowing	52.7%	65.0%	<0.000	***
25 Credit/borrowing	8.3%	8.5%	0.899	ns
26 Budgeting	71.0%	73.1%	0.284	ns
27 Financial planning	48.3%	52.1%	0.079	ns

* ($p \leq 0.05$), ** ($p \leq 0.01$) and *** ($p \leq 0.001$) - indicate a significant difference

ns - not significant

Of the twenty-three questions common to both the New Zealand and the USA survey, fifteen were answered correctly by a higher proportion of USA students and eight were answered correctly by a higher proportion of New Zealand students. Significant differences existed for fourteen questions.

6. DISCUSSION

6.1 Key finding

The major finding was that results of the survey demonstrated that New Zealand secondary school students overall are not financially knowledgeable. The results of this research show that 52 percent of students cannot pass a fundamental knowledge-based test. Specifically, students were able to average 55 per cent correct of the total questions which covered a wide range of financial knowledge areas. Only 48 percent of all students were able to attain the pass mark of 60 per cent. An average pass grade, a "C" grade of 75 percent or better, was attained by a small 8.6 percent of students. A small number of questions was answered well and a similar number answered especially badly. Aspects of a number of topics were poorly understood.

Given the nature of the questions, the results are disappointing. Two thirds of the questions were recall of factual information or based on simple arithmetic calculations. The other questions did not require complex application of knowledge. As students of this age group approach independence, they could reasonably be expected to be familiar with the topics of the questions. Major decisions on borrowing, income and work choices, saving and spending are likely to be made with a poor knowledge base. This situation does not augur well for their financial futures, especially given the higher degree of personal responsibility expected in today's financial climate.

The data from this New Zealand research is in line with overseas research of the same age group. American surveys show a similar situation. The 1997 JumpStart survey indicated that American twelfth grade (last year of high school) students also had a dismal lack of financial knowledge (Mandell, 1998). The 1997 survey results showed a level of literacy slightly higher than that of the New Zealand survey, but the results of the American follow up survey in 2000 were even worse (Mandell, 2001). Overall test scores had fallen from 57.3 percent to just 51.9 percent. In the Chen et al.'s 1998 study, the overall mean was 52.87%.

6.2 The best answered questions

Five questions were answered better than others; a few demonstrated a meagre level of understanding and knowledge. The questions which were most likely to get correct responses were numbers three, fourteen, two, six and nineteen.

Question three concerns sources of income. It is not surprising that most students know that their income is likely to come from salaries and wages. Although some may become self-employed, it is unlikely that they will have had their business operating for sufficient time to be wholly dependent on business profits, or to have had sufficient funds invested to earn unearned income as their primary source of income.

Question fourteen concerns risk, return and liquidity. Secondary school students are more likely to have

bank savings accounts than other forms of savings vehicles. They would recognise a bank account as a viable option for saving money in the short term. New Zealanders are risk averse and are less likely to move to higher growth savings vehicles as they grow older or their income increases. This thinking is demonstrated in question fifteen, where fewer than a quarter of all respondents recognise the long-term pattern of higher growth by shares.

The importance of the income benefits of skills and education was tested in question two. In the main, students believe that continuous learning and skill acquisition makes a person more employable. Although overall 84.7 percent of all students agree with the income benefits of skills and education, deciles one and nine did not match the general pattern of answers. The mid decile range indicated they were more likely to understand the need for continuous learning. Continuous learning is a feature of the workplace future. It is encouraging that most participants recognise this.

Question six asked students to consider financial planning by considering options for the future based on a current scenario. The majority of students recognised the need to reduce debt by using savings and cutting expenditure. Deciles one, two and nine were not convinced of this course of action and saw other alternatives as viable options. The responses by ethnicity indicated that cutting expenses and reducing debt was a less preferred option by Maori and Pacific Island students compared with New Zealand Europeans and Asians. As the proportion of Maori and Pacific Island people is expected to increase in the general population, this finding raises questions about possible trends in future financial planning capability among the population.

Although question nineteen had a high correct response rate, there are interesting levels of responses for the other options. Two decile groups and two ethnic groups did not typically associate cash with spending, as much as the other groups. Asians and Other ethnic groups also are less likely to associate credit cards with spending compared with the other groups. If credit card transactions are not perceived as pertaining to spending, what do students believe is happening when credit cards are being used? Does spending only occur when the card has to be paid off? Recognition of what is debt is perceived falsely if spending only takes place at the point of paying off a credit card.

6.3 Poorly answered questions

There was a lack of basic understanding about the following topics. Fewer than 50 percent of all students answered questions relating to these topics correctly.

6.3.1 Income

Students were unaware of the progressive tax system and hence are not likely to estimate correctly how much income is likely to be available for expenditure. They may be surprised at their true level of their net income. Students were poorly aware of deductions that are made from income. This may cause them to underestimate their net income, income available for covering expenses. Students also had poor

recognition of the term for private retirement income, believing it to be a pension. Pension is used as a term for government-provided superannuation, mainly by those currently receiving it. They may be unaware of the need to top up government-provided superannuation from a private source if they want better than a subsistence level of income in their retirement.

6.3.2 *Saving and investing*

Information about saving and investing was not well known. While this may not be surprising, as in general students would have not accumulated vast sums to invest, if they don't get this information by the time they leave school, their confidence in investing in high earning vehicles may be low. This situation is reflected in New Zealanders' general unwillingness to invest in higher earning investment vehicles (like overseas shares), preferring to save by putting their money into the bank or through personal property acquisition (Statistics, 2001a).

The principles of compound interest were understood only by about one third of all students. At least another third believed it did not matter how interest was worked out, as the result would always be the same. Failure to understand the impact of compound interest can lead to poor decisions about saving and investing. If students fail to understand that they have time on their side, savings decisions could be left until very late in life, and this results in hard earned income not being maximised. Again poor decisions result from inadequate knowledge.

6.3.3 *Credit and borrowing*

Credit and borrowing fared no better than saving and investing. Debt is a key problem in New Zealand society today and is the most visited section of the Retirement Commission's website (E. Read, personal communication, 6 November, 2001). During the recent Television New Zealand programme, *Living with Debt* (October 8, 2001), it was stated that thirty years ago, New Zealanders saved one dollar in seven. Now they spend more than they earn. Many students will leave school and take on student loans without thinking about the long term impact of debt. Students need to realise the implications of borrowing.

Understanding the benefits of collateral is fundamental to accessing loans, which is why mortgage loans have lower interest rates than credit cards. Students who move on to tertiary education are likely to be faced with student loans. The logic involved in paying off student loans quickly is the same logic as saving early, as the effects of compounding apply to both. By the time many of these students leave school, they will have turned eighteen and be eligible to apply for a credit card. Money is easily accessible and credit cards tempting, especially when needs are high and income low. Failure to understand the implications of not paying off the credit card in full each month can lead students into high debt, paying high interest charges. Poor money management results.

6.3.4 *Financial planning*

Only 43.7 percent of students know what financial planning is. A surprising number believe it is something

to do with budgeting. A clear idea of the benefits of financial planning may encourage more students to believe that financial planning can help them formulate and reach their goals. Net asset accumulation is a key component of financial planning and management. Wealth and security are built up by saving and investing surplus income in income-generating assets. Increasing the difference between income-earning assets and interest-bearing liabilities is fundamental to wealth creation. Understanding net worth is a cornerstone aspect of financial knowledge. A low 39.9 percent of all students knew what net worth means and how it is calculated. Students had difficulties sorting out the difference between borrowing for consumption, compared with borrowing for investment purposes. Borrowing for consumption is a not a wise idea. Again, poor decisions would be made if this behaviour pattern was a regular feature of financial management.

6.4 The worst answered questions

The worst answered questions overall were numbers 11, 7, 15 and 25.

Question 25 concerned the rights and responsibilities of credit card holders if the card was stolen. The most popular choice was that the card holder was responsible for the entire debt on the card run up by the thief. Those who were more likely to know their rights and responsibilities in this regard were decile one and Pacific Island students. While the high level of response of students who believe that the card holder is responsible for the entire debt may indicate a need to keep cards secure, there is also much education to be done by credit card companies in this area. Notifying the bank promptly is important, whatever the liability.

Question 15 concerned the value of investment over the long term, which is as important as short term saving. Choosing the instrument to provide the best long term returns is important to maximise savings. Failure to do so will mean savings are underperforming. It is also important that savings are placed in growth-earning vehicles for national economic growth. Shares have in the past traditionally given higher returns over the longer term, a fact recognised by fewer than a quarter of the respondents overall. The answers showed significant differences among deciles, ethnicities and regions, when thinking about the longer term. The percentages of those answering correctly were erratically related among the deciles with no clear picture emerging. Asians and others had a greater awareness of the value of share investment over the longer term than New Zealand Europeans and Pacific Islanders. Males were more likely to accept the longer term value of shares than females. The Otago region was also less likely to accept the value of shares than the other regions. Overall, putting money into a savings account was the preferred option for long term growth. This question indicates the lack of knowledge about the value of shares as a growth mechanism over the longer term. It could also be symptomatic of a general New Zealand reluctance to invest in shares since the 1987 crash. Using a bank account for long term growth is unlikely to bring New Zealanders the best returns for their savings and may give a poor result for their investment. A possible consequence of poorly performing savings is a likelihood of a population more dependent on the state for their retirement income than they would have been had they taken the better longer term

option.

Question 7 was about the dollar-cost approach to investing. Fewer than a quarter of the participants knew how dollar-cost averaging works. Dollar-cost averaging is a series of equal dollar investments made at regular intervals and is the mechanism by which money contributions are managed by investment funds. For people who feel unsure about investing directly in the share market, it is a less stressful way of buying shares and ensuring money is invested for a longer term at a more profitable rate than in a bank account. However, it requires a long term approach. A knowledge of dollar-cost averaging and what it can do for people is essential if they are to maximise their long-term savings with little direct hands-on management, although it is not 100 percent fail-safe. Without a knowledge of how it works, students may not gain confidence in investing in the future and so be inclined to keep their savings in lower-earning bank accounts.

It was surprising so few participants knew that resident withholding tax is charged on the interest earned on savings, the correct answer to question 11. Most students believed that this tax is not charged until the eighteenth birthday or that it may not be taxed at all, with some believing that it is only charged if income is high enough. Most students who have a bank deposit account are likely to be earning interest on that account. If they have not provided the bank with their IRD number, it is possible that they are paying too much tax as they will be taxed at a higher rate. Lack of knowledge may also indicate that many students are not keeping their money in interest earning accounts, and are consequently missing out on income. Those with particularly poor knowledge in this area were decile four and six students. There were significant differences between males and females.

6.5 Other questions

Discussion on other questions would highlight varying degrees of lack of knowledge, all of which would be useful for the participants to have. Without the appropriate knowledge, they are not acting in their best interests. If they have not gained the knowledge at this age, the question should be asked, when will they acquire this information and how will they get it? Should their future employers be obliged to provide them with this information?

This is relevant for all students, regardless of the socioeconomic group they belong to, their ethnicity, gender or where they live. Wise decisions about the use of their money, their income earning possibilities, their rights and responsibilities all hinge on their knowledge base. This is especially true with the responsibility for making decisions about basic life circumstances being more on the individual than previously.

6.6 The variables — school decile, ethnicity, region, and gender

The secondary research questions aimed to investigate if there were differences in financial knowledge between genders and among ethnicities, school deciles and regions. Knowing whether any differences

exist would enable education programmes to especially target particular groups.

6.6.1 *Socio-economic differences*

Socio-economic profiles were represented by school decile ratings. Although decile cross-tabulation with total marks was significant, questions totals' means and deciles are somewhat erratically related. The bulk of the mid-deciles, 3 - 8, have better financial knowledge than the very low and very high deciles. The lowest deciles, 1 and 2, and decile 9 have the lowest means. Only decile 7 students on average passed the test. These results refute the assertion that only low decile school students need to be taught financial knowledge. Based on this study's result, higher decile schools have as much need to plug their financial knowledge gaps as lower decile schools. The socio-economic result is consistent with the finding in the JumpStart survey (Mandell, 1998). Mandell reported that contrary to expectations, differences in scores were not very dependent upon family income. Average scores were slightly lower for students in the top income bracket than for those in the bracket below, indicating perhaps that more affluent tertiary bound students were not as concerned than their less affluent counterparts with personal survival skills (Mandell, 1998). However, the lower numbers of participants in deciles nine and ten may indicate the result for these deciles is misleading.

Twenty-one results for the thirty questions were significant by decile rating. The trend is for financial knowledge (as represented by the means) to increase as socio-economic situation increases until a decline occurs in the two highest deciles.

Students of lower income families were worst placed to make financial decisions based on their very poor state of financial knowledge. These students in particular are in need of this all-encompassing life skill. Students of higher income families were not outstanding in their financial knowledge, with the means of deciles 9 and 10 being lower than several of the mid decile students. Decile 9 results need further investigation as the sample size was not as large as the other decile groups. Higher decile groups may not believe they need to know as much about finance as those in deciles below them.

6.6.2 *Ethnic differences*

The greatest number of significant differences appears in the cross-tabulation with ethnicities. The ethnic population mix was designed to represent a realistic underlying distribution of the New Zealand secondary school population. Only questions 2, 8, 15, and 29 do not exhibit a significant difference at the .05 or .01 level. Even if school-to-school differences are taken account of (in the process, making the decile-to-decile differences appear weaker), the ethnicity effect remains. The relatively poor average result for Maori and Pacific Islanders is consistent with their being overly represented in the low deciles and is consistent with other ethnic statistics.

Overall, New Zealand Europeans have a higher mean than all other ethnic groups. They consistently scored better than all other ethnicities in the majority of questions. They are significantly more financially

literate than all other ethnic groups. However, this is a relative term, as New Zealand Europeans on average did not pass the test. The New Zealand European mean was a fail by the 60 percent pass yardstick.

The ethnic differences were more pronounced in some questions than others. Maori and Pacific Island participants scored especially poorly in nearly fifty percent of all questions. These were questions about retirement income, progressive tax rates, financial planning of expenditure, dollar-cost averaging, the arithmetic of budgeting, car insurance, the impact of compound interest over time, instruments of spending, ATMs, student loan responsibilities, credit card risk, the function and role of the New Zealand Federation of Family Budgeting Services, personal finance, and net worth. These questions represent a cross section of what it means to be financially literate. Maori and Pacific Island students require substantial education on ordinary, everyday matters of finance.

For Asians, the results were variable. In some questions, Asian students scored better than all other ethnicities, and in others they scored the lowest average.

These ethnic results do not augur well for the future. The ethnic group with the greatest degree of financial knowledge (New Zealand Europeans) is expected to decline as a proportion of the population in the future. Groups which scored poorly are expected to increase as a proportion of the population (Statistics, 2001b). Such a situation can only mean that if nothing is done to rectify the situation, the nation will find its overall financial knowledge is diminishing rather than improving. With the current focus on individual responsibility, the potential impact of poor financial decisions resulting from poor levels of financial knowledge is not an encouraging future prospect. This result has social implications as well as implications for the individual.

6.6.3 Regional differences

The question was posed that there would be no difference among participants in different parts of the country. New Zealand was divided into four regions and each region was represented by schools from all areas, towns and cities in that region. Significant differences showed up in five questions. These were 13, 15, 16, 18 and 19 and covered a range of topics.

The South Island is better informed about car insurance than the North Island. All students need to know what insurance options mean on this possible first major asset purchase. Failure to purchase any insurance at all may have alarming consequences.

Perceptions regarding returns on financial instruments, liquidity and spending instruments indicated that, in general, Otago and/or Canterbury students may be more conservative or just less knowledgeable than their counterparts elsewhere in New Zealand.

The regional differences are erratic with regard to topic. Which region performs the best is also not constant. No trends can be derived from these results.

6.6.4 Gender difference

Over all thirty questions there is no significant difference between males and females at the .05 level. However there are significant differences for certain questions. Questions 4, 12, 13, 15, and 17 are significant at the .05 level. Question 11 is significant at the .01 level.

Question four concerns the name of private superannuation income. Males are more likely to know than females what retirement income from a company is called. It is as important for females as much as males to ensure that they provide for their retirement income. It is as necessary for females as for males to ensure that they have their own superannuation system in place and know how it works.

Question twelve concerns the need for life insurance. Females are more likely to know than males who is in most need of life insurance, given the same amount of income. Since the options referred to included a female on her own with dependents, it is encouraging that females recognise the vulnerability of that situation. Hopefully, females would be in a position to ensure that life insurance was taken out. Males, on the other hand, demonstrated their better knowledge than females regarding car insurance. In question 13, males were more likely to know than females that only third party insurance covers damage to another person's car. This may be explained by the state of car ownership at this stage of the life cycle, as males may be more likely to own cars than females at this age.

In questions 15 and 17, males are more likely to know than females that shares have the highest growth over eighteen years, and understand the calculation of interest, although the proportion with the correct answer is poor from both genders.

At the .01 significance level is question 11 where males are more likely to know than females that interest on money in a savings account is subject to resident withholding tax. Females, as much as males, are likely to be earning at this age, and need to ensure that they are being taxed at the correct rate on interest income.

Males scored better than females overall in the questions where significant differences between the genders occurred. In total, males scored a higher mean than females, although this was not significant overall.

6.7 Comparisons with the USA JumpStart survey

Overall, in the 1997 study, American senior secondary students are slightly more financially literate than their New Zealand age counterparts. A second study by JumpStart in 2000 (Mandell, 2001) showed that the average level of financial knowledge had declined to a level below the level in this first New Zealand study.

6.7.1 *The common questions*

The twenty-three common questions showed there were significant differences in particular areas of knowledge. In the 1997 survey, the USA students were significantly better informed about the value of education, retirement income, progressive taxation and deductions from pay, including tax. They were more likely to know about tax on savings, car insurance, spending instruments, and credit cards. New Zealand students more easily identified their income as likely to be sourced from wages and salaries, were more aware of indirect tax, had a better idea that shares provided higher growth opportunities, and were better informed about the workings of ATMs.

6.7.2 *The variables*

In the JumpStart survey, some ethnic groups scored better than others and this was also the result of this study. As in the US, the European and Asian student groups scored better than the indigenous population (American Indians compared with Maori) and other immigrants (Black and Hispanic Americans compared with Pacific Islanders). Females had a higher mean than males in the American survey, the reverse result of the New Zealand survey. Regional differences existed in the American survey but were not significant in the New Zealand survey. Being small and relatively homogenous, New Zealand could be expected to have a lesser degree of regional diversity.

Whether New Zealand senior secondary students are more knowledgeable about finance than their American counterparts is debatable. What is of interest is that in all three studies, the average level of financial knowledge is below the pass mark. In the USA, financial organisations, politicians and parents are calling for more financial education. In New Zealand, the groundswell for such education is limited to a few, for example Enterprise New Zealand Trust, the Retirement Commission and small numbers of individuals.

6.8 **Limitations of the study**

The study eliciting 804 respondents was dependent on the co-operation of the secondary school principals and their English teachers. As some principals and teachers declined to take part in the study, it was difficult to tell whether the results would have been influenced by the size, nature or relative proportions of the sample.

The sample did not precisely correspond with the population demographics on all variables. There were ten deciles, five ethnic groups, four regions and two gender groups to match with the total population and, for most variables, the match was very close. With so many variables, it was not easy to get an exact match, without distorting other variable proportions. The primary focus of the match was on ethnicity and, secondarily, decile. Although 804 respondents is an adequate sample size, the question needs to be asked if there had been an equal number of Asians, Maori and Pacific Islanders, would the results have been different.

The sample size for deciles nine and ten was disappointing. More of the non-responses or refusals to take part came from schools in these deciles than the others. To get round this situation would have taken more time than was available for the report to be completed. Because of the sample size, the question needs to be raised whether the results are as stated, with these deciles recording lower means than the mid-deciles, or misleading.

The balance between males and females was reliant on the particular class that the survey was administered to. Again, to redress this balance, a third sample would have been required and that would have taken more time than was available.

The survey could be repeated, asking all schools in New Zealand to participate and allowing a much longer time frame for the results to arrive, with the expectation that this may provide a closer approximation to the demographics of this age group.

7. CONCLUSIONS

The financial environment is changing fast. New products, new technology and new expectations will continue to evolve and so good financial management skills are essential life skills. Wise decisions will only be made if students have an adequate knowledge base on which to base these decisions. This research shows that they do not have this knowledge base.

- 7.1** 52 percent of the students in this study failed to attain the pass mark of 60 percent correct responses. At least half of New Zealand senior secondary school students have a poor understanding of their personal financial management and knowledge levels.
- 7.2** Concerns about the knowledge levels of this age group are well-founded. Students found a variety of questions challenging. No-one area was answered particularly well, and all areas of financial knowledge needed improvement. Saving and investing and credit and borrowing questions were the poorest areas overall.
- 7.3** There are significant differences among socio-economic groups (deciles were used as a proxy for socio-economic groups). In this study, mid-decile socio-economic groups (deciles 3-8) had significantly higher financial knowledge than the very low deciles (1 and 2) and the very high deciles (9 and 10).
- 7.4** There are significant differences among ethnic groups. New Zealand Europeans were significantly more financially knowledgeable (mean of 59 percent correct) than Maori (mean of 48 percent correct), Asians (mean of 52 percent correct), Pacific Islanders (mean of 44 percent correct) and others (mean of 46 percent correct).
- 7.5** There are no significant differences among regions.
- 7.6** There are no significant differences between genders.

8. IMPLICATIONS

8.1 Implications for the individual

New Zealand senior secondary school students are year groups twelve and thirteen. Their next stage in life is to leave school. From there, some will go to a tertiary institute, some will go to work, some will be unemployed and a few will be self-employed. Whatever their next stage, they will expect to move from dependence on their parents to relative or complete independence. In a short space of time they will face a large number of financial decisions. As money plays a significant part in people's lives, effective money management is an important part of a person's individual well-being. Long term security depends on one's past and current financial management. It is also important for people who may at some stage of their lives be responsible for others to learn first to take responsibility for themselves.

Stress on families and relationships over financial issues can be great (Kaplan, 1998). Hence good money management can aid relationship and social cohesion.

8.2 Implications for society and government

Decisions made at the household level accumulate into national characteristics. National characteristics can be moulded by decisions at the personal level. There are compelling reasons for society to maintain a high level of financial knowledge within its citizenry. Lack of knowledge in the past has led New Zealanders to make poor financial decisions even if they are careful with their money and spend less than they earn.

One of the most important social reasons for high levels of financial knowledge is the impact it has on national savings levels (Wilcox, 2000). Over the last decade New Zealand has reduced its national savings level to the extent where the average household negatively saves. New Zealand is denied a pool of investment savings, a situation which is not a recipe for economic growth.

Without savings, New Zealanders cannot accumulate income earning assets. As the nation dissaves, net wealth becomes a feature of fewer and fewer people. Net wealth is essential for supplementing retirement income and reducing the tax burden on future generations. As there will be more people in the retirement age group, who will live increasingly longer lives, this situation has implications for retirement policies.

8.3 Implications for the education system

The Governor of the Federal Reserve in the US (Greenspan, 2001), believes that improving basic financial education at primary and secondary level was essential in providing a foundation for financial knowledge. Parents should be the role models for their children when it comes to money education and many believe that this should be so, but are not providing the guidance that young people require (ASEC, 2001).

Programmes that promote financial knowledge and understanding at school must play a part in improving overall financial capability. In New Zealand there is very little financial education in schools. The New Zealand Curriculum Framework does not have a compulsory place for financial education amongst the essential learning areas. Amongst the essential skills, the only reference to financial skills is the word "budgeting" amongst the self management skills. The focus of the framework and external examinations make it difficult for New Zealand teachers to find a place in senior school timetables to teach financial skills, despite teachers' recognition of the subject's benefits.

This is in contrast to the recent events in the UK, where financial capability is part of the standard curriculum from age five. The British government is aware of the social and individual impact of poor financial skills and is moving towards assisting the population via the education system. If New Zealanders are to improve their financial capability, the Ministry of Education needs to make changes in the curriculum now and mandate a minimum number of hours of financial teaching for every year group.

The fundamentals of financial knowledge are not difficult to learn. Students need to first of all learn the fundamentals of financial knowledge, and then to apply them.

9. RECOMMENDATIONS

- 9.1** The levels of financial knowledge of New Zealand senior secondary school students require improvement and action needs to be taken to effect this improvement.
- 9.2** Schools and parents together need to play a part in ensuring that young people are provided with a sufficient financial knowledge base.
- 9.3** Regular national research should be carried out to monitor the improvements in financial knowledge and evaluate the specific knowledge areas that require particular targeting.

10. SUGGESTIONS FOR FUTURE ACTION

- 10.1** The Ministry of Education needs to make the teaching of financial knowledge an entitlement for all students aged 5-16. Teachers regard the delivery of the Core Curriculum as their first priority. Including financial knowledge in the Core Curriculum would ensure that this area of learning is delivered.
- 10.2** A set of key financial principles and a curriculum needs to be prepared, so that teachers have a framework for teaching financial education. It is essential to agree on what is important. It is also reasonable to provide a framework for teachers who may not believe they are well equipped. This study has identified weaknesses and strengths in student knowledge and provides a starting point for improving knowledge levels.
- 10.3** Teachers must be enabled to deliver financial education. The Ministry of Education needs to work with the private sector to allocate resources for professional development, classroom teaching materials and on-going support. In the UK, the private sector has collaborated with the Department for Education and Employment to prepare a curriculum and syllabus, and provide support with resources.
- 10.4** Financial knowledge programmes could be developed in the workplace by employers for the benefit of their employees. For those people who leave school with poor financial knowledge, that knowledge gap could be filled in the workplace. The Human Resource Department of an organisation would most likely implement such a programme.
- 10.5** The media, especially Television New Zealand, should support a public awareness campaign, as part of its community activities, to alert the population to the poor levels of financial knowledge in existence. Existing programmes such as “The Money Doctor” and “Living with Debt” are a good start. Guidance could be provided where to get help and more information.
- 10.6** The finance sector should financially support efforts to create an improved level of financial knowledge. It is in the best interests of the financial sector to have financially literate customers.

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13. APPENDICES

Appendix 1 Analysis of the questionnaire results, question by question

(* indicates the correct answer)

Question One

If you went to University and earned a 4 year degree, how much more money could you expect to earn than if you only had a sixth form certificate?

- a) No more, I would make about the same either way
- b) A little more, about 20% more
- c) A lot more, about 75% more
- d) About 10 times as much.

Table 15 Analysis of Question 1

	(a)	(b)	(c)*	(d)
All students	5%	36.3%	50.1%	8.6%
<u>By decile</u>				
1	11.1%	44.4%	30.6%	13.9%
2	7.0%	35.7%	47.6%	9.8%
3	5.1%	32.9%	53.2%	8.9%
4	2.8%	29.6%	62.0%	5.6%
5	3.0%	33.1%	51.9%	12.0%
6	7.7%	41.0%	45.3%	6.0%
7	1.2%	44.0%	46.4%	8.3%
8	2.2%	33.0%	58.2%	6.6%
9	10.5%	42.1%	31.6%	15.8%
10	6.5%	35.5%	58.1%	0.0%
<u>By ethnicity</u>				
NZ European	4.5%	36.4%	52.3%	6.9%
Maori	8.5%	28.3%	47.2%	16.0%
Pacific Island	6.0%	44.6%	42.2%	7.2%
Asian	2.1%	36.2%	51.1%	10.6%
Other	3.4%	41.4%	41.4%	13.8%
<u>By gender</u>				
Male	5.2%	38.2%	46.7%	10.0%
Female	4.9%	35.0%	52.5%	7.6%
<u>By region</u>				
Auckland	5.4%	34.7%	51.6%	8.3%
Wellington	4.3%	38.5%	48.6%	8.6%
Canterbury	2.4%	41.0%	48.2%	8.4%
Otago	9.1%	30.9%	49.1%	10.9%

2. **Bill and Rob are employed by the same company and earn the same pay. Rob spends his free time taking work-related classes to improve his computer skills; while Bill spends his free time socialising with friends and attending movies. After five years what is likely to be more true?**
- a) Rob will make more money because he is more valuable to his company
 b) Rob and Bill will continue to make the same money
 c) Bill will make more because he is more social
 d) Bill will make more because Rob is likely to be laid off

Table 16 Analysis of Question 2

	(a)*	(b)	(c)	(d)
All students	84.7%	9.8%	4.2%	1.2%
<u>By decile</u>				
1	77.8%	8.3%	8.3%	5.6%
2	81.1%	14.0%	4.2%	0.7%
3	81.0%	15.2%	2.5%	1.3%
4	91.5%	7.0%	1.4%	0%
5	91.0%	4.5%	4.5%	0%
6	83.8%	9.4%	6.0%	0.9%
7	86.9%	8.3%	3.6%	1.2%
8	86.8%	7.7%	2.2%	3.3%
9	57.9%	26.3%	10.5%	5.3%
10	83.9%	9.7%	6.5%	0%
<u>By ethnicity</u>				
NZ European	87.6%	8.2%	3.5%	0.7%
Maori	79.2%	15.1%	4.7%	0.9%
Pacific Island	79.5%	12.0%	4.8%	3.6%
Asian	76.6%	10.6%	10.6%	2.1%
Other	79.3%	13.8%	3.4%	3.4%
<u>By gender</u>				
Male	84.8%	9.7%	4.8%	0.6%
Female	84.6%	9.9%	3.8%	1.7%
<u>By region</u>				
Auckland	84.1%	10.8%	3.9%	1.2%
Wellington	86.0%	8.2%	4.3%	1.6%
Canterbury	88.0%	7.2%	4.8%	0%
Otago	78.2%	14.5%	5.5%	1.8%

3. Which of the following best describes the primary sources of income for most people aged 20 - 35?

- a) Salaries and wages
- b) Dividends and interest
- c) Rents
- d) Profits from business

Table 17 Analysis of Question Three

	(a)*	(b)	(c)	(d)
All students	93.2%	3.2%	2.0%	1.6%
<u>By decile</u>				
1	83.3%	2.8%	5.6%	8.3%
2	83.2%	7.0%	5.6%	4.2%
3	96.2%	2.5%	1.3%	0%
4	95.8%	4.2%	0%	0%
5	97.7%	1.5%	0.8%	0%
6	89.7%	5.1%	2.6%	2.6%
7	97.6%	2.4%	0%	0%
8	100.0%	0%	0%	0%
9	89.5%	0%	5.3%	5.3%
10	100.0%	0%	0%	0%
<u>By ethnicity</u>				
NZ European	97.2%	2.0%	0.4%	0.4%
Maori	84.0%	7.5%	6.6%	1.9%
Pacific Island	84.3%	7.2%	3.6%	4.8%
Asian	80.9%	2.1%	6.4%	10.6%
Other	96.6%	0%	3.4%	0%
<u>By gender</u>				
Male	95.5%	1.8%	1.5%	1.2%
Female	91.6%	4.2%	2.3%	1.9%
<u>By region</u>				
Auckland	91.4%	3.9%	2.7%	2.0%
Wellington	94.6%	2.7%	1.6%	1.2%
Canterbury	97.6%	2.4%	0%	0%
Otago	92.7%	1.8%	1.8%	3.6%

4. Retirement income received from a company is called

- a) Social security
- b) pension
- c) private superannuation
- d) NZ Superannuation

Table 18 Analysis of Question Four

	(a)	(b)	(c)*	(d)
All students	7.3%	31.3%	46.5%	14.8%
<u>By decile</u>				
1	5.6%	33.3%	36.1%	25.0%
2	8.4%	35.7%	38.5%	17.5%
3	3.8%	26.6%	53.2%	16.5%
4	9.9%	35.2%	43.7%	11.3%
5	8.3%	28.6%	45.1%	18.0%
6	8.5%	27.4%	45.3%	18.8%
7	7.1%	33.3%	52.4%	7.1%
8	2.2%	33.0%	58.2%	6.6%
9	15.8%	21.1%	47.4%	15.8%
10	9.7%	35.5%	45.2%	9.7%
<u>By ethnicity</u>				
NZ European	6.5%	29.5%	51.0%	13.0%
Maori	10.4%	38.7%	34.0%	17.0%
Pacific Island	7.2%	32.5%	34.9%	25.3%
Asian	8.5%	27.7%	53.2%	10.6%
Other	10.3%	41.4%	31.0%	17.2%
<u>By gender</u>				
Male	5.2%	35.2%	47.3%	12.4%
Female	8.9%	28.7%	46.0%	16.5%
<u>By region</u>				
Auckland	9.0%	32.8%	45.5%	12.7%
Wellington	3.9%	32.3%	45.9%	17.9%
Canterbury	8.4%	26.5%	54.2%	10.8%
Otago	9.1%	23.6%	45.5%	21.8%

5. Rangi worked his way through a tertiary institute earning \$12,000 per year. After graduation his first job pays \$24,000. The total dollar amount Rangi will have to pay in income taxes in his new job will

- a) be lower than when he was at tertiary
- b) stay the same as when he was at tertiary
- c) go up a little from when he was at tertiary
- d) double at least from when he was at tertiary

Table 19 Analysis of Question 5

	(a)	(b)	(c)	(d)*
All students	6.3%	8.2%	45.6%	39.8%
<u>By decile</u>				
1	13.9%	8.3%	50.0%	27.8%
2	6.3%	4.9%	49.0%	39.9%
3	3.8%	13.9%	38.0%	44.3%
4	8.5%	7.0%	45.1%	39.4%
5	5.3%	9.0%	49.6%	36.1%
6	6.8%	5.1%	50.4%	37.6%
7	4.8%	4.8%	39.3%	51.2%
8	5.5%	11.0%	38.5%	45.1%
9	15.8%	26.3%	36.8%	21.1%
10	3.2%	9.7%	54.8%	32.2%
<u>By ethnicity</u>				
NZ European	5.2%	8.0%	43.8%	43.0%
Maori	7.5%	5.7%	62.3%	25.5%
Pacific Island	12.0%	12.0%	42.2%	33.7%
Asian	6.4%	6.4%	40.4%	46.8%
Other	6.9%	13.8%	41.1%	37.9%
<u>By gender</u>				
Male	5.5%	10.3%	47.0%	37.3%
Female	7.0%	6.8%	44.7%	41.6%
<u>By region</u>				
Auckland	4.9%	7.1%	45.2%	42.8%
Wellington	8.2%	7.0%	47.1%	37.7%
Canterbury	7.2%	16.9%	41.0%	34.9%
Otago	7.3%	9.1%	49.1%	34.5%

Question 6.

You have just graduated from tertiary and found a job earning \$28,000 per year. You are going to pay \$600 per month for five years for student loan repayments. You have a monthly balance on each of your three credit cards. What should you do to improve your financial health?

- a) Cut expenses and use your savings to pay down debt.
- b) Keep the same spending pattern as in the past.
- c) Apply for a consumer loan for a new car.
- d) Eliminate debt by filing for personal bankruptcy.

Table 20 Analysis of Question 6

	(a)*	(b)	(c)	(d)
All students	84.3%	9.3%	2.6%	3.7%
<u>By decile</u>				
1	61.1%	16.7%	8.3%	13.9%
2	74.1%	15.4%	4.2%	6.3%
3	96.2%	1.3%	0%	2.5%
4	93.0%	5.6%	1.4%	0%
5	91.0%	6.0%	0.8%	2.3%
6	86.3%	9.4%	1.7%	2.6%
7	84.5%	8.3%	2.4%	4.8%
8	85.7%	8.8%	2.2%	3.3%
9	57.9%	26.3%	10.5%	5.3%
10	83.9%	9.7%	6.5%	0%
<u>By ethnicity</u>				
NZ European	89.9%	7.4%	0.9%	1.9%
Maori	69.8%	17.0%	7.5%	5.7%
Pacific Island	68.7%	14.5%	6.0%	10.8%
Asian	87.2%	6.4%	0%	6.4%
Other	75.9%	6.9%	10.3%	6.9%
<u>By gender</u>				
Male	85.5%	6.7%	3.0%	4.8%
Female	83.5%	11.2%	2.3%	3.0%
<u>By region</u>				
Auckland	84.4%	9.5%	2.0%	4.2%
Wellington	82.1%	10.1%	3.9%	3.9%
Canterbury	91.6%	6.0%	1.2%	1.2%
Otago	83.6%	9.1%	3.6%	3.6%

Question 7**A dollar-cost-averaging approach to investing involves**

- a) **buying low and selling high**
- b) **complex calculations of risk and return**
- c) **selling securities to minimise capital**
- d) **ignoring short term ups and downs in the market on a day-to-day basis.**

Table 21 Analysis of Question 7

	(a)	(b)	(c)	(d)*
All students	45.9%	20.0%	10.8%	23.3%
<u>By decile</u>				
1	50.0%	22.2%	19.4%	8.3%
2	51.7%	20.3%	10.5%	17.5%
3	49.4%	22.8%	10.1%	17.7%
4	47.9%	19.7%	4.2%	28.2%
5	42.1%	17.3%	11.3%	29.3%
6	42.7%	25.6%	10.3%	21.4%
7	45.2%	13.1%	11.9%	29.8%
8	50.5%	16.5%	8.8%	24.2%
9	31.6%	15.8%	31.6%	21.1%
10	25.8%	32.3%	9.7%	32.3%
<u>By ethnicity</u>				
NZ European	45.3%	19.1%	7.2%	28.4%
Maori	54.7%	19.8%	17.0%	8.5%
Pacific Island	43.4%	25.3%	18.1%	13.3%
Asian	46.8%	17.0%	17.0%	19.1%
Other	31.0%	27.6%	24.1%	17.2%
<u>By gender</u>				
Male	44.5%	19.1%	10.6%	25.8%
Female	46.8%	20.7%	11.0%	21.5%
<u>By region</u>				
Auckland	46.9%	20.5%	9.0%	23.5%
Wellington	47.1%	18.3%	12.1%	22.6%
Canterbury	37.3%	22.9%	13.3%	26.5%
Otago	45.5%	20.0%	14.5%	20.0%

Question 8

Your take home pay from your job is less than the total amount you earn. Which of the following best describes what is taken out of your total pay?

- a) income tax, ACC contributions and student loan repayments
- b) income tax, GST, and ACC contributions
- c) income tax, ACC and social security contributions
- d) social security, ACC contributions and student loan repayments

Table 22 Analysis of Question 8

	(a)*	(b)	(c)	(d)
All students	42.4%	32.2%	20.8%	4.5%
<u>By decile</u>				
1	38.9%	33.3%	19.4%	8.3%
2	44.8%	39.9%	12.6%	2.8%
3	40.5%	32.9%	22.8%	3.8%
4	40.8%	36.6%	19.7%	2.8%
5	46.6%	30.1%	18.8%	4.5%
6	42.7%	27.4%	23.9%	6.0%
7	41.7%	26.2%	31.0%	1.2%
8	39.6%	29.7%	25.3%	5.5%
9	42.1%	31.6%	15.8%	10.5%
10	35.5%	35.5%	16.1%	12.9%
<u>By ethnicity</u>				
NZ European	43.0%	29.9%	22.4%	4.6%
Maori	43.4%	37.7%	15.1%	3.8%
Pacific Island	37.3%	41.0%	16.9%	4.8%
Asian	40.4%	36.2%	21.3%	2.1%
Other	44.8%	24.1%	20.7%	10.3%
<u>By gender</u>				
Male	41.5%	30.6%	24.2%	3.6%
Female	43.0%	33.3%	18.4%	5.3%
<u>By region</u>				
Auckland	47.3%	29.1%	14.5%	9.1%
Wellington	49.4%	24.1%	19.3%	7.2%
Canterbury	42.0%	30.4%	23.7%	3.9%
Otago	40.6%	35.5%	20.0%	3.9%

9. Which of the following is true about GST?

- a) It makes things more expensive for you to buy
- b) It does not apply to basic necessities
- c) You don't have to pay the tax if your income is very low
- d) The GST percentage rate is 10%

Table 23 Analysis of Question 9

	(a)*	(b)	(c)	(d)
All students	77.5%	9.3%	5.7%	7.5%
<u>By decile</u>				
1	69.4%	5.6%	11.1%	13.9%
2	69.2%	11.9%	8.4%	10.5%
3	82.3%	5.1%	5.1%	7.6%
4	84.5%	8.5%	2.8%	4.2%
5	77.4%	9.0%	6.0%	7.5%
6	74.4%	12.8%	5.1%	7.7%
7	90.5%	7.1%	1.2%	1.2%
8	80.2%	8.8%	4.4%	6.6%
9	57.9%	21.1%	10.5%	10.5%
10	77.4%	3.2%	9.7%	9.7%
<u>By ethnicity</u>				
NZ European	81.8%	8.2%	5.0%	5.0%
Maori	71.7%	14.2%	2.8%	11.3%
Pacific Island	67.5%	10.8%	12.0%	9.6%
Asian	70.2%	6.4%	4.3%	19.1%
Other	58.6%	13.8%	13.8%	13.8%
<u>By gender</u>				
Male	78.2%	10.9%	5.5%	5.5%
Female	77.0%	8.2%	5.9%	8.9%
<u>By region</u>				
Auckland	76.3%	8.6%	6.6%	8.6%
Wellington	79.0%	9.3%	5.4%	6.2%
Canterbury	80.7%	8.4%	3.6%	7.2%
Otago	74.5%	16.4%	3.6%	5.5%

10. Jane just found a job with a take home pay of \$1600 per month. She must pay \$400 for rent and \$200 for groceries each month. She also spends \$200 per month on transportation. If she budgets \$200 each month for clothing, \$200 for restaurants and \$200 for everything else, how long will it take to accumulate savings of \$2,000?

- a) 5 months
- b) 10 months
- c) 11 months
- d) 15 months

Table 24 Analysis of Question 10

	(a)	(b)*	(c)	(d)
All students	15.0%	71.8%	7.2%	6.0%
<u>By decile</u>				
1	25.0%	50.0%	16.7%	8.3%
2	19.6%	61.5%	10.5%	8.4%
3	17.7%	77.2%	2.5%	2.5%
4	9.9%	80.3%	5.6%	4.2%
5	15.8%	72.9%	7.5%	3.8%
6	13.7%	69.2%	6.0%	11.1%
7	2.4%	92.9%	2.4%	2.4%
8	15.4%	72.5%	5.5%	6.6%
9	21.1%	57.9%	21.1%	0%
10	19.4%	64.5%	9.7%	6.5%
<u>By ethnicity</u>				
NZ European	12.4%	77.7%	5.4%	4.5%
Maori	23.6%	52.8%	10.4%	13.2%
Pacific Island	24.1%	56.6%	14.5%	4.8%
Asian	10.6%	76.6%	4.3%	8.5%
Other	13.8%	65.5%	13.8%	6.9%
<u>By gender</u>				
Male	15.2%	73.6%	6.1%	5.2%
Female	15.0%	70.5%	8.0%	6.5%
<u>By region</u>				
Auckland	14.7%	73.1%	7.6%	4.6%
Wellington	16.0%	68.1%	6.2%	9.7%
Canterbury	15.7%	72.3%	7.2%	4.8%
Otago	12.7%	78.2%	9.1%	0%

11. If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?

- a) interest earned from a savings account may not be taxed
- b) resident withholding tax may be charged on the interest if your income is high enough
- c) resident withholding tax is charged on the interest that you earn
- d) you do not have to pay resident withholding tax on the interest until you pass your 18th birthday

Table 25 Analysis of Question 11

	(a)	(b)	(c)*	(d)
All students	26.2%	10.3%	24.5%	38.9%
<u>By decile</u>				
1	30.6%	16.7%	30.6%	22.2%
2	23.1%	15.4%	26.6%	35.0%
3	25.3%	10.1%	22.8%	41.8%
4	42.3%	7.0%	12.7%	38.0%
5	22.6%	6.8%	27.1%	43.6%
6	29.1%	12.8%	17.9%	40.2%
7	25.0%	7.1%	28.6%	39.3%
8	22.0%	9.9%	28.6%	39.6%
9	36.8%	10.5%	36.8%	15.8%
10	16.1%	3.2%	22.6%	58.1%
<u>By ethnicity</u>				
NZ European	25.4%	8.3%	23.6%	42.7%
Maori	34.0%	12.3%	23.6%	30.2%
Pacific Island	27.7%	18.1%	24.1%	30.1%
Asian	17.0%	17.0%	38.3%	27.7%
Other	24.1%	6.9%	24.1%	44.8%
<u>By gender</u>				
Male	21.5%	9.7%	31.2%	37.6%
Female	29.5%	10.8%	19.8%	39.9%
<u>By region</u>				
Auckland	24.4%	9.8%	23.2%	42.5%
Wellington	30.7%	11.3%	23.3%	34.6%
Canterbury	21.7%	10.8%	27.7%	39.8%
Otago	25.5%	9.1%	34.5%	30.9%

12. If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?

- a) a young, single woman without children
- b) a young single woman with two young children
- c) a young married man without children
- d) an elderly retired man, with a wife who is also retired

Table 26 Analysis of Question 12

	(a)	(b)*	(c)	(d)
All students	6.5%	59.3%	6.8%	27.4%
<u>By decile</u>				
1	13.9%	30.6%	2.8%	52.8%
2	7.7%	49.7%	12.6%	30.1%
3	2.5%	67.1%	5.1%	25.3%
4	2.8%	69.0%	1.4%	26.8%
5	4.5%	69.2%	6.0%	20.3%
6	6.0%	66.7%	8.5%	18.8%
7	6.0%	54.8%	6.0%	33.3%
8	4.4%	59.3%	4.4%	31.9%
9	10.5%	42.1%	15.8%	31.6%
10	25.8%	48.4%	3.2%	22.6%
<u>By ethnicity</u>				
NZ European	5.8%	64.0%	4.8%	25.4%
Maori	7.5%	62.3%	8.5%	21.7%
Pacific Island	7.2%	38.6%	12.0%	42.2%
Asian	8.5%	51.1%	10.6%	29.8%
Other	10.3%	34.5%	17.2%	37.9%
<u>By gender</u>				
Male	6.7%	53.9%	9.1%	30.3%
Female	6.3%	63.1%	5.3%	25.3%
<u>By region</u>				
Auckland	7.3%	55.0%	5.4%	32.3%
Wellington	5.4%	64.6%	8.9%	21.0%
Canterbury	6.0%	63.9%	4.8%	25.3%
Otago	5.5%	60.0%	10.9%	23.6%

13. If you have caused an accident, which type of car insurance would only cover damage to someone else's car?

- a) comprehensive
- b) liability
- c) term
- d) 3rd party

Table 27 Analysis of Question 13

	(a)	(b)	(c)	(d)*
All students	10.2%	29.4%	5.6%	54.9%
<u>By decile</u>				
1	19.4%	47.2%	11.1%	22.2%
2	10.5%	35.7%	10.5%	43.4%
3	6.3%	22.8%	2.5%	68.4%
4	5.6%	35.2%	1.4%	57.7%
5	15.0%	22.65	1.5%	60.9%
6	9.4%	34.2%	8.5%	47.9%
7	11.9%	25.0%	3.6%	59.5%
8	4.4%	23.1%	4.4%	68.1%
9	10.5%	15.8%	21.1%	52.6%
10	12.9%	32.3%	0%	54.8%
<u>By ethnicity</u>				
NZ European	8.9%	23.4%	3.2%	64.6%
Maori	10.4%	44.3%	6.6%	38.7%
Pacific Island	16.9%	48.2%	10.8%	24.1%
Asian	10.6%	29.8%	19.1%	40.4%
Other	13.8%	31.0%	10.3%	44.8%
<u>By gender</u>				
Male	8.5%	26.1%	4.2%	61.2%
Female	11.4%	31.6%	6.5%	50.4%
<u>By region</u>				
Auckland	10.3%	30.6%	4.9%	54.3%
Wellington	8.6%	34.2%	6.6%	50.6%
Canterbury	16.9%	15.7%	2.4%	65.1%
Otago	7.3%	18.2%	10.9%	63.6%

14. Fahia has saved \$3,000 for her tertiary expenses by working part-time. She plans to start tertiary next year and needs all of the money she saved. Which of the following is the safest place for her tertiary money?

- a) locked in a drawer at home
- b) a bank savings account
- c) government bonds
- d) shares

Table 28 Analysis of Question 14

	(a)	(b)*	(c)	(d)
All students	3.4%	87.8%	5.8%	3.0%
<u>By decile</u>				
1	0%	86.1%	5.6%	8.3%
2	5.6%	82.5%	8.4%	3.5%
3	2.5%	92.4%	2.5%	2.5%
4	0%	90.1%	8.5%	11.4%
5	4.5%	88.7%	3.0%	3.8%
6	4.3%	88.9%	5.1%	1.7%
7	0%	91.7%	7.1%	1.2%
8	3.3%	89.0%	5.5%	2.2%
9	5.3%	73.7%	10.5%	10.5%
10	6.5%	83.9%	6.5%	3.2%
<u>By ethnicity</u>				
NZ European	2.2%	90.2%	4.8%	2.8%
Maori	3.8%	84.9%	8.5%	2.8%
Pacific Island	3.6%	85.5%	4.8%	6.0%
Asian	8.5%	78.7%	10.6%	2.1%
Other	13.8%	75.9%	10.3%	0%
<u>By gender</u>				
Male	4.2%	84.5%	7.9%	3.3%
Female	2.7%	90.1%	4.4%	2.7%
<u>By region</u>				
Auckland	3.7%	87.3%	6.1%	2.9%
Wellington	3.9%	87.9%	5.4%	2.7%
Canterbury	1.2%	90.4%	4.8%	3.6%
Otago	1.8%	87.3%	7.3%	3.6%

15. Pita and Alofa just had a baby. They received money as baby gifts and want to put it away for the baby's education. Which of the following is likely to have the highest growth over the next 18 years?

- a) a savings account
- b) shares
- c) a NZ Govt bond
- d) a cheque account

Table 29 Analysis of Question 15

	(a)	(b)*	(c)	(d)
All students	55.1%	21.3%	19.3%	4.4%
<u>By decile</u>				
1	69.4%	13.9%	8.3%	8.3%
2	44.1%	29.4%	20.3%	6.3%
3	62.0%	22.8%	13.9%	1.3%
4	62.0%	14.1%	21.1%	2.8%
5	52.6%	23.3%	20.3%	3.8%
6	62.4%	9.4%	23.9%	4.3%
7	61.9%	26.2%	11.9%	0%
8	48.4%	24.2%	22.0%	5.5%
9	42.1%	10.5%	26.8%	10.5%
10	48.4%	25.8%	16.1%	9.7%
<u>By ethnicity</u>				
NZ European	58.1%	19.7%	19.1%	3.2%
Maori	50.9%	24.5%	17.9%	6.6%
Pacific Island	57.8%	18.1%	19.3%	4.8%
Asian	31.9%	31.9%	25.5%	10.6%
Other	44.8%	31.0%	17.2%	6.9%
<u>By gender</u>				
Male	50.6%	27.0%	18.5%	3.9%
Female	58.2%	17.3%	19.8%	4.6%
<u>By region</u>				
Auckland	53.1%	25.2%	17.8%	3.9%
Wellington	57.2%	17.1%	19.8%	5.8%
Canterbury	59.0%	22.9%	15.7%	2.4%
Otago	54.5%	9.1%	32.7%	3.6%

16. Many people put aside money to take care of unexpected expenses. If Chris and Gillian have put money aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?

- a) cheque account
- b) savings account
- c) shares
- d) invested in a down payment on the house

Table 30 Analysis of Question 16

	(a)	(b)	(c)	(d)*
All students	10.6%	10.8%	25.1%	53.5%
<u>By decile</u>				
1	16.7%	16.7%	22.2%	44.4%
2	16.1%	15.4%	21.7%	46.9%
3	11.4%	8.9%	35.4%	44.3%
4	5.6%	4.2%	25.4%	64.8%
5	5.3%	9.8%	27.8%	57.1%
6	13.7%	13.7%	23.9%	48.7%
7	6.0%	4.8%	17.9%	71.4%
8	9.9%	8.8%	25.3%	56.0%
9	15.8%	26.3%	26.3%	31.6%
10	9.7%	9.7%	29.0%	51.6%
<u>By ethnicity</u>				
NZ European	7.6%	7.4%	26.2%	58.8%
Maori	14.2%	21.7%	19.8%	44.3%
Pacific Island	16.9%	18.1%	24.1%	41.0%
Asian	19.1%	10.6%	27.7%	42.6%
Other	20.7%	13.8%	24.1%	41.4%
<u>By gender</u>				
Male	11.5%	9.1%	24.5%	54.8%
Female	9.9%	12.0%	25.5%	52.5%
<u>By region</u>				
Auckland	11.5%	9.5%	24.0%	55.0%
Wellington	11.3%	13.6%	21.4%	53.7%
Canterbury	3.6%	8.4%	39.8%	48.2%
Otago	10.9%	10.9%	29.9%	49.1%

Question 17

If you invest \$1,000 today at 4% for a year, your balance in a year will be?

- a) higher if the interest is compounded daily rather than monthly.
- b) higher if the interest is compounded quarterly rather than weekly.
- c) \$1,000 no matter how the interest is computed.
- d) \$1,040 no matter how the interest is computed.

Table 31 Analysis of Question 17

	(a)*	(b)	(c)	(d)
All students	34.5%	22.0%	7.0%	36.6%
<u>By decile</u>				
1	38.9%	36.1%	8.3%	16.7%
2	31.5%	23.1%	11.9%	33.6%
3	34.2%	19.0%	5.1%	41.8%
4	33.8%	19.7%	2.8%	43.7%
5	33.8%	26.3%	6.0%	33.8%
6	32.5%	20.5%	11.1%	35.9%
7	38.1%	8.3%	0%	53.6%
8	35.2%	22.2%	4.4%	38.5%
9	42.1%	31.6%	10.5%	15.8%
10	38.7%	32.3%	9.7%	19.4%
<u>By ethnicity</u>				
NZ European	35.8%	20.0%	4.6%	39.5%
Maori	33.0%	25.5%	12.3%	29.2%
Pacific Island	30.1%	28.9%	9.6%	31.3%
Asian	40.4%	17.0%	12.8%	29.8%
Other	17.2%	34.5%	13.8%	34.5%
<u>By gender</u>				
Male	34.2%	18.5%	5.2%	42.1%
Female	34.6%	24.5%	8.2%	32.7%
<u>By region</u>				
Auckland	36.4%	20.3%	6.8%	36.4%
Wellington	31.9%	21.8%	8.2%	38.1%
Canterbury	32.5%	26.5%	6.0%	34.9%
Otago	34.5%	29.1%	3.6%	32.7%

- 18. Ben and Sarah are the same age. At age 25, Sarah began saving \$2,000 a year while Ben saved nothing. At age 50, Ben realised that he needed money for retirement and started saving \$4,000 a year, while Sarah kept saving her \$2,000. Now they are both 75 years old. Who has the most money in his or her retirement account?**
- a) Ben, because he saved more each year
 b) They would each have the same amount because they put away exactly the same
 c) Sarah, because she has put away more money
 d) Sarah, because her money has grown for a longer time at compound interest

Table 32 Analysis of Question 18

	(a)	(b)	(c)	(d)*
All students	8.3%	27.1%	9.1%	55.5%
<u>By decile</u>				
1	25.0%	25.0%	8.3%	41.7%
2	14.7%	26.6%	11.9%	46.9%
3	5.1%	35.4%	6.3%	53.2%
4	4.2%	21.1%	4.2%	70.4%
5	5.3%	21.8%	10.5%	62.4%
6	8.5%	25.6%	6.8%	59.0%
7	0%	21.4%	7.1%	71.4%
8	6.6%	42.9%	11.0%	39.6%
9	10.5%	15.8%	21.1%	52.6%
10	16.1%	29.0%	9.7%	45.2%
<u>By ethnicity</u>				
NZ European	4.3%	26.7%	7.4%	61.6%
Maori	16.0%	25.5%	11.3%	47.2%
Pacific Island	19.3%	32.5%	12.0%	36.1%
Asian	10.6%	27.7%	12.8%	48.9%
Other	20.7%	24.1%	17.2%	37.9%
<u>By gender</u>				
Male	7.3%	26.1%	9.1%	57.6%
Female	9.1%	27.1%	9.1%	54.0%
<u>By region</u>				
Auckland	10.0%	30.3%	8.1%	51.6%
Wellington	8.2%	25.7%	11.3%	54.9%
Canterbury	3.6%	22.9%	7.2%	66.3%
Otago	3.6%	16.4%	9.1%	70.9%

19. Which of the following instruments is NOT typically associated with spending?

- a) ATM (Automated Teller Machine) Card
- b) Cash
- c) Term deposit
- d) Credit card

Table 33 Analysis of Question 19

	(a)	(b)	(c)*	(d)
All students	8.6%	4.2%	82.1%	5.1%
<u>By decile</u>				
1	0%	11.1%	88.9%	0%
2	9.1%	7.7%	74.8%	8.4%
3	12.7%	0%	84.8%	2.5%
4	5.6%	2.8%	90.1%	1.4%
5	12.8%	1.5%	82.7%	3.0%
6	9.4%	4.3%	79.5%	6.8%
7	4.8%	1.2%	90.5%	3.6%
8	7.7%	3.3%	86.8%	2.2%
9	10.5%	21.1%	42.1%	26.3%
10	3.2%	6.5%	77.4%	12.9%
<u>By ethnicity</u>				
NZ European	8.2%	1.9%	85.7%	4.3%
Maori	11.3%	5.7%	66.4%	5.7%
Pacific Island	8.4%	13.3%	73.5%	4.8%
Asian	6.4%	8.5%	74.5%	10.6%
Other	10.3%	10.3%	69.0%	10.3%
<u>By gender</u>				
Male	10.3%	3.0%	82.1%	4.5%
Female	7.4%	5.1%	82.1%	5.5%
<u>By region</u>				
Auckland	6.4%	4.9%	84.8%	3.9%
Wellington	9.7%	3.9%	79.8%	6.6%
Canterbury	14.5%	0%	81.9%	3.6%
Otago	10.9%	7.3%	72.7%	9.1%

- 20. Which of the following credit card users is likely to pay the GREATEST dollar amount in finance charges per year if they all charge the same amount per year on their credit cards?**
- Marlene, who always pays off her credit card in full shortly after she receives it
 - Eddie, who occasionally pays off his credit card in full but occasionally will pay the minimum when he is short of cash
 - Elana, who pays at least the minimum amount each month and more when she has the money
 - Patrick, who only pays the minimum amount each month

Table 34 Analysis of Question 20

	(a)	(b)	(c)	(d)*
All students	13.6%	12.9%	14.2%	59.3%
<u>By decile</u>				
1	13.9%	25.0%	25.0%	36.1%
2	18.2%	18.2%	17.5%	46.2%
3	16.5%	8.9%	16.5%	58.2%
4	9.9%	7.0%	5.6%	77.5%
5	12.8%	12.0%	10.5%	64.7%
6	12.8%	12.0%	17.1%	58.1%
7	8.3%	7.1%	9.5%	75.0%
8	13.2%	14.3%	13.2%	59.3%
9	15.8%	26.3%	21.1%	36.8%
10	12.9%	9.7%	16.1%	61.3%
<u>By ethnicity</u>				
NZ European	11.3%	9.6%	11.1%	67.9%
Maori	21.7%	17.0%	14.2%	47.2%
Pacific Island	15.7%	20.5%	30.1%	33.7%
Asian	12.8%	25.5%	17.0%	44.7%
Other	20.7%	17.2%	20.7%	41.4%
<u>By gender</u>				
Male	12.4%	12.4%	15.2%	60.0%
Female	14.3%	13.3%	13.5%	58.9%
<u>By region</u>				
Auckland	12.2%	13.2%	13.4%	61.1%
Wellington	14.8%	12.8%	16.3%	56.0%
Canterbury	15.7%	8.4%	14.5%	61.4%
Otago	14.5%	18.2%	9.1%	58.2%

- 21. Joshua and Jonah are young men. Each has a good credit history. They work at the same company and make approximately the same salary. Joshua has borrowed \$5,000 to buy a car. Jonah has borrowed \$5,000 to take a foreign vacation. Who is most likely to pay the lowest interest charge?**
- a) They are both likely to pay the same because they have almost identical financial backgrounds
 b) Jonah is likely to pay less because people who travel overseas are better risks
 c) Joshua is likely to pay less because the car is collateral for the loan
 d) They are both likely to pay the same because the rate is set by law

Table 35 Analysis of Question 21

	(a)	(b)	(c)*	(d)
All students	23.3%	17.2%	39.4%	20.1%
<u>By decile</u>				
1	16.7%	25.0%	33.3%	25.0%
2	18.2%	20.3%	38.5%	23.1%
3	22.8%	16.5%	35.4%	25.3%
4	25.4%	14.1%	40.8%	19.7%
5	23.3%	12.0%	43.6%	21.1%
6	27.4%	16.2%	42.7%	13.7%
7	25.0%	14.3%	41.7%	19.0%
8	23.1%	22.0%	41.8%	13.2%
9	36.8%	21.1%	26.3%	15.8%
10	22.6%	19.4%	22.6%	35.5%
<u>By ethnicity</u>				
NZ European	24.7%	13.7%	41.9%	19.7%
Maori	25.5%	20.8%	34.0%	19.8%
Pacific Island	16.9%	27.7%	32.5%	22.9%
Asian	25.5%	19.1%	36.2%	19.1%
Other	3.4%	34.5%	37.9%	24.1%
<u>By gender</u>				
Male	23.9%	16.1%	43.6%	16.4%
Female	22.8%	17.9%	36.5%	22.8%
<u>By region</u>				
Auckland	22.5%	18.1%	37.2%	22.2%
Wellington	23.0%	18.7%	43.6%	14.8%
Canterbury	25.3%	10.8%	36.1%	27.7%
Otago	27.3%	12.7%	41.8%	18.2%

22. Which of the following statements is NOT correct about most ATM (Automated Teller Machine) cards?

- a) You can get cash anywhere in the world with no fee
- b) You can generally get cash 24 hours a day
- c) You can generally obtain information concerning your bank balance at an ATM machine
- d) You must have a bank account to have an ATM card

Table 36 Analysis of Question 22

	(a)*	(b)	(c)	(d)
All students	78.6%	6.1%	8.7%	6.6%
<u>By decile</u>				
1	52.8%	11.1%	25.0%	11.1%
2	73.4%	11.2%	10.5%	4.9%
3	81.0%	6.3%	6.3%	6.3%
4	83.1%	5.6%	5.6%	5.6%
5	86.5%	2.3%	3.0%	8.3%
6	72.6%	6.8%	11.1%	9.4%
7	89.3%	2.4%	3.6%	4.8%
8	82.4%	1.1%	11.0%	5.5%
9	57.9%	10.5%	26.3%	5.3%
10	77.4%	12.9%	6.5%	3.2%
<u>By ethnicity</u>				
NZ European	84.4%	3.9%	5.6%	6.1%
Maori	74.5%	9.4%	10.4%	5.7%
Pacific Island	60.2%	13.3%	15.7%	10.8%
Asian	63.8%	12.8%	17.0%	6.4%
Other	62.1%	3.4%	27.6%	6.9%
<u>By gender</u>				
Male	77.6%	6.4%	9.7%	6.4%
Female	79.3%	5.9%	8.0%	6.8%
<u>By region</u>				
Auckland	78.0%	6.4%	8.8%	6.8%
Wellington	76.7%	6.6%	9.3%	7.3%
Canterbury	85.5%	3.6%	6.0%	4.8%
Otago	81.8%	5.5%	9.1%	3.6%

23. Marama needed a student loan to complete her tertiary education. After she graduated, she decided to go overseas for a working holiday for more than three months. What are her obligations regarding the repayment of her loan?

- a) She will need to let IRD know before she leaves her correct NZ or overseas contact address.
- b) She will need to fill in a tax return and an SL 9 form, showing the income received from the previous 1 April until the date of departure.
- c) IRD will need to work out whether Marama is a resident or non-resident for tax purposes.
- d) All of the above.

Table 37 Analysis of Question 23.

	(a)	(b)	(c)	(d)*
All students	14.7%	12.6%	8.0%	64.8%
<u>By decile</u>				
1	8.3%	30.6%	16.7%	44.4%
2	16.8%	14.0%	13.3%	55.9%
3	17.7%	12.7%	3.8%	65.8%
4	14.1%	4.2%	2.8%	78.9%
5	18.0%	4.5%	6.8%	70.7%
6	14.5%	16.2%	8.5%	60.7%
7	6.0%	10.7%	0%	83.3%
8	16.5%	12.1%	8.8%	62.6%
9	21.1%	36.8%	15.8%	26.3%
10	6.5%	16.1%	12.9%	64.5%
<u>By ethnicity</u>				
NZ European	13.4%	9.6%	5.9%	71.1%
Maori	18.9%	17.0%	8.5%	55.7%
Pacific Island	12.0%	25.3%	15.7%	47.0%
Asian	19.1%	19.1%	8.5%	53.2%
Other	24.1%	3.4%	20.7%	51.7%
<u>By gender</u>				
Male	13.6%	12.7%	9.4%	64.2%
Female	15.4%	12.4%	7.0%	65.2%
<u>By region</u>				
Auckland	13.0%	13.4%	7.6%	66.0%
Wellington	17.9%	12.1%	8.2%	61.9%
Canterbury	14.5%	8.4%	7.2%	69.9%
Otago	12.7%	14.5%	10.9%	61.8%

24. Kate has just applied for a credit card. She is an 18 year old high school graduate with few valuable possessions and no credit history. If Kate is granted a credit card, which of the following is the most likely way the credit card company will reduce ITS risk?

- a) It will charge Kate twice the finance charge rate it charges older cardholders.
- b) It will start Kate out with a small credit limit to see how she handles the account.
- c) It will make Kate's parents pledge their home to repay Kate's credit card debt.
- d) It will require Kate to have both parents cosign for the card.

Table 38 Analysis of Question 24

	(a)	(b)*	(c)	(d)
All students	13.1%	52.7%	10.2%	24.0%
<u>By decile</u>				
1	19.4%	36.1%	13.9%	30.6%
2	16.8%	43.4%	9.1%	30.8%
3	8.9%	58.2%	7.6%	25.3%
4	14.1%	62.0%	4.2%	19.7%
5	10.5%	58.6%	9.0%	21.8%
6	13.7%	45.3%	17.9%	23.1%
7	8.3%	64.3%	10.7%	16.7%
8	6.6%	60.4%	8.8%	24.2%
9	31.6%	36.8%	10.5%	21.1%
10	25.8%	38.7%	9.7%	25.8%
<u>By ethnicity</u>				
NZ European	10.9%	58.3%	8.2%	22.6%
Maori	19.8%	41.5%	13.2%	25.5%
Pacific Island	16.9%	36.1%	15.7%	31.3%
Asian	19.1%	48.9%	12.8%	19.1%
Other	6.9%	44.8%	17.2%	31.0%
<u>By gender</u>				
Male	11.8%	53.6%	10.6%	23.9%
Female	13.9%	52.1%	9.9%	24.1%
<u>By region</u>				
Auckland	11.7%	49.6%	10.3%	28.4%
Wellington	15.2%	56.8%	10.9%	17.1%
Canterbury	10.8%	56.6%	8.4%	24.1%
Otago	16.4%	50.9%	9.1%	23.6%

25. If your credit card is stolen and the thief runs up a total of \$1,000, you will be responsible for the following amount after notifying the credit card issuer:

- a) None
- b) \$50
- c) \$500
- d) \$1,000

Table 39 Analysis of Question 25

	(a)	(b)*	(c)	(d)
All students	37.1%	8.35%	12.8%	41.8%
<u>By decile</u>				
1	27.8%	22.2%	13.9%	36.1%
2	42.0%	6.3%	11.2%	40.6%
3	36.7%	7.6%	13.9%	41.8%
4	42.3%	7.0%	9.9%	40.8%
5	33.8%	12.0%	13.5%	40.6%
6	33.3%	10.3%	17.1%	39.3%
7	39.3%	3.6%	7.1%	50.0%
8	40.7%	5.5%	6.6%	47.3%
9	21.1%	10.5%	31.6%	36.8%
10	35.5%	3.2%	25.8%	35.5%
<u>By ethnicity</u>				
NZ European	35.4%	7.2%	12.4%	44.9%
Maori	44.3%	7.5%	10.4%	37.7%
Pacific Island	30.1%	16.9%	12.0%	41.0%
Asian	40.4%	8.5%	19.1%	31.9%
Other	55.2%	6.9%	20.7%	17.2%
<u>By gender</u>				
Male	34.5%	7.3%	14.8%	43.3%
Female	38.8%	9.1%	11.4%	40.7%
<u>By region</u>				
Auckland	39.9%	8.3%	12.5%	39.4%
Wellington	34.2%	8.2%	12.1%	45.5%
Canterbury	31.3%	8.4%	15.7%	44.6%
Otago	38.2%	9.1%	14.5%	38.2%

26. If you are behind on your debt payments and go to a responsible credit counselling service such as the New Zealand Federation of Family Budgeting Services, what help can they give you?

- a) They can force those who lent you money to forgive all your debts.
- b) They can work with those who lent you money to set up a new payment schedule that you can meet.
- c) They can cancel and cut up all of your credit cards without your permission.
- d) They can get the government to apply your income taxes to pay off your debts.

Table 40 Analysis of Question 26

	(a)	(b)*	(c)	(d)
All students	5.7%	71.0%	14.3%	9.0%
<u>By decile</u>				
1	19.4%	38.9%	22.2%	19.4%
2	6.3%	62.2%	23.1%	8.4%
3	3.8%	78.5%	10.1%	7.6%
4	1.4%	74.6%	11.3%	12.7%
5	4.5%	74.4%	12.0%	9.0%
6	7.7%	67.5%	15.4%	9.4%
7	1.2%	84.5%	6.0%	8.3%
8	2.2%	79.1%	13.2%	5.5%
9	10.5%	68.4%	10.5%	10.5%
10	19.4%	61.3%	16.1%	3.2%
<u>By ethnicity</u>				
NZ European	3.9%	78.1%	9.8%	8.2%
Maori	6.6%	62.3%	24.5%	6.6%
Pacific Island	12.0%	44.6%	26.5%	16.9%
Asian	8.5%	70.2%	12.8%	8.5%
Other	13.8%	48.3%	27.6%	10.3%
<u>By gender</u>				
Male	5.8%	67.6%	16.4%	10.3%
Female	5.7%	73.4%	12.9%	8.0%
<u>By region</u>				
Auckland	7.1%	68.7%	15.6%	8.6%
Wellington	4.7%	71.6%	14.4%	9.3%
Canterbury	3.6%	73.5%	12.0%	10.8%
Otago	3.6%	81.8%	7.3%	7.3%

27. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?

- a) When you really need a two week vacation.
- b) When some clothes you like go on sale.
- c) When the interest on the loan is greater than the interest you get on your savings.
- d) When you need to buy a car to get to a high-paying job.

Table 41 Analysis of Question 27

	(a)	(b)	(c)	(d)*
All students	6.3%	10.0%	35.4%	48.3%
<u>By decile</u>				
1	11.1%	16.7%	38.9%	33.3%
2	7.0%	11.2%	35.7%	46.2%
3	3.8%	6.3%	32.9%	57.0%
4	9.9%	4.2%	38.0%	47.9%
5	5.3%	7.5%	41.4%	45.9%
6	8.5%	15.4%	30.8%	45.3%
7	1.2%	4.8%	25.0%	69.0%
8	1.1%	9.9%	38.5%	50.5%
9	15.8%	21.1%	36.8%	26.3%
10	16.1%	16.1%	41.9%	25.8%
<u>By ethnicity</u>				
NZ European	4.8%	8.3%	35.1%	51.8%
Maori	5.7%	10.4%	41.5%	42.5%
Pacific Island	10.8%	16.9%	37.3%	34.9%
Asian	19.1%	8.5%	29.8%	42.6%
Other	3.4%	20.7%	24.1%	51.7%
<u>By gender</u>				
Male	6.4%	10.9%	30.3%	52.4%
Female	6.3%	9.3%	39.0%	45.4%
<u>By region</u>				
Auckland	6.6%	10.0%	36.2%	47.2%
Wellington	6.2%	10.5%	33.9%	49.4%
Canterbury	4.8%	6.0%	32.5%	56.6%
Otago	7.3%	12.7%	41.8%	38.2%

28. Personal finance can help you

- a) buy the right kind of insurance to protect you from catastrophic risk.
- b) learn the right approach to invest for your future needs
- c) lead a financially secure life through forming healthy spending habits
- d) do all of the above.

Table 42 Analysis of Question 28.

	(a)	(b)	(c)	(d)*
All students	7.7%	14.2%	16.5%	61.6%
<u>By decile</u>				
1	13.9%	19.4%	25.0%	41.7%
2	14.0%	14.0%	16.5%	54.5%
3	2.5%	19.0%	20.3%	58.2%
4	2.8%	11.3%	16.9%	69.0%
5	5.3%	16.5%	12.8%	65.4%
6	7.7%	18.8%	17.9%	55.6%
7	4.8%	4.8%	9.5%	81.0%
8	4.4%	13.2%	20.9%	61.5%
9	10.5%	10.5%	21.1%	57.9%
10	22.6%	6.5%	6.5%	64.5%
<u>By ethnicity</u>				
NZ European	5.6%	13.0%	14.8%	66.6%
Maori	10.4%	14.2%	23.6%	51.9%
Pacific Island	12.0%	15.7%	22.9%	49.4%
Asian	14.9%	19.1%	8.5%	57.4%
Other	13.8%	24.1%	17.2%	44.8%
<u>By gender</u>				
Male	7.0%	13.9%	17.6%	61.5%
Female	8.2%	14.3%	15.8%	61.6%
<u>By region</u>				
Auckland	9.5%	12.2%	15.4%	62.8%
Wellington	6.6%	15.6%	17.5%	60.3%
Canterbury	3.6%	22.9%	15.7%	57.8%
Otago	5.5%	9.1%	21.8%	63.6%

29. The best description of personal financial planning is

- a) establishment of an adequate financial record keeping system.
- b) development of a sound yearly budget of expenses and income.
- c) preparation of plans for future financial needs and goals.
- d) examination of your investment portfolios to maximise returns.

Table 43 Analysis of Question 29

	(a)	(b)	(c)*	(d)
All students	16.7%	29.4%	43.7%	10.3%
<u>By decile</u>				
1	16.7%	22.2%	52.8%	8.3%
2	17.5%	34.3%	34.3%	14.0%
3	16.5%	26.6%	51.9%	5.1%
4	15.5%	39.4%	40.8%	4.2%
5	17.3%	25.6%	48.9%	8.3%
6	18.8%	29.1%	39.3%	12.8%
7	11.9%	29.8%	48.8%	9.5%
8	13.2%	29.7%	45.1%	12.1%
9	36.8%	15.8%	36.8%	10.5%
10	16.1%	22.6%	41.9%	19.4%
<u>By ethnicity</u>				
NZ European	17.4%	28.9%	45.1%	8.5%
Maori	14.2%	34.0%	35.8%	16.0%
Pacific Island	20.5%	24.1%	45.8%	9.6%
Asian	10.6%	36.2%	40.4%	12.8%
Other	10.3%	24.1%	44.8%	20.7%
<u>By gender</u>				
Male	16.4%	29.4%	42.7%	11.5%
Female	16.9%	29.3%	44.3%	9.5%
<u>By region</u>				
Auckland	16.4%	30.3%	43.3%	10.0%
Wellington	15.6%	30.0%	42.0%	12.5%
Canterbury	13.3%	27.7%	54.2%	4.8%
Otago	29.1%	21.8%	38.2%	10.9%

30. Your net worth is

- a) the difference between your expenditure and your income
- b) the difference between your liabilities and your assets
- c) the difference between your bank borrowings and savings
- d) none of the above

Table 44 Analysis of Question 30

	(a)	(b)*	(c)	(d)
All students	31.2%	39.9%	10.6%	18.3%
<u>By decile</u>				
1	36.1%	27.8%	25.0%	11.1%
2	37.8%	34.3%	15.4%	12.6%
3	17.7%	51.9%	15.2%	15.2%
4	25.4%	33.8%	11.3%	29.6%
5	29.3%	40.6%	7.5%	22.6%
6	29.9%	37.6%	7.7%	24.8%
7	26.2%	56.0%	2.4%	15.5%
8	42.9%	37.4%	8.8%	11.0%
9	47.4%	26.3%	5.3%	21.1%
10	25.8%	41.9%	12.9%	19.4%
<u>By ethnicity</u>				
NZ European	31.0%	42.9%	7.8%	18.4%
Maori	28.3%	36.8%	16.0%	18.9%
Pacific Island	38.6%	30.1%	14.5%	16.9%
Asian	23.4%	40.4%	21.3%	14.9%
Other	37.9%	24.1%	13.8%	24.1%
<u>By gender</u>				
Male	29.7%	41.5%	10.9%	17.9%
Female	32.3%	38.8%	10.3%	18.6%
<u>By region</u>				
Auckland	31.1%	41.8%	11.7%	15.2%
Wellington	32.3%	37.7%	9.3%	20.6%
Canterbury	24.1%	37.3%	13.3%	25.3%
Otago	36.4%	40.0%	3.6%	20.0%

Appendix 2 Frequency of total marks**Table 45 Frequency of total marks**

Mark	Frequency	Percent	
4	2	.2	
5	5	.6	
6	12	1.5	
7	12	1.5	
8	26	3.2	
9	24	3.0	
10	37	4.6	
11	16	2.0	
12	36	4.5	
13	32	4.0	
14	45	5.6	
15	56	7.0	
16	54	6.7	
17	61	7.6	
18	75	9.3	
19	78	9.7	
20	53	6.6	
21	61	7.6	
22	50	6.2	
23	33	4.1	
24	20	2.5	
25	10	1.2	
26	5	.6	
27	0	0	
28	1	.1	
Std error	.167	Std dev.	4.746

Appendix 3 Cover page and the questionnaire

PERSONAL FINANCIAL KNOWLEDGE SURVEY

Through this survey.....

I am undertaking research to identify the personal financial knowledge levels of New Zealand senior secondary school students. The survey results will be part of a research paper for a University degree.

There are 30 multiple choice questions. To answer each question, please circle your chosen statement.

A similar survey was undertaken in the USA in 1997 and 2000.

Can I ask you to please

! Complete the questionnaire

I will ensure that

! All responses will be kept confidential

! Neither you nor your school will be identified in the survey results

By filling in the questionnaire, it is assumed that you consent to participate in the survey. If you do not wish to participate in the survey, you have every right to do so. However, please do not partially fill in the survey and then decide not to complete it.

Many thanks

Lyn Morris

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Personal Financial Knowledge Survey

1. **If you went to University and earned a Bachelor's degree, on average how much more money could you expect to earn over a lifetime than if you only had a sixth form certificate?**
 - a) No more, I would make about the same either way
 - b) A little more, about 20% more
 - c) A lot more, about 75% more
 - d) About 10 times as much.

2. **Bill and Rob are employed by the same company and earn the same pay. Rob spends his free time taking work-related classes to improve his computer skills; while Bill spends his free time socialising with friends and attending movies. After five years what is likely to be more true?**
 - a) Rob will make more money because he is more valuable to his company
 - b) Rob and Bill will continue to make the same money
 - c) Bill will make more because he is more social
 - d) Bill will make more because Rob is likely to be laid off

3. **Which of the following best describes the primary sources of income for most people aged 20 - 35?**
 - a) Salaries and wages
 - b) Dividends and interest
 - c) Rents
 - d) Profits from business

4. **Retirement income received from a company is called**
 - a) Social security
 - b) pension
 - c) private superannuation
 - d) NZ Superannuation

5. **Rangi worked his way through a tertiary institute earning \$12,000 per year. After graduation his first job pays \$24,000. The total dollar amount Rangi will have to pay in income taxes in his new job will**
 - a) be lower than when he was at tertiary
 - b) stay the same as when he was at tertiary
 - c) go up a little from when he was at tertiary
 - d) double at least from when he was at tertiary

- 6. You have just graduated from tertiary and found a job earning \$28,000 per year. You are going to pay \$600 per month for five years for student loan repayments. You have a monthly balance on each of your three credit cards. What should you do to improve your financial health?**
1. Cut expenses and use your savings to pay down debt.
 2. Keep the same spending pattern as in the past.
 3. Apply for a consumer loan for a new car.
 4. Eliminate debt by filing for personal bankruptcy.
- 7. A dollar-cost-averaging approach to investing involves**
- a) buying low and selling high
 - 1.2 complex calculations of risk and return
 - 1.3 selling securities to minimise capital
 - 1.4 ignoring short term ups and downs in the market on a day-to-day basis.
- 8. Your take home pay from your job is less than the total amount you earn. Which of the following best describes what can be taken out of your total pay?**
- a) income tax, ACC contributions and student loan repayments
 - b) income tax, GST, and ACC contributions
 - c) income tax, ACC and social security contributions
 - d) social security, ACC contributions and student loan repayments
- 9. Which of the following is true about GST?**
- a) It makes things more expensive for you to buy
 - b) It does not apply to basic necessities
 - c) You don't have to pay the tax if your income is very low
 - d) The GST percentage rate is 10%
- 10. Jane just found a job with a take home pay of \$1600 per month. She must pay \$400 for rent and \$200 for groceries each month. She also spends \$200 per month on transportation. If she budgets \$200 each month for clothing, \$200 for restaurants and \$200 for everything else, how long will it take to accumulate savings of \$2,000?**
- a) 5 months
 - b) 10 months
 - c) 11 months
 - d) 15 months
- 11. If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?**
- a) interest earned from a savings account may not be taxed
 - b) resident withholding tax may be charged on the interest if your income is high enough
 - c) resident withholding tax is charged on the interest that you earn
 - d) you do not have to pay resident withholding tax on the interest until you pass your 18th birthday

- 12. If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?**
- a) a young, single woman without children
 - b) a young single woman with two young children
 - c) a young married man without children
 - d) an elderly retired man, with a wife who is also retired
- 13. If you have caused an accident, which type of car insurance would only cover damage to someone else's car?**
- a) comprehensive
 - b) liability
 - c) term
 - d) 3rd party
- 14. Fahia has saved \$3,000 for her tertiary expenses by working part-time. She plans to start college next year and needs all of the money she saved. Which of the following is the most suitable place for her tertiary money?**
- a) locked in a drawer at home
 - b) a bank savings account
 - c) government bonds
 - d) shares
- 15. Pita and Alofa have just had a baby. They received money as baby gifts and want to put it away for the baby's education. Which of the following is likely to have the highest growth over the next 18 years?**
- a) a savings account
 - b) shares
 - c) a NZ Govt bond
 - d) a cheque account
- 16. Many people put aside money to take care of unexpected expenses. If Chris and Gillian have put money aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?**
- a) cheque account
 - b) savings account
 - c) shares
 - d) invested in a down payment on the house
- 17. If you invest \$1,000 today at 4% for a year, your balance in a year will be?**
- 1. higher if the interest is compounded daily rather than monthly.
 - 2. higher if the interest is compounded quarterly rather than weekly.
 - 3. \$1,000 no matter how the interest is computed.
 - 4. \$1,040 no matter how the interest is computed.

- 18. Ben and Sarah are the same age. At age 25, Sarah began saving \$2,000 a year while Ben saved nothing. At age 50, Ben realised that he needed money for retirement and started saving \$4,000 a year, while Sarah kept saving her \$2,000. Now they are both 75 years old. Who has the most money in his or her retirement account?**
- a) Ben, because he saved more each year
 - b) They would each have the same amount because they put away exactly the same
 - c) Sarah, because she has put away more money
 - d) Sarah, because her money has grown for a longer time at compound interest
- 19. Which of the following instruments is NOT typically associated with spending?**
- a) ATM (Automated Teller Machine) Card
 - b) Cash
 - c) Term deposit
 - d) Credit card

- 20. Which of the following credit card users is likely to pay the GREATEST dollar amount in finance charges per year if they all charge the same amount per year on their credit cards?**
- a) Marlene, who always pays off her credit card in full shortly after she receives it
 - b) Eddie, who occasionally pays off his credit card in full but occasionally will pay the minimum when he is short of cash
 - c) Elana, who pays at least the minimum amount each month and more when she has the money
 - d) Patrick, who only pays the minimum amount each month
- 21. Joshua and Jonah are young men. Each has a good credit history. They work at the same company and make approximately the same salary. Joshua has borrowed \$5,000 to buy a car. Jonah has borrowed \$5,000 to take a foreign vacation. Who is most likely to pay the lowest interest charge?**
- a) They are both likely to pay the same because they have almost identical financial backgrounds
 - b) Jonah is likely to pay less because people who travel overseas are better risks
 - c) Joshua is likely to pay less because the car is collateral for the loan
 - d) They are both likely to pay the same because the rate is set by law
- 22. Which of the following statements is NOT correct about most ATM (Automated Teller Machine) cards?**
- a) You can get cash anywhere in the world with no fee
 - b) You can generally get cash 24 hours a day
 - c) You can generally obtain information concerning your bank balance at an ATM machine
 - d) You must have a bank account to have an ATM card
- 23. Marama needed to get a student loan to complete her tertiary education. After she graduated, she decided to go overseas for a working holiday for more than three months. What are her obligations regarding the repayment of her loan.**
- a) She will need to let IRD know before she leaves her correct NZ or overseas contact address.
 - b) She will need to fill in a tax return and an SL 9 form, showing the income received from the previous 1 April until the date of departure.
 - c) IRD will need to work out whether Marama is a resident or non-resident for tax purposes.
 - d) All of the above.
- 24. Kate has just applied for a credit card. She is an 18 year old high school student with few valuable possessions and no credit history. If Kate is granted a credit card, which of the following is the most likely way the credit card company will reduce ITS risk?**
- a) It will charge Kate twice the finance charge rate it charges older cardholders.
 - b) It will start Kate out with a small credit limit to see how she handles the account.
 - c) It will make Kate's parents pledge their home to repay Kate's credit card debt.
 - d) It will require Kate to have both parents cosign for the card.

- 25. If your credit card is stolen and the thief runs up a total of \$1,000, you will be responsible for the following amount after notifying the credit card issuer:**
- a) None
 - b) \$50
 - c) \$500
 - d) \$1000
- 26. If you are behind on your debt payments and go to a responsible credit counselling service such as the New Zealand Federation of Family Budgeting Services, what help can they give you?**
- a) They can force those who lent you money to forgive all your debts.
 - b) They can work with those who lent you money to set up a new payment schedule that you can meet.
 - c) They can cancel and cut up all of your credit cards without your permission.
 - d) They can get the government to apply your income taxes to pay off your debts.
- 27. Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?**
- a) When you really need a two week vacation.
 - b) When some clothes you like go on sale.
 - c) When the interest on the loan is greater than the interest you get on your savings.
 - d) When you need to buy a car to get to a high-paying job.
- 28. Personal finance can help you**
- 1. buy the right kind of insurance to protect you from catastrophic risk
 - b) learn the right approach to invest for your future needs
 - c) lead a financially secure life through forming healthy spending habits.
 - d) do all of the above.
- 29. The best description of personal financial planning is**
- a) establishment of an adequate financial record keeping system.
 - b) development of a sound yearly budget of expenses and income.
 - c) preparation of plans for future financial needs and goals.
 - d) examination of your investment portfolios to maximise returns.
- 30. Your net worth is**
- a) the difference between your expenditure and income.
 - b) the difference between your liabilities and assets
 - c) the difference between your bank borrowings and savings
 - d) none of the above.