

Exploring Creative Applications of Income Contingent Loans

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Income Contingent Loans (ICLs) have a long history in labour economics. Indeed, Australian labour economists have played a seminal role in the conceptual development of the Higher Education Contribution Scheme (HECS) in Australia – a process which demonstrated how such policies can overcome real issues for ICLs in a practical and effective manner. This Issue of the journal examines a range of proposals for applying ICLs in new contexts, with a view to understanding both how such schemes work and what the limits to such policies might be. As argued in the previous issue of *The Australian Journal of Labour Economics (AJLE)*, the journal should provide stimulating articles that are of interest to labour economists rather than being solely about labour economics *per se*. This Issue of the journal clearly fits this description by exploring and developing some creative applications of ICLs.

In late 2008 the *AJLE* sought submissions for a special issue devoted to articles from the papers presented to the Government Managing Risk Through Income Contingent Loans Conference held at the Australian National University on 4-5 August 2008. The conference, funded under a project supported by the Australian Research Council's (ARC's) Linkage Learned Academies Special Projects Scheme and run by the Academy of the Social Sciences in Australia, sought to analyse issues surrounding 'Government as a Risk Manager'. Both the journal and the contributors to this Issue gratefully acknowledge the support of the ARC and the Academy of the Social Sciences in this endeavour. Neither institution necessarily agrees with the analysis or policy suggestions.

What are the economic issues addressed by various ICL schemes? There are at least two potential benefits from ICL-type schemes identified in the literature: enhancement to microeconomic efficiency through the provision of credit with default insurance; and welfare benefits from facilitating agents to smooth income and consumption over time, which is especially valuable where there is constrained access to the capital market. The first benefit can be interpreted as a correction for a 'failure' in the capital market. Obviously, the welfare rationale for ICLs is stronger if access to the capital market is totally constrained – that is where complete market failure is evident and the relevant agents have no access to credit.

Among other things this introduction canvasses briefly a third possible category of benefit: ICLs may also enhance 'macroeconomic' or 'aggregate' outcomes by allowing agents to better deal with uncertainty of investment returns. Frank Knight (1921) famously distinguished between risk and uncertainty in his doctoral dissertation. It was argued that risk is the situation in which there are unknown outcomes but known *ex-ante* probability distributions, while uncertainty is a situation

in which the probability distribution of a random outcome is unknown (for example, because the correct model of the world is unknown). Note that, where risk is the only consideration, expected utility theory can be applied since probabilities of various outcomes are well defined. Keynes referred to and exploited this distinction in the *General Theory* (Garner 1983). Keynes wrote:

We are merely reminding ourselves that human decisions affecting the future, whether personal or political or economic, cannot depend on strict mathematical expectation, since the basis for making such calculations do not exist our rational selves choosing between the alternatives as we are able, calculating where we can but often falling back for our motive on sentiment or chance. (1964, 162-3)

Collective subjective assessments of the uncertainty concerning returns to a project can lead to underinvestment, or indeed overinvestment (relative to a situation where more complete information is available), depending on macroeconomic conditions and the associated 'animal spirits'.

Quiggin (2003) documents the relative welfare gains from income contingent schemes and up-front fees using an expected utility framework to deal with risk. Uncertainty that cannot easily be classified as 'risk' is difficult, if not impossible, to deal with in an expected utility framework. Notwithstanding, one aspect of uncertainty that might be captured is the distribution of beliefs about what is the correct model of returns on particular investments. Science largely works on consensus, but there is often some diversity in opinion concerning which theory is correct. In this way one could speak about risk referring to the *ex ante* distributions of individual outcomes and uncertainty referring to the subjective probability distributions of analysts about the validity of respective theories.

While the relative efficacy of ICLs in dealing with uncertainty is open to debate, the following speculation concerns how such schemes may enhance macroeconomic performance by allowing agents to smooth consumption patterns over time and focus solely on the uncertain returns of particular investments. Given the computational difficulties in assessing such situations, investors may be more rational if they are not distracted by excessive concerns over inter-temporal welfare of the households in which they live, and focus solely on the complex factors affecting the investment in question.¹ Thus the third benefit of ICLs may be that they form an 'institutional' response to partially deal with the presence of high levels of uncertainty with respect to the true returns to investments.

Like many policies, ICLs must deal with problems of moral hazard and adverse selection, which are both in part related to the presence of asymmetric information. Moral hazard occurs when the party with more information concerning its actions or intentions has a tendency or incentive to behave inappropriately from the perspective of the party with less information. For example, agents who are insulated from risk may behave differently than if they were fully exposed to risk. Given that ICLs are a means of managing risks, and possibly uncertainty more broadly, proponents of ICLs

¹ More rational in the sense that extraneous subjective concerns would not unnecessarily affect an investor's estimate about the *ex ante* probability distributions of the various states of the world.

need to outline specific strategies for dealing with the potential for moral hazard that may arise from the policy proscribed.

The second potential cost or drawback of ICLs is adverse selection, a situation in which agents with relatively poor prospects are more likely to participate in programs. Like moral hazard, adverse selection is a result of asymmetric information between the applicants and administrators, but again it might be able to be dealt with in various program design ways.

ICLs provide an opportunity for risk sharing with taxpayers. However, some risk cannot be diversified away – Jones (2009) questions ICLs on the grounds that ‘market risk’ has to be borne by someone in the economy. In a sense, the existence of market risk has some similarities with the notion of uncertainty described above, as it cannot be described in terms of well-defined *ex ante* probabilities – otherwise it might be possible in theory to diversify away such risk. While Keynes identified the role of uncertainty in leading to underinvestment in certain macroeconomic contexts, Jones argues that it is possible that ICLs may also lead to ‘over-investment’ in risky investments as the risk is shifted comprehensively to taxpayers. However, Keynesian analysis of uncertainty involves consideration of emotive subjective (psychological) considerations that are sometimes thought to fall outside the normal consideration of risk analysis.

Jones (2009) also argues that proponents of ICLs overstate the welfare gains – asking that, if there are some diversifiable risks, why don’t markets provide insurance? He speculates that it ‘is unlikely that public sector employees have better information or face the appropriate incentives to assess the risk than do private lenders’ (pp. 75-6). Furthermore, he contends that there may be prohibitive trading costs that undermine insurance market for all lenders.

In contrast, we contend that it is possible that governments, which are in aggregate larger than private players, in many cases do have more information than most potential lenders. In addition to size, government has the considerable advantage of repeated interactions with citizens as long as people remain the subjects of the national laws.

Perhaps more importantly, governments also have a monopoly on the tax collection function and an important ability to compel certain behaviour from residents. While many people argue that the powers of government to collect information should be limited on privacy grounds, the existence of centralised information technology means that a formidable array of potential information can be collated. Consequently, it is probable that citizens have more incentive to tell the truth to (or less capacity to hide the truth from) government compared to private sector agencies lest some inconsistency be revealed in mandated repeated intense engagement between the citizens and their government.²

² The optimal method of playing a repeated (iterated) game is not to repeatedly play a Nash strategy of the constituent game, but to cooperate and play a socially optimum strategy (e.g., a repeated prisoner’s dilemma game). This can be interpreted as a ‘social norm’ and one essential part of infinitely repeated games is punishing players who deviate from this cooperative strategy (Mailath and Samuelson, 2006). While individual citizens have a limited life expectancy, liabilities to the state do not necessarily end with the death of the individual. Another rationale for appealing to the results for infinitely repeated games is that if the discount rate is sufficiently high then one can ignore the fact that interactions between citizens and governments are technically a finite repeated game. The punishment for non-cooperation is particularly credible in the case of government interaction with most citizen due to the differences in resources available to the respective parties.

Another relevant factor potentially justifying government involvement in insurance exercises relates to administrative efficiency. Chapman (2006) argues that the tax office has lower costs in redeeming ICL repayments than could possibly be the case for other agencies. Given its involvement in income tax collection, which is made on the basis of an individual's income, it is a very small additional impost to also collect an ICL through the same mechanism. He estimates that the annual administrative costs of HECS collection, including gathering information from universities, is far less than five per cent of the annual revenue recouped. Further, it is possible that private agencies would not have the constitutional jurisdiction to know what all citizens' incomes are, a basic need for the operation of an ICL.

A useful typology for ICLs is that they can be classified as being risk pooling, where default risk is spread across other borrowers under the scheme, and risk sharing where the risk is transferred to the taxpayer. The risk sharing schemes allow for subsidies to encourage a particular activity or to redress the regressive aspects of taxation for particular groups. Related to this is that one of the crucial parameters of an ICL is the extent to which it embodies a subsidy to a particular group of people. A pertinent question is whether the ICL in question be considered as welfare or transfer payment rather than being an investment with well defined economic returns for individuals (and the society at large).

Barr (2001) promotes a related issue, and argues that the government can be viewed as a 'piggy bank' that facilitates income smoothing for individuals. While the benefits of income/consumption smoothing for ICLs are clear for individuals, it is also possible that these income smoothing opportunities and subsidies may have regional dimensions and hence potentially result in a more stable local economy (see Chapman and Simes, 2006). Hence a fourth possible benefit from ICLs is that they might be considered part of a regional policy which facilitates structural adjustment after economic shocks (e.g. drought).

This section has outlined the main costs and benefits of ICLs. As further background to the topic we note that there is now a substantial history of ICL-type schemes across the world. Hence we provide a brief review of the Australian and international experiences before describing how such schemes are faring after which we summarise the contents of this Issue.

The Introduction of HECS in Australia

In 1987 the Minister responsible for Australian higher education, the Hon. John Dawkins, invited Bruce Chapman to prepare a report outlining the costs and benefits of different approaches to the reintroduction of a user-pays higher education system for Australia. The report presented analyses of several financing mechanisms, including up-front fees with scholarships, up-front fees with government subsidized bank loans, and an income contingent charge system. Chapman's paper recommended the last of these, with repayments to be made via the direct tax system. Details were provided of how such a system might work, including possible fee levels and repayment parameters.

The Minister believed that this report would have a difficult reception, for three reasons. First, the ALP in government had abolished university fees in 1973, and this had happened under the larger-than-life Labor icon, former Prime Minister Gough Whitlam. Second, in the late 1980s the Labor Party Platform included a statement to

the effect that ‘... all education should be free of charge’. Third, the income contingent payment system recommended was both radical and untested: there was no similar scheme internationally and thus no empirical or political basis to assess its likely economic, social and administrative implications.

Minister Dawkins’ response was to set up a committee chaired by a popular former State Labor Premier, Neville Wran, to examine the relative merits of potential options, including the HECS arrangement, with Chapman’s option paper forming the basis of the Committee’s deliberations. It was clear from the Terms of Reference that the government’s intent was to set the scene for the introduction of charges.

Adoption of the idea within the Wran Committee was not straightforward but acceptance of the concept was assisted considerably by the fact that in 1987 the Australian Tax Office had instituted a policy of the collection of non-custodial child maintenance payments through the income tax system – essentially an income contingent debt mechanism – and Meredith Edwards, who was a member of the Wran Committee, was aware of all the administrative (and political) issues associated with that. This point is noted by Bob Gregory in his Conclusion in this Issue.

In May 1988 the Wran committee recommended that all Australian undergraduates should be required to pay a uniform charge, with the timing and level of payment being dependent on income. This became policy in 1989, with the income contingent feature of HECS being unique internationally. At that time the first repayment threshold was around \$(A)55,000 per annum in 2009 terms, with the original HECS only applying to undergraduate students in public sector universities (see Chapman, 2006).

Labor lost power in 1996, but the new Conservative government maintained the essence of HECS. However, in 1997, charge levels were increased by about 40 per cent on average, differential charges by course were introduced and the first income threshold at which graduates began to repay their loans was decreased to just under \$33,000 per annum in 2009 terms. The last decision was reversed in 2005, when the government also allowed some price discretion and extended HECS to cover full-fee paying domestic students.

The system apparently works as planned, although several of the major parameters have changed significantly since that time: the repayment rules have become less generous for students; the level of the charges has increased by more than double; and the applicability to courses has broadened considerably.³

The history of HECS provides invaluable context for this issue of the AJLE, but it would presumably be useful to understand the experience of analogous ICL schemes in other countries. The next section provides a brief history of such schemes.

A Brief International History of ICLs

In 1974 Yale University implemented an income contingent loan for college students, but the scheme had major design problems associated with adverse selection and moral

³ In higher education post-graduate students became eligible for HECS in 2001, and private universities have been able to participate in the scheme since 2005. There has also been an extension of the scheme into some parts of TAFE, most significantly with respect to the Victorian system in 2010. For analysis of HECS in vocational education and training, see Chapman, Rodrigues and Ryan (2008).

hazard (Nerlove, 1975) and, related to both issues, there was insufficient capacity to enforce collection. The scheme was abandoned in the early 1990s.

In the 1980s the Swedish government allowed the repayment of student debt to be deferred in periods of unemployment and this could be seen to be the first time that a government university financing system implicitly endorsed the notion of income contingency. Australia's HECS, instituted in 1989, was the first time that an ICL was made operational through the income tax system.

The use of countries' income tax systems to collect higher education ICLs is now government policy in Ethiopia, Hungary, New Zealand, Thailand, the UK, and the US. Several other countries have gone close to such reforms, or are about to embark on them. Some of the experiences of other countries in this area are worth describing briefly.

New Zealand implemented a version of HECS in 1992, but there were several important differences. The first is that the scheme covered student income support as well as tuition, and this has meant that the levels of debt have been much higher than is the case with HECS. Second, when the scheme first started there was a very high real interest rate on the debt of seven per cent per annum, which apparently sits in stark contrast with HECS, which has an interest rate equal only to price inflation once the debt is incurred. As explained in Chapman and Leigh (2009), however, the true interest rate on HECS debt is much higher than is implied with the debt adjustment rule to the CPI, because there is a discount of 20 per cent for up-front payments (meaning that there is effectively a surcharge for debtors choosing to pay their tuition obligations through the tax system).

The New Zealand scheme has exhibited considerable instability with respect to the interest rate arrangements. For example, in the mid-1990s outstanding debt was indexed only to inflation for those earning below the first threshold of repayment. More significantly, the government cut the interest rate to zero per cent per annum in nominal terms several years ago, which must imply exceptionally high taxpayer subsidies to debtors.

In 1994 US President Bill Clinton, who was in the original Yale University ICL scheme, implemented an option allowing college students to repay their loans through the internal revenue service if they so chose. However, the scheme is extremely complicated, it has some design features which fitted very poorly with ICL principles (see Chapman, 2006), and the take-up of the option is very low. Changes were brought into this scheme in 2008 but it is not clear that the basic problems have been overcome.

In 1997 the UK government allowed income support student loans to be repaid through the tax system, and this was followed in 2005 with the introduction of HECS-style system for all tuition. Recently UK universities have been allowed to increase the tuition levels associated with the loans. The major difference between the UK system and those of Australia and New Zealand relates to the interest rate charged on the debt; in the UK this is equal only to changes in the equivalent of the CPI.

In 2006 Thailand replaced its conventional student loan scheme with an ICL known as Thailand's Income Contingent Allowance and Loan scheme (TICAL). TICAL was in place in only that year, and the former loan system has now been reinstated. It is

likely that the short life of TICAL was related to its strong association with the former Prime Minister Thaksin, who was deposed in 2007. Even so, Chapman and Lounkaew (forthcoming, 2009) point out that the TICAL system suffered from important design faults which necessarily implies extremely high tax payer subsidies.

Policy debates concerning the advisability of the adoption of ICL have taken, or are taking, place in a host of different countries, including Israel (2007), Colombia (2008/09), Malaysia (2009) and Ireland (2009). Invariably a major aspect of the reform discussion involves the potentially difficult area of collection. Chapman (2006) points out that the collection requirements can be very difficult to meet in countries without sophisticated income tax collection arrangements, and that this is likely to explain why the clearest cases of success (Australia, New Zealand and the UK) are also administrative environments with comprehensive and efficient income tax collection systems.

Reflections on Future Research Directions

ICL as public policy can be considered in a context that lies beyond the usual left-right wing spectrum used to consider the nature of government (with 'left' implying a relatively high tax and spend approach, and 'right' implying the opposite). ICL combine elements of both agendas: it is a user-pays system, but one which relies significantly on the role played by government in terms of insurance and risk management; and it is progressive in the sense that those incurring the debt benefit from subsidies if their lifetime incomes turn out to be relatively low. Related to this last point is the fact that the policy deliberately takes a life-cycle approach to income distribution, and moves beyond the typical economic policy approach focusing on point-in-time measures of income inequality. Further, ICL can be seen to be progressive over the lifecycle, as debtors with low lifetime incomes pay less in present value terms than high income recipients.

Even so, the ICL instrument does not sit easily with respect to conventional economic theory, and there is much work to be done in this area. The ICL world seems to be one in which borrowers do not face a real budget constraint, meaning that normal consumption restrictions (taking the form of limited income) are not meaningful to choices in the usual sense implied by economic theory; yet this is precisely an implication of a loan repayment system that forgives payment obligations when future incomes are low. It is also difficult to know the meaning of a demand curve when the 'price' faced by a borrower must include the implicit value of the insurance benefits of both consumption smoothing and default protection, yet this is what an ICL effectively does.

It is reasonable to suggest that ICL need to be understood to be in an unusual policy and analytic world. One way of thinking about the ICL instrument is that, due to the government's monopoly on the income tax system, and thus the capacity to collect an ICL, the public sector has the potential to intervene in a host of disparate social, educational, economic and financial environments that could improve social welfare, even in the absence of a clearly defined market failure. Or, if poorly designed, the tool could easily be welfare-decreasing due to the important possibility of corrupt outcomes as a result of adverse selection and moral hazard. These and other relatively poorly understood aspects of this financial instrument auger well for future research on ICL, and they also promote due humility for those of us interested in exploring

further their potential. While this volume largely focuses on the applications of ICLs in innovative situations, there is plenty of scope for ongoing analyses of the theoretical challenges raised by ICLs.

Exploring Creative Applications of ICLs

The sections above have identified several categories of benefits and costs of ICLs that can be used to organise the discussion of such schemes. For example, while income and consumption smoothing is possible in all proposals in this Issue, would a reasonable person have some grounds for believing that market failure is important? Have the papers adequately dealt with potential costs of moral hazard and adverse selection? What is the extent of subsidies embodied in the respective ICLs and what implications, if any, does this have for the efficacy of the proposed ICL? The aspects of ICLs discussed above are used to explore a rudimentary framework for considering the various proposals.

The first paper is 'Innovation Financing and the Use of Income Contingent Loans' written by Amanda Denniss, Meng Yuan and Glenn Withers. While the process of innovation is crucial for growth in the modern economy, this paper identifies limitations of using existing market arrangements for financing innovative investments. For example, private funding in 'knowledge' markets for ideas may be unobtainable where there are no tangible assets available to secure the loans against. One potential explanation is that this 'market failure' is more likely to occur in the presence of substantial uncertainty over the returns to such investments. The more innovative the project being analysed the less the basis for making an adequate assessment of the *ex ante* expectations about likely outcomes.

The paper provides evidence as to how ICL schemes can be designed for innovation financing, and how they are an efficiency improvement over conventional instruments. The authors also speculate about how the scheme could be extended to public-private partnerships to further enhance efficiency and effectiveness. Involvement of the private sector can impose a market discipline on the projects and also may mean that applicants contribute to the cost of the ICL; to the extent that cost is related to the risk of the project, the latter is likely to reduce the problems associated with moral hazard and adverse selection.

Like other ICLs, the Denniss *et al.* proposal provides an opportunity for cost recovery and default protection, and can include a built-in subsidy to either facilitate projects without access to capital markets or provide direct investment towards projects with potentially high returns. In contrast to some possible ICL schemes the innovation financing ICL is based on corporate entities and hence the equity benefit of the scheme is described in terms of profit smoothing rather than income or consumption smoothing.

The next paper, titled 'Income Contingent Loans for Mature Aged Training', is written by Bruce Chapman, Tim Higgins and Dehne Taylor. In an important sense this proposal constitutes an application of ICL principles that is closer to the original HECS scheme than the other papers in this volume. While the role of Knightian uncertainty is less evident than in the first paper, the income smoothing rationale and market failure in credit markets are likely to play a role in financing mature age training.

The authors argue that it is well known that due to absence of saleable collateral, the commercial banking system does not lend against expected future returns from enhanced human capital. Moral hazard and adverse selection could be dealt with in this proposal by limiting access to the ICL to specific skills training, for example training that has been formally identified as being associated with a skills shortage. The authors also suggest that an age limit be considered for eligibility to the scheme to ensure that individuals have sufficient time in the workforce to contribute to the costs of providing the training or re-training. Chapman *et al.* also suggest limiting access to the scheme to university graduates with previous employment history to address issues related to adverse selection. Even so, reform to income support of these types could be seen to have significant potential in other areas of training, such as to assist in the education of Indigenous adults.

The next paper, contributed by Linda Courtenay Botterill and Bruce Chapman, is titled 'A Revenue Contingent Loan Instrument for Agricultural Credit with Particular Reference to Drought Relief'. The subject of this paper is particularly topical given the Productivity Commission recently reported on the appropriate ways for governments to assist farmers, farm businesses and farm dependent rural small businesses improve their self-reliance and with respect to preparedness for drought events (Productivity Commission, 2009a). Another illustration of the relevance of this paper is that Edwards *et al.* (2009) demonstrated that drought has significant negative economic impacts on the experience of financial hardship and deterioration in household financial position – especially for farmers and farm managers who reported that the current drought had reduced property output substantially.

While the authors acknowledge that an economic case for taxpayer subsidies for drought relief is highly contestable, they document a potential role to be played by loans provided by the government to farm businesses in periods of credit adversity, to be repaid depending on future revenue streams. It is argued that policy reform along these lines would provide farm businesses with the important opportunity for income smoothing, irrespective of ones' view on the existence of market failure in the credit market during drought. Such an arrangement is argued to play a complementary income stabilisation role along with the existing Farm Management Deposit scheme.

Part of the motivation for the drought ICL is that, given that there are doubts concerning the *ex ante* distribution of droughts in the near future, there is some scope for benefits from this scheme to facilitate agents to better manage this uncertainty. Also, as alluded to above, Botterill and Chapman outline a collection mechanism through the tax system that curtails the prospect for the moral hazard behaviours inherent in all schemes of this type.

The fourth paper in this issue is written by Bruce Chapman and Tim Higgins and is called 'An Income Contingent Loan for Extending Paid Parental Leave'. The issue of Paid Parental Leave (PPL) is clearly topical with the Federal government recently announcing that an 18-week paid maternity leave scheme funded by taxpayers would be introduced in January 2011. This policy initiative, which followed a year long review of PPL proposals by the Productivity Commission (see Productivity Commission, 2009b), reveals the importance given to active parental involvement in early child development processes by the public debate. The history of childcare

analysis suggests significant differences in views concerning the role of parental leave in the development of children (Hardyment, 1995). Notwithstanding, it is reasonable to believe that it is important for parents to take leave from paid work so they concentrate on their children and look after themselves during a stressful stage of the lifecycle.

One issue for this paper is that while there seem to be clear social benefits in facilitating PPL, the private (household) returns to the investment tend to be intangible. The long run benefits to child welfare are difficult to quantify as is the potential achievement of some work-life balance. One possible exception to this generalisation may be that parents' attachment to particular jobs, and the workforce at large, is likely to be enhanced – hence it is not unreasonable to speculate that there is less loss of human capital skills for the individuals and firms concerned.

Given the difficulty in describing appropriable returns for this investment, it is likely that parents will not be able to access the conventional credit market for PPL implying a credit market failure which is very similar to that faced by students (Gans, 2008). Even given this capital market weakness it is arguably the case that an extension of PPL with an ICL has can be usefully considered to be welfare transfers designed to subsidise activities that are deemed to be socially desirable. The income smoothing rationale is again a critical aspects of this ICL, as many parents are likely to require considerable income transfer opportunities at the early child-rearing stage of the lifecycle.

Moral hazard and adverse selection are again critical policy design issues, and Chapman and Higgins suggest that these can be addressed in the PPL scheme with several conditions, including: restricting loan duration and size; restricting eligibility to parents with pre-nuptial workforce attachment; reducing minimum repayment thresholds to below those of HECS; imposing a loan surcharge; and, by making the debt an obligation of both parents. To the extent that there are several other policy instruments available to enhance parental participation in child development and attachment to the workforce (for example, through tax and transfer instruments, and the industrial relations system), the viability of the ICL alternative needs to be considered carefully and in a broad public policy context.

The penultimate paper, 'Community Attitudes to Income Contingent Loans', was contributed by Tim Higgins and Glenn Withers, and provides a valuable overview on attitudes to several ICLs canvassed in the existing literature. A survey of community attitudes to ICL was conducted in May 2008 by the Nielsen company, its predominant focus being to ascertain the level of support, or otherwise, for the Higher Education Contribution Scheme (HECS) and for the hypothetical application of ICLs to several other policy areas, including drought relief, child care, Research and Development, and elite athletes.

The Higgins and Withers survey results indicate strong community support for HECS, an ICL for Research and Development, and for repayment of government assistance to elite athletes. In contrast, there was little support for introducing such a scheme for childcare, especially from those who have received government assistance for this activity. Opinions concerning about the value of an ICL-type scheme for drought relief was evenly balanced, for and against. While an ICL proposal for support provided to elite athletes has not been analysed in this Issue of the AJLE, the other

findings provide some insights into the political economy of how policy instruments might be politically received. For example, the lack of support in the survey for a childcare ICL reflects a sensitivity to, and an awareness of, the fact that the relevant issues can be addressed by other policy instruments and that these might be withdrawn with the introduction of an ICL alternative.

The final paper by Bob Gregory provides an overview and insights into how ICLs might be developed in practice by reflecting on the historical processes that led to the successful design and implementation of the original HECS. In addition to discussing some of the issues canvassed above, he considers the importance of understanding the underlying political economy when adopting policies such as the ICL proposals examined in this Issue.

This Issue of the AJLE provides an overview of the factors that may lead to the success or failure for particular ICLs, an exploration which is taken further in Chapman (forthcoming, 2009). However, it is a matter for judgement on the part of policy-makers to assess whether the various types of ICLs discussed in this issue will be effective. Presumably, the more substantial the rationales provided for particular schemes, the greater the justification for that scheme. Of course, the weight individual readers' ascribe to the respective justifications will be critical to opinions concerning the usefulness of different applications.

A crucial factor highlighted in Gregory analysis is the existence of viable and attractive alternative policy. Policy making is not necessarily a popularity contest, but one would be foolish to ignore such issues as policy-makers and politicians are likely to be particularly influenced by the effect on the electorate. Notwithstanding, it is possible that community attitudes are highly path-dependent and hence the constraints imposed by public opinion may not be binding in the long-run if protagonists play an active leadership role in public debate.

References

- Barr, N. (2001), *The Welfare State as Piggy Bank*, Cambridge University Press, Cambridge.
- Chapman, B. (2006), 'Income Contingent Loans for Higher Education: International Reforms', in Eric Hanushek and Finish Welch (eds), *Handbook of the Economics of Education*, Elsevier, North Holland: Amsterdam, 1435-1503.
- Chapman, B. (forthcoming, 2009), 'Policy Design Issues for Risk Management: Adverse Selection and Moral Hazard in the Context of Income Contingent Loans', in Greg Marston, Jeremy Moss and John Quiggin (eds.), *Risk, Responsibility and the Welfare State*, Melbourne University Press, Melbourne.
- Chapman, B. and Leigh, A. (2009), 'Do Very High Tax Rates Induce Bunching? Implications for the Design of Income Contingent Loan Schemes', *The Economic Record*, 85(270), 276-89.
- Chapman, B. and Lounkaew, K. (forthcoming, 2009), 'Income Contingent Student Loans for Thailand: Alternatives Compared', *Economics of Education Review*.
- Chapman, B. and Simes, R. (2006), 'Profit Contingent Loans for Social and Community Investments in Economically Disadvantaged Regions', *Public Policy*, 1(2), 93-102.

- Chapman, B., Rodrigues, M. and Ryan, C. (2008), 'An Analysis of FEE-HELP in the Vocational Education and Training Sector', *Australian Economic Review*, 41(1), 1-14.
- Edwards, B., Gray, M. and Hunter, B. (2009), 'A Sunburnt Country: The Economic and Financial Impact of Drought on Rural and Regional Families in Australia in an Era of Climate Change', *Australian Journal of Labour Economics*, 12(1), 109-31.
- Gans, J. (2008), 'The Delicate Balance on Parental Leave', *Melbourne Review*, 4(2), 46-55.
- Garner, C.A. (1983), 'Uncertainty in Keynes' General Theory: A Comment', *History of Political Economy*, 15(1), 83-6.
- Hardyment, C. (1995), *Perfect Parents: Baby-Care Advice Past and Present*, Oxford University Press, Oxford.
- Jones, C. (2009), 'Review of Government Managing Risk: Income Contingent Loans for Social and Economic Progress, Bruce Chapman, *Agenda*, 16(1), 73-6.
- Keynes, J.M. (1964), *General Theory of Employment, Interest and Money*, Macmillan, New York (first edition 1936).
- Mailath, G. and Samuelson, L. (2006), *Repeated Games and Reputations: Long-Run Relationships*, Oxford University Press, Oxford.
- Nerlove, M.L. (1975), 'Some Problems in the Use of Income-Contingent Loans for the Finance of Higher Education', *Journal of Political Economy*, 83(1), 157-83.
- Productivity Commission (2009a), *Government Drought Support*, Productivity Commission, Canberra, May.
- Productivity Commission (2009b), *Paid Maternity, Paternity and Parental Leave*, Canberra, May.
- Quiggin, J. (2003), 'The Welfare Effects of Income-Contingent Financing for Higher Education', Working Papers in Economics and Econometrics, 428, the Australian National University, Canberra.