

THE HIGHER EDUCATION CONTRIBUTION SCHEME—A *HECS* ON THE FAMILY?

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It is generally well accepted amongst the demographic community that policy does not have to be even remotely concerned with population for it to have important demographic outcomes. This paper argues that the Higher Education Contribution Scheme (HECS), which has potentially strong anti-natal elements, may be one such policy. Because of a lack of data, the purpose of the paper is to establish the hypothesis, rather than to test it.

As Australia greets the Millennium, debate about whether or not to have a population policy continues as it has for most of the country's European history (Cocks 1996). Regrettably, there is less debate about what actually constitutes such a policy. One thing is certain. Little, if any, understanding exists amongst the policy-making community that a policy does not have to be even remotely concerned with population for it to have demographic outcomes. This paper argues that the Higher Education Contribution Scheme (HECS) introduced by the Federal Government in 1989 may be one such policy. It would seem to contain strong anti-natal inducements, and thus to have the potential to exacerbate structural ageing. Unfortunately, no data as yet exist with which to test this hypothesis. Hence, the present task is to establish 'the case', with a view to pursuing funding to more thoroughly investigate not only the demographic, but also the social and economic implications of the HECS.

Establishing the case that the HECS has anti-natal elements, and through them the potential to exacerbate structural aging, rests on the supposition that the cost of repaying HECS debts causes tertiary-educated women *and men* to delay their childbearing and/or to have fewer children than they otherwise would. In an effort to substantiate (as distinct from *test*) this hypothesis a number of steps are taken. First, the theoretical basis of the argument is briefly outlined. Second, the correlation between education and fertility is examined. Third, trends in tertiary education and attainment are reviewed. Fourth, the HECS and its characteristics are described. Finally, because so little is as yet known about the social,

economic and demographic effects of the HECS, New Zealand's similar Student Loan Scheme (SLS) and the findings of two small investigations into its impact are also outlined.

Theoretical assumptions

With few exceptions, studies of fertility and family change report a strong correlation between fertility and education; the higher the education, the lower the fertility. In most developed countries, explanations of this situation invoke a range of 'opportunity costs' and 'role incompatibility' arguments; the forgone earnings, promotional, and retirement-savings opportunities associated with childbearing and rearing, and disproportionately experienced by women (Lesthaeghe and van de Kaa 1986; Chesnais 1996; Esping-Anderson 1996; van de Kaa 1998; McDonald 2000). Increasingly these arguments are being subsumed under the claim that there is an 'incoherence' between the levels of gender equity applying in different social institutions, such as those of 'the family' and 'the workplace'. As McDonald (2000:1) explains, when women have the same educational opportunities as men, but converting them into success in the labour force is severely hampered by having children, then women will simply restrict the number of children they have. Theoretically this relationship will be stronger for those who have invested more heavily in their education.

Closely associated with these arguments is the relative income hypothesis of Richard Easterlin (1968, 1987), which holds that individuals and couples develop 'fertility strategies' that attempt to hold their material well-being constant, relative to expectations and aspirations built up during their childhood and teenage years. A perceived inability to transform those expectations and aspirations into consumer behaviour is argued to cause people to delay having children and/or to have fewer children than they may otherwise have desired. Although the relationship between fertility behaviour and *indebtedness* does not appear to have been explicitly examined in this context, it takes little imagination to appreciate the potential for a link.

Drawing both sets of premises together, this paper argues for a 'two-sex' demography. The combined HECS debt of a tertiary educated couple is, by simple arithmetic, double that of an individual.

Education and fertility

As noted above, the higher the level of education, the lower the level of fertility. Figure 1 shows that this relationship holds true at all ages. This consistency across age groups is very

important, because there is some belief that higher qualifications (and occupational status) merely correlate with a later timing of births, not lower fertility *per se* (ABS 1998a:35).

Figure 1 about here

The erroneous nature of this belief becomes clear when the childbearing experience of women aged 45-49 in 1996 is examined in more detail (Figure 2). By the end of their childbearing period, women with a bachelor degree or higher remained almost twice as likely as women with other or no qualifications to have no children, slightly more likely to have only one child, and somewhat less likely to have every other number of children. Their average family size was around 1.9 children, compared with 2.3 for all other women. While apparently small, such differences (0.4 children), if experienced by all women, can have a marked effect on population ageing. Kippen (1999:Figure 6), for example, indicates that under a situation of zero net migration, a fertility reduction of 0.4 children per woman over 50 years would increase the proportion of the population aged 65+ years by approximately four percentage points. The effect of a growing proportion of women acquiring bachelor degree or higher qualifications would, of course, be somewhat more modest, as not all women would be affected (although note below that the proportion so educated is now approaching 20 per cent). It must also be noted that the main childbearing experience of women who were aged 45-49 years in 1996 predated the implementation of the HECS, thus it is plausible that the above disparity could be greater for the later-born.

Figure 2 about here

Education and fertility by partnered and unpartnered status

The difference in fertility between tertiary-qualified women and women without such qualifications is magnified when the experience of partnered and unpartnered women is compared. By the end of their childbearing years, 40 per cent of currently unpartnered women with a bachelor degree or higher remained childless, compared with 11 per cent of their partnered counterparts. Figure 3 shows that the difference in fertility between these two groups was pronounced at all ages. It draws attention to what, in the context of overall fertility, may be becoming an extremely significant dual trend at younger ages — increases in both the proportion of women with higher qualifications and the ratio of unpartnered to partnered women with such qualifications. These points are returned to below.

Figure 3 about here

Who's having children with whom, and how many?

The relationship between fertility and the educational qualifications of couples follows what might be thought an intuitively expected pattern, with higher qualified couples having fewer children on average than their lower qualified counterparts. However, when refined by age the relationship is not entirely consistent. In 1996, women aged 25-29 and 30-34 years who held a degree or diploma, and who were partnered by a male with these qualifications, had considerably lower average fertility than others in their respective age groups, and slightly lower fertility than others in their respective age-qualifications groups (Figure 4). Given recent trends to later partnering and fertility in general, this is not a surprising finding. Such behaviour would in particular be expected of women and men who had been otherwise occupied gaining higher qualifications, and thereafter seeking financial and other returns on the time and money they had invested. Nevertheless, it *could* incorporate a HECS effect, and warrants further investigation.

It especially warrants investigation when it is considered that, by contrast, the older counterparts of these people (women aged 40-44 and 45-49 years with a degree, partnered by men with similar qualifications) had slightly higher fertility than their similarly qualified counterparts, and not much lower fertility than their lower qualified counterparts (also see Figure 4). It may be that they, too, like their younger counterparts, started their childbearing later and essentially 'caught up', reflecting the ABS argument (for women only) noted above. But, as implied above, because so few women with degrees from the older cohorts – those born during the 1940s and '50s - gained their higher qualifications during their twenties (Jackson and Heard 2000), it is also possible that their childbearing occurred at similar ages to that of their lower qualified counterparts. Further research is needed to resolve this issue.

A second and perhaps more startling feature of these patterns is that at almost all ages, women with *no* qualifications partnered by a male with a degree or a diploma had the lowest fertility amongst all women with no qualifications. Again there is an intuitively 'correct' gradient, with fertility more or less inversely related to the male partner's qualifications (i.e., the higher his qualifications, the lower the woman's fertility). A similar relationship holds true for women with diploma, skilled vocational and basic vocational qualifications, and it is particularly pronounced for those aged 25-29, the most likely group to have encountered the HECS. Thus, relatively low fertility occurs where *either* partner holds a higher (diploma or degree) qualification. Moreover, it is becoming more common for couples to be in this category.

Figure 4 about here

Who's partnering (whom) and not partnering?

There is a very strong correlation between the qualification levels of partnered males and females. Fifty per cent of partnered women with a bachelor degree or higher in 1996 had similarly qualified male partners; 42 per cent of those with a skilled vocational qualification and 56 per cent of those with no qualification likewise had similarly qualified partners (Table 1). At the upper end of the distribution the correlation is strongest for those with post-graduate diplomas and higher degrees — 37 per cent of women with one of these two qualifications had partnered similarly qualified men. These patterns hold true at all ages 20-49. This *educational homogamy* (Mare 1991) strongly supports the part of the hypothesis that calls for a 'two-sex' demography. If the HECS repayments of only women are considered, much important information will be rendered invisible.

Table 1 about here

Over recent years (1986-96), however, there have also been substantial declines in the proportions of males and females partnering (i.e., either marrying or living in *de facto* relationships). The fall in marriage rates has not been compensated for by an increase in *de facto* relationships (Birrell and Rapson 1998:62).

Figure 5 shows the extent of non-partnering in Australia at the 1996 Census. At that time, 44 per cent of women and 47 per cent of men aged 15-49 claimed to be unpartnered. At the key reproductive ages, 30-39 years, 29 per cent of men and 25 per cent of women were unpartnered. At no age was the proportion unpartnered below 20 per cent. Although unpartnered status has no bearing on the production of children *per se*, the considerably lower fertility for unpartnered women noted above indicates that the prevalence of this status in the population is an important determinant of aggregate fertility.

Figure 5 about here

At all ages, women with a bachelor degree or higher are the most likely women to be unpartnered (Figure 6). By contrast, at all but the youngest ages the most likely males to be unpartnered are those with no or lower qualifications. Importantly, the *trend* (1986-96) towards lower levels of partnering is even more pronounced amongst those with lower qualifications and with lower qualifications at younger ages. Birrell and Rapson (1998) argue that this finding may reflect the increasing ability of women in general to provide for themselves, at the same time as many men have been experiencing a decrease in employment

and income. For males aged less than 40 they argue that the major reason for the decline in partnering is not marital breakup, but failure to partner in the first place.

Figure 6 about here

Importantly, Birrell and Rapson also argue that these trends may be heralding a new twist to the ‘marriage squeeze’ argument, whereby previously there was a numerical disparity between adjacent age-sex groups.¹ In the new version, the disparity may be between age-qualification groups. That is, in the past, men were more likely than women to hold qualifications *per se*, and typically married or partnered women with lower qualifications than themselves, a situation known as *educational hypogamy* or ‘marrying down’. Since the mid-1980s women have become more likely than men in either the same or the next older five-year age group to hold a degree or diploma, making them the ones who must now partner or marry ‘down’ – or *not* marry or partner down, as the case may be. For example, at ages 20-24 there were in 1996 67,921 unpartnered women with a bachelor degree or higher, but only 48,206 equivalently qualified men. If adjacent age groups are considered, there were 59,177 females aged 25-29 with a bachelor degree or higher, but only 31,565 males aged 30-34 with these qualifications. The disparities increase if diploma-qualified people are added.

Although there is no overall mismatch in terms of total numbers of unpartnered men and women, the strongly homogamous partnering described above supports Birrell and Rapson's argument that a growing qualifications mismatch may be fuelling the trend to non-partnering. The possibility that the HECS could be adding an additional disincentive to partnering and family formation must be added to this picture.

Participation and attainment in higher education

The extent to which the foregoing factors are likely to have an impact on the future fertility of individual Australians, and thus on aggregate fertility, will depend largely on the proportion of the population of reproductive age who are affected by the HECS. Since this statistic is unknown, a proxy measure must be obtained by examining trends in higher education participation and attainment, and considering proportions paying HECS ‘up front’.

In 1987, just short of 200,000 people of each sex attended Australian higher education institutions. Over the next decade numbers increased dramatically, by 53 per cent for males

¹ Males historically have tended on average to partner females younger than them. When small cohorts of males are succeeded by larger cohorts of females, as occurred during the baby boom (or the reverse occurs, as during the baby bust), an imbalance arises in the sex ratio of those seeking partners. In the former situation there is, in theory at least, a ‘marriage squeeze’ for females, in that there are not enough immediately older males to go around; in the latter, males experience the squeeze because there are not enough immediately younger females.

and 82 per cent for females. Females thus have increasingly outnumbered males. In 1997, when approximately 75 per cent of enrolments were at bachelor degree level and 13 per cent at higher degree levels, they did so by 19 per cent (ABS 1998b:57).

Between 1992 and 1997, the proportion of all Australians with a bachelor degree or higher increased from 10 to 14 per cent (ABS 1998b:14). At ages 25-34 and 35-44 in 1998 the figures were, as would be expected, higher, at 19.3 and 18.4 per cent respectively (ABS 2000:Table 10.16). In 2000 it thus seems reasonable to think in terms of around 20 per cent of the key reproductive age population (25-44 years) holding such a qualification.

Higher education completions by sex reveal that over 56 per cent of bachelor and higher degree qualifications are now gained by females, up from 50 per cent in 1981 (ABS 1996:Table A6.11; 1998b:Table 4.21). Importantly, Australia is not alone in experiencing these trends. Over the past two decades female graduates have come to outnumber male graduates in almost every developed country (Doyle 1999:22). As noted above, when viewed in combination with the arguments pertaining to a potential qualifications mismatch, the influence of education on fertility may not stop at the costs of repaying one's HECS debt. It may also extend to an additional barrier to partnering and thereby family formation - the disproportionate gaining of higher qualifications by women.

Tertiary student indebtedness and modes of repayment

In 1989, both the Australian and New Zealand governments introduced fees for higher education. It is extremely difficult to ascertain levels of *actual* student debt², but since in 2000 Australian students and ex-students had a combined HECS debt of nearly 6.6 billion dollars (AVCC 2000), and in 1996 their New Zealand counterparts had a SLS debt of approximately 4 billion New Zealand dollars (NZUSA & APSU 1996), it would appear that average debt is not insignificant. Against this background, a general overview of how each of the schemes operates must suffice for current purposes.

Australia's Higher Education Contribution Scheme

In Australia, students and/or their parents contribute to the direct cost of education via the Higher Education Contribution Scheme (HECS), a CPI-adjusted, income-contingent loan which recipients begin repaying when their employment earnings reach a threshold

² The Australian Taxation Office declined to divulge this information. The New Zealand Ministry of Education publishes data on average debt at a point in time, thus including people part-way through study and those who have made repayments for some years. This measure differs from actual reported debt (NZUSA & APSU 1999).

(\$A21,984 per annum in 1999) (DEETYA 1999). The rate at which the loan is repaid is variable. As of 2000 it ranges between 3-6 per cent of weekly income, the precise rate being dependent on income. An Australian with a HECS debt and weekly earnings of less than \$417 is not required to pay anything off their loan, and that remains permanently the case if they never work or earn over the threshold amount. Above the threshold, the income liable for HECS repayment is the entire taxable income, against which the minimum repayment must be made (ATO 2000:15).

The average student fee for a three-year Arts degree is currently \$10,227; for a four-year Science degree, \$19,420; and for a six-year Medical degree, \$34,092. Table 2 illustrates the approximate number of years it will take students enrolled in these fields to repay their debts at the minimum repayment level. An ex-student with a three-year Arts degree (before annual CPI adjustment) earning \$30,368 per year will take around 7.5 years to repay; a Science graduate earning \$36,192 will take 10.7 years; etc.

Table 2 about here

It cannot be assumed that all Australian students and ex-students have a HECS debt. The proportion choosing to pay 'up front' appears to have increased since 1989. In that year 15 per cent of student fees incurred were so paid, whereas by 2000 that figure had increased to 21 per cent (AVCC 2000). However, it is not known what proportion of these students had borrowed privately, from family etc., to be able to pay 'up front', and thus had unofficial debts (in New Zealand the proportion appears to be significant).

In late 1999, moves to make the HECS an interest-bearing loan were proposed by the Federal Government (NTEU 1999). To date this proposal has not been proceeded with, but arguments for it continue to emerge.

New Zealand's Student Loan Scheme

In New Zealand, student fees are typically paid by borrowing under the Student Loan Scheme (SLS), an income-contingent, CPI-adjusted *and* interest bearing loan introduced in 1991 and on which repayments begin once earnings reach (in mid-2000) the threshold of \$NZ14,768 per annum (IRD 2000). The SLS interest rate is currently (mid-2001) 7 per cent per annum (down from 10 per cent when first introduced), and the loan is repaid at the rate of 10 per cent for every dollar earned over the threshold.

Although the differences between the HECS and SLS appear at first glance to place Australian and New Zealand ex-students in similar repayment situations, that in New Zealand is considerably less equitable. All New Zealanders with student loans and weekly earnings

above \$283 repay their loans at a minimum 10 cents in every dollar earned over the threshold, whereas in Australia repayment is instituted at a much higher threshold, and at a rate contingent on income level. Although in Australia the repayment percentage applies to the entire taxable income, no tax at all is payable on the first \$6,000 of earnings. Thus, an Australian earning, say, \$30,000 per annum pays HECS on \$24,000 at 4.5 per cent per annum (\$1,080); a New Zealander earning \$30,000 pays SLS on \$15,320 at 10 per cent per annum (\$1,532). In New Zealand any non-working or low earning period also sees the balance increase by the going rate of interest, which includes the CPI; in Australia the balance increases only by the CPI.

In New Zealand, the mean student *debt* incurred for a three to four year degree is around NZ\$13,752, with a similar range between degree types as in Australia (NZUSA & APSU 1999). Based on 305 responses in a 1999 Student Debt Casebook, 70 per cent of debts range between \$10,000 and \$20,000, and 25 per cent between \$20,000 and \$40,000. Significant recent restrictions on access to student allowances also mean that many students' debts include debt for living costs, which also can be borrowed under the SLS.

In 1994 the New Zealand Government acknowledged that it would take the average female graduate 38 years to repay her loan, and the average male 15 years. These periods have increased as a result of the recent changes to the SLS repayment system, to 52 years for women and 17 years for males (NZUSA & APSU 1999:18). Generic case studies from a 1996 Student Debt Casebook established, for example, that a New Zealand student completing an average three-year commerce degree in 1996 would have graduated with a SLS debt of \$26,270. If he/she started work on approximately \$33,000 per annum and was paying the loan back at the minimum repayment rate (initially \$1,764 annually), it would take him/her 24 years to clear the loan, at an additional cost of \$43,808 in interest (NZUSA & APSU 1996). Time out for childbearing and rearing would extend both the amount payable and the repayment period.

The already mentioned second Student Debt Casebook (NZUSA & APSU 1999) chronicles the substantial difficulties now being encountered by such people. In many cases the minimum repayment amount is not covering the interest, meaning that at the end of a financial year, having repaid several thousand dollars, loans are often larger than at the beginning of the year. Cash repayments can be made, but respondents reported that these were near impossible, with as much as half of their income already going in normal taxation plus the additional 10 per cent repayment. Respondents reported inability to take out mortgages for homes, to begin families, or to make any repayments at all on subsequently becoming a sole

parent or unemployed. Although there have been Government pronouncements on the 'rules' surrounding the legitimacy of banks refusing mortgages to SLS-indebted former students, the simple fact remains that all earnings directed towards compulsory SLS repayments reduce the discretionary income on which decisions to seek, and financial institutions' decisions to approve, mortgages are based. As the Casebook's authors write:

The stories belie the government's view that student debt will not impede borrowers' lives. The fact is that ex-students are struggling financially and emotionally because they have mortgaged themselves for an education ... that has created a 'Debt Generation' (NZUSA & APSU 1999:2)

'The Case'

- At all ages, the higher the qualification, the lower the fertility. At the end of their childbearing years (ages 45-49), 20 per cent of women with a bachelor degree or higher remain childless, compared with less than 10 per cent of women without university qualifications. For currently partnered women the proportion is 11 per cent; for those currently unpartnered, 40 per cent.
- The higher her qualifications, the higher the likelihood of a woman not partnering. At ages 25-29 years, 50 per cent of women with a bachelor degree or higher are currently unpartnered, compared with less than 40 per cent of women without a university qualification.
- Amongst those who do partner, tertiary-qualified women are disproportionately likely to partner tertiary-qualified males. Within this educational group, the higher the qualification, the stronger the educational homogamy.
- Tertiary-qualified *couples* have the lowest cumulative fertility at all but the oldest childbearing ages. That is, those born in the 1940s and 1950s may have initially delayed their childbearing, but eventually 'caught up'. Alternatively, relatively few women from these cohorts gained their higher qualifications during their twenties; thus they may have given birth to those children at similar ages to their lower qualified counterparts. Neither situation can be assumed into the future, and both demand further investigation.
- Couples where *either* partner has a university qualification have lower fertility than all other couples (i.e., the partner with the university qualification does not have to be the female for fertility to be low). This pattern is particularly strong for 25-29 year olds, who would have been the main group thus far to have encountered the HECS.
- At a macro-level, an apparently small difference in average fertility (0.4 children) can have a major additive effect on population ageing. Under a situation of zero net migration,

a loss of 0.4 children over 50 years increases the proportion aged 65 + years by approximately 4 percentage points. While the proportion of women with a bachelors degree or higher (currently around 20 per cent) will not yet be having this 4 percentage point effect, the mathematics indicate that it could be approaching 1 percentage point.

- In 1997, 300,000 males and 357,000 females attended Higher Education Institutions in Australia. Approximately 75 per cent of these students were enrolled at the bachelor degree level, and 13 per cent at higher degree levels.
- Close to 20 per cent of Australians aged 25-44 now hold a bachelor degree or higher qualification, and this proportion appears to be increasing.
- Higher education completions by sex establish that more than 56 per cent of bachelor and higher degree graduates are now females, up from 50 per cent in 1981, and this trend appears to be continuing.
- Since fifty per cent of tertiary-qualified women partner tertiary-qualified men, the combined debt of a tertiary-educated *couple* at the outset of their relationship is likely to be double that of an individual: say \$20,000-\$40,000 in the case of Australians, and \$40,000-\$60,000 in the case of New Zealanders.
- Current theoretical understandings of the inverse association between fertility and qualifications - for example, the *opportunity costs*, *role incompatibility*, *institutional incoherence*, and *relative income* hypotheses - all lead one to postulate a similar inverse association between ex-student *indebtedness* and fertility.

Conclusion

Taken together, the factors just itemized suggest that self-provision for higher education has the potential to have a substantial negative impact on fertility, and thereby to exacerbate structural ageing. In light of this, five points are worth making. First, if self-provision for non-compulsory education remains an imperative, it is equally imperative that its potential to affect a very significant 'public good' in the form of the unborn future population (read future economic and tax base) is understood. Second, at all costs Australia should avoid introducing interest-bearing loans along the line followed by New Zealand. Third, New Zealand policymakers would be well-advised to 'stop the clock' on interest-accruing loans while women and/or men with such loans take time out of the labour force to bear and rear children. Fourth, both countries should consider making investment in one's own education a tax-deductible expense – currently self-education expenses become tax-deductible only when the

education is directly 'work-related', and even then there are many limitations (e.g., ATO 2002:49-51). Indeed the ATO explicitly states that you cannot claim self-education expenses if these were undertaken to help you get a job (ATO 2002:49). It is difficult to understand why investment in any other factor designed to increase future productivity is so treated, yet investment in education is not (on New Zealand, Easton 1997:218-219). Finally, all ostensibly non-demographic policies should be scrutinized for their potential demographic effects.

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