



NATSEM HELP repayment Modelling Methodology

The web-based tool to calculate expected Higher Education Loan Program (HELP) repayments was developed by NATSEM at the University of Canberra for the Federal Australian Labor Party. The tool is broadly based on Australian Bureau of Statistics (ABS) census data from 2011. The assumptions on fees charged at university and interest rates applied to student debt are determined by the user. The tool is designed to compare two alternative scenarios for graduates in regard to their student debt level and repayments through time.

The NATSEM repayment calculator operates on 22 popular university degrees at the undergraduate level and assumes only compulsory HELP payments are made¹. Since males and females have different career income trajectories the results can be obtained by gender. For each course, NATSEM provides the current fee and interest rate structure – depicted under the ‘Current Situation’ menu. For this situation the interest rate is set at the existing rate of 2.5 per cent which aligns with market expectations for the ABS Consumer Price Index (CPI).

Under the ‘Abbott’s Deregulation’ menu two alternative fee scenarios are included. The first of which is the ‘Best Case’ where universities charge their current fees plus an amount equal to the proposed reduction in government support for each course. The second scenario is the ‘Worst Case’ where International fees are charged. These fees are based on published fees in the Hobson’s *Good Universities Guide* for the primary band associated with the course. The expected (reduced) level of government support from 2016 and beyond is deducted from current international student prices. Since deregulation is anticipated to begin in 2016 a CPI increase of 2.5 per cent is applied to all 2015 prices. All university fees beyond 2016 are increased at this same CPI rate each year and all numbers

¹ For simplicity NATSEM selected courses with reasonably clear occupations so that future income paths could be derived from ABS Census occupation by income tables. Future occupations for Arts degree graduates tend to be quite general and Arts degrees are commonly combined with other courses. In an updated version of the calculator NATSEM includes Arts degree assuming incomes equal to 90 per cent of 3 year degree incomes. The 10 per cent reduction is based on Arts degree starting salaries being around 10 per cent lower than other 3 year degrees. NATSEM does urge caution when using the Arts degree figures as we are less sure of the trajectory beyond graduation salaries relative to other courses. However, we believe the Arts degree numbers can be taken as a useful guide.

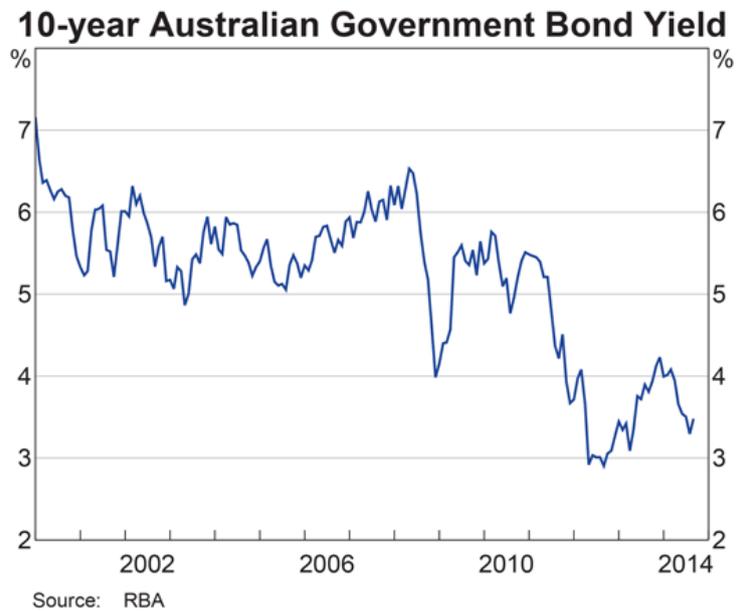
in the tool are in nominal dollars. For this menu the user can choose between two interest rate options – 5% (expected Treasury Bond Rate) and 6% (Maximum allowed rate for HELP debt interest rates).

Under the HELP scheme graduates repay their loan according to their income level. NATSEM has taken individual income from the ABS Census for relevant occupations linked to each degree from 2011 and inflates these incomes to 2016 and then beyond using an assumed wage inflator of 3.5 per cent per annum which is broadly in line with historic growth and future market expectations for wages in Australia in the long term. Incomes are calculated for single year ages for each occupation by gender. Census data is supplied as number of persons within an income range such as '\$0-\$200' up to '\$2000 plus' per week. We randomly allocate each person within a category. The '\$2000 plus' category actual incomes are assigned on a random basis but according to the distribution of incomes by age in the ABS Survey of Income and Housing 2011-12 which broadly lines up with the same point in time as the ABS Census.

NATSEM uses the median income for simplicity but recognizes there can be significant variations in incomes for individuals which mean that the calculator results should be viewed only as indicative. The calculator assumes that graduates start their course at 18 years of age and move directly into employment upon graduation. Both males and females are assumed to remain continuously in employment until the age of 65. If any of these assumptions are broken the repayment periods are likely to be longer. The use of the median does partially account for the likelihood that many women (and some men) will take a significant number of years either out of the workforce or at a part-time level and will be unlikely to make compulsory repayments for those years. The tendency for women to often work several years part-time (or not at all) while rearing children tends to bring the median down for women in prime child-rearing years. This does explain why for some courses, such as Nursing, Teaching and higher cost courses such as Veterinary Studies or Optometry there are years where the female's repayments are either zero or less than the interest component of the repayments – hence the debt can actually increase while the graduate is employed and indeed never be fully repaid. In the most extreme example a female Vet on a median salary would retire at age 65 with a debt over \$434,000 under the International fee scenario at the maximum interest rate of 6 per cent.

While NATSEM has developed the underlying data and the interface tool we do not have a view on fee changes related to fee deregulation. We also do not have a view on the future trajectory of interest rates, however, we do note that the 10 year average for Treasury Bond rates is close to 5

per cent and would suggest that for a long term projection that would be a sensible pick on interest rates.



Given the assumptions of continuous employment, direct transitions from high school to university to employment without any breaks or changes in study course the results for each scenario are likely to be a best-case scenario for the typical graduate. NATSEM would suggest that this would particularly apply to women.

For further information on these calculations or assistance with the Web tool please contact

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