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Student Loans for Israel: learning from International Practice

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Abstract

The proposals of the Shochat Committee on higher education that related to first degree tuition fees and student loans, if implemented, will have far-reaching effects on the higher education system in Israel. Yet, conspicuously lacking in the report is any discussion of the merits of these loans scheme arrangements, in relation to possible alternatives. A theme of this paper is that the scheme has been developed with insufficient attention to the lessons that may be learned from practice in some seventy loans schemes worldwide.

The section reviewing student loans schemes in other countries indicates considerable diversity in design and practice across schemes. Attention is paid to four central themes: loan scheme objectives, the funding of loans schemes, the financial viability of loans schemes and repayment issues.

The Shochat proposals are compared with those of an earlier loans scheme proposal, the "Free to Learn" scheme, based loosely on the Australian model. Since the two proposed loans schemes differ strikingly in terms of objectives, institutional structure and mode of operation, a comparative analysis of the two schemes may serve as a useful framework in considering major design elements for a student loans scheme within the specific Israeli context. This is preceded by a discussion of lessons to be learned from the experience of two major loans schemes, in Australia and in England and Wales.

The proposals of the Shochat Committee have been put on hold, pending eventual government consideration (and possible approval and adoption). The aim of this paper is to take some initial steps in filling the comparative information gap, in preparation for the time when the national debate on student loans is resumed.

Student Loans for Israel: Lessons from International Practice

1. Introduction

Of the wide range of measures recommended by the Shochat Committee, 2008 (appointed by the government to report on higher education reform), those relating to first degree tuition fees and student loans have attracted the most attention, in the media, on campus and in popular debate. The Committee's recommendations on tuition fees and loans are part of an overall call for an increase in funds to higher education; raised tuition fees will cover a third of the increase, while other sources will cover the rest. The size of the suggested rise in annual tuition fees, from the present level of 8,600 shekels to 14,800 shekels, is unprecedented in Israel. Traditionally tuition fees have risen far more modestly, generally in parallel with the consumer price index; though from 2001-2007, tuition fees were reduced by 25 percent in real terms, following the (partial) implementation of the Winograd Committee report. The new tuition fee regime is to be accompanied, and facilitated, by a national government-subsidized student loans scheme, whereby students may delay payment of some sixty percent of the tuition fee until after graduation, following a year of grace. A major objective of this paper is to examine the Shochat Committee loans scheme proposals in the light of accumulated experience of the working of state-sponsored schemes abroad, which are at present or formerly operating in some seventy countries worldwide.

A surprising feature of the Committee's recommendations regarding student loans, given their far-reaching consequences, is the combination of brevity and specificity with which they are presented. While only a page or two is devoted to a synoptic description of the proposed loans scheme, this account is very specific in terms of the major elements of the scheme, including funding source, method of repayment and size of monthly repayments. A dominant role is assigned to a number of financial institutions, to be selected via open tender. They will provide funding for the loans, administer the lending process and assume responsibility for collection. The loans (provided at low, subsidized rates of interest) are to be repaid in fixed monthly installments, extending over a ten-year period; low earners and the unemployed may delay repayment.

Conspicuously lacking in the Report is any discussion of the merits of these particular arrangements, in relation to possible alternatives. Yet the review of student loans schemes in other countries that follows (Section 2) indicates considerable diversity in design and practice across schemes. Here are some examples. Loans funding is financed by the central budget in most countries (including Australia and the UK); yet funding is provided by state commercial banks in China, from pension funds in one of the major Korean schemes, by the banking system in India and funding is raised from the capital market in Hungary. There are considerable differences in terms of both organizational structure and administrative procedures. Some schemes are run by a central government-funded loans agency (as in Hong Kong), which is charged with responsibilities for all aspects of the scheme: loans conditions and loans size, loans allocation to applicants and repayment collection. In other countries, administrative responsibilities for particular aspects of the scheme are assigned to various institutional players. In Thailand, the higher education institutions themselves are responsible for loans allocations

while loans repayments are collected by a public bank. In Australia, New Zealand and, more recently, in the UK, the tax authorities collect loans repayments; in a small experimental scheme in the Philippines, the universities themselves are responsible for repayment collection. Much controversy surrounds the scheduling of loans repayment, whether this should be income-related (the "Australian model") or fixed in terms of equal periodic installments over a defined time horizon (mortgage-type loans). In presenting a very specific loan scheme design, the Shochat Committee seems to have been oblivious to this rich mosaic of international practice.

Some urgency was placed on the Committee to submit its proposals on tuition fees (including student loans) by April 2007, so that they could be implemented for the 2007-08 academic year. In the event, the Report (issued in July 2008) has not merited any discussion by the Government and seems to have been put on hold for the time being. Thus, in the interim, an opportunity is provided for the scrutiny of the Shochat proposals, in a wider comparative context.

In broadening out the discussion on an appropriate student loan scheme for Israel, it seems apposite to compare the Shochat proposals with those underlying an earlier loans scheme proposal, the "Free to Learn" scheme, based loosely on the Australian model. Since the two proposed loans schemes differ strikingly in terms of objectives, institutional structure and mode of operation, a comparative analysis of the two schemes (presented in Section 4) may serve as a useful framework for a consideration of the major design elements for an appropriate student loans scheme within the specific Israeli context. This is preceded by a discussion of lessons to be learned from the experience of two major loans schemes, in Australia and in England and Wales.

2. Loan scheme practice: international experience

This section examines some of the major lessons to be learned from loans scheme practice internationally, in terms of four central issues: the definition of loan scheme objectives; funding source; financial viability and loan subsidy levels; loans repayment method and repayment collection institution.

2.1 Loans scheme objectives

Government-sponsored student loans schemes round the world differ in the central objective pursued. Identifying the underlying objective of a particular loans scheme is important because this will have implications for many central aspects of the scheme, including: whether loans are offered for tuition, living expenses or both; the appropriate level of loans subsidy (if any); the need for targeting (confining eligibility to particular student categories); loans allocation and rationing procedures where loans funding is limited.

In an earlier paper, the author identified no less than eleven separate objectives that have underscored loans schemes around the world (Ziderman 2002). For purposes of the present discussion, however, our focus is restricted to the three more pervasive purposes of loans schemes: cost sharing, social targeting and student independence.

Cost sharing is the central objective of many loans schemes. Student loans may be a necessary ingredient in programs for greater cost-recovery (and enhanced university income) because they

facilitate, by making more acceptable, the raising of tuition fees. Social targeting is explicitly and directly concerned with accessibility of the poor. Where targeted specifically at disadvantaged groups, it is argued that loans schemes (particularly where substantially subsidized), may lead to greater access of the poor to university education, thus contributing to social equity. Thirdly, the student independence objective underlies loans schemes in a number of well-established schemes in Western Europe. The objective of loans provision in this case (usually covering living expenses only, because tuition fees are minimal) is to ease student financial burdens during study; these burdens may be present even for better-off students. In practice, of course, at a given point of time a particular loans scheme may incorporate more than a single objective. A detailed discussion of the three models, and the differing policy implications of each, is presented subsequently.

Table 1. Loans scheme objective and coverage: country examples

Loans scheme coverage	**Loan scheme objective**		
	Model 1 Cost-sharing	**Model 2 Social targeting**	**Model 3 Student independence**
Tuition fees only	Australia	The Philippines	Hong Kong* Other Korean schemes Thailand***
Living expenses only	England & Wales++	Hong Kong** Korea (MoE scheme)	Denmark Finland Hungary Norway Sweden
Tuition and living expenses	England & Wales Netherlands New Zealand South Africa	China Thailand+	Canada

* Hong Kong: non-subsidized scheme (NLS)
** Hong Kong: subsidized scheme (LSFS)
*** Thailand: new TICAL scheme
\+ Thailand: current scheme
++ England & Wales, former scheme

Table 1 provides a matrix of selected loans schemes, in which loan scheme coverage is mapped against loan scheme purpose (i.e. the three types of loan models, outlined above). The cost-sharing model is illustrated, principally, from experience of the working of the Australian scheme, though lessons are also be drawn from the veteran Dutch scheme and new schemes in the United Kingdom. Second, the discussion of the social targeting model draws heavily on the findings of five UNESCO-supported Asian case studies.[1] The third, student independence, model is illustrated mainly from a cluster of European countries where typically no tuition fees are charged and loans cover living expenses only.

The information provide in Table 1 reflects the designated purpose of the loans schemes at a given point of time. However, the main objective of a loan scheme may change over time, reflecting evolving policy priorities (or there may be a shift in the relative importance ascribed to various current objectives, where multiple objectives are in place).[2]

Cost-sharing model

We begin with an elaboration of the cost-sharing model. In many parts of the world, university systems are facing a financial crisis. Resources available to universities have been eroded due to a combination of a dramatic and continuing expansion of student enrollments unmatched by public expenditures on higher education. Universities have attempted to alleviate these financial pressures through the development and extension of non-government sources of funding. Cost-sharing, (or, greater cost-recovery), where a larger and significant share of the costs of university education is shifted onto the main beneficiaries of university education – students and their families – is the dominant path that is pursued for revenue augmentation. In particular, this has taken the form of the introduction of tuition fees or of raising them to realistic levels.

Substantial public support for higher education has been justified, traditionally, by reference to extensive externality benefits derived from university education. Yet in recent years this conventional wisdom has been called into question; the externality argument, while no doubt valid in principle, seems unable to justify the extensive level of student subsidy found in many higher education systems. In parallel, evidence of high private rates of return to university education investments and rising university costs, all have strengthened the argument for greater cost-sharing in university sectors, through the introduction, or raising, of student tuition fees.

Because higher tuition fees will cause hardship and, in particular, is thought likely to impede university access of disadvantaged groups, tuition hikes have been accompanied by the introduction of a state-sponsored student loans scheme in many countries. The disincentive effects of up-front tuition fee increases may be offset also by the availability of loans for students that will cover these augmented costs. Loans enable student-borrowers to avoid up-front payments for higher education (whether for tuition or living expenses) by delaying payment, which will be rendered in manageable installments out of enhanced earnings after graduation. State intervention is necessary because banks are loath to make commercial loans to students to finance tuition costs because of the higher risk, lack of collateral and the nebulous nature of the human capital asset that the loan will generate. In this way, student hardship may be avoided; loan repayment is made after graduation.

The availability of student loans helps to make tuition fee increases more acceptable, politically and socially. In Singapore, the 1988 university tuition fee rises were accompanied by subsidized loans equivalent to about half the value of the new tuition fees. The much-discussed Australian loans scheme was introduced in tandem with the imposition of university tuition fees in 1989. And in the early 1980s, large tuition fee increases in Chile were accompanied by the introduction student loans programs administered by the universities.

Social targeting model

Student loan schemes may serve a more deliberate role in increasing the participation of the poor and of other marginal groups in higher education. In many countries the relatively low enrolment of poor and disadvantaged youth in tertiary education (and also in non-compulsory secondary education) is a cause of social concern. Increasing the access to university education among these segments of the population has become a major element in educational and social policy. While the cause of low access of the poor is multi-faceted (and a full discussion is beyond the scope of this paper), financial constraints evidently play a role. There is now a broad consensus on the need to offer clear financial incentives to poor, potential students, not only to overcome the burden of fee payment and living expenses but also to offset both parental resistance to reductions in family income and the fear that the benefits of the educational process may not be sizeable. The provision of financial aid therefore may be regarded as a necessary though not sufficient condition for achieving greater participation of the poor.

But what form should this financial assistance take? The traditional, and most effective, method of enhancing the educational access of the poor has been through the provision of means-tested grants to cover tuition fees (where schooling is not free) and, usually, living expenses as well. However, a widespread grants scheme is likely to be expensive. The use of loans, rather than grants, proactively targeted on the poor, offers a method that may both increase access for the poor and reduce, or at least contain, public expenditure on student support over the longer term, as loan repayments build up. To be effective in increasing the higher education access of the poor, loans may need to be made available under "softer" lending conditions. While the justification for loan subsidies for all borrowers under the cost-sharing model, and particularly general interest-rate subsidies, is weak (Ziderman 2002), there is wider agreement on the desirability of subsidized loans for the poor under the social targeting model, in order to encourage them to borrow.

However, loans policies (and student support more generally) cannot act alone; there are other, perhaps more entrenched barriers to access, both at university age and prior to it. Much attention has been paid to academic barriers militating against access of the poor; less emphasis has been accorded to informational barriers. Barr (2005) has referred to the dual causes of the exclusion of the poor from higher education: financial poverty and information poverty. Loans, grants and scholarships are aimed at countering financial poverty. But problems of informational poverty are no less acute and should be tackled in tandem. Many youngsters and their families are badly informed about the benefits of university study. For example, a recent study shows that while substantial differences exist in Canadians' perceptions of the costs and returns of university education, the overestimation of costs and underestimation of benefits are particularly striking for low-income Canadians (Usher, 2005). Poorly informed students (and their families) will be reluctant to borrow. This calls for prior action to better inform schoolchildren and their parents and to raise their aspirations.

Subsidized loans policies can exert a limited effect in raising access of the poor; but this role needs to be complemented by appropriate action far earlier on in the education process. Insufficient academic preparation and the lack of willingness of large numbers of the poor to enroll in higher education have their roots much earlier on in the education system.

Student independence model

Even when tuition fees are minimal, students (both the more affluent and the disadvantaged) may face considerable financial burdens: potential earnings are foregone while studying, and living expenses may be sizeable, especially when the student does not attend a university near home. Financial pressures, which may have negative effects on a student's academic performance (and thus compromising the process of human capital investment), can be mitigated by the broad availability of student loans. While such burdens may fall relatively heavily on the poor, in principle loans for this purpose could be made broadly available, to more affluent as well as poorer students, as long as these loans are not unduly subsidized.

Eligibility, and the extent of loans support, is determined by parental income in most loans schemes. The concept of parental support is a central element in loans schemes in many European countries, including Austria, Germany, France, Italy, Portugal, Spain, and the UK. [3] But parents are not legally required to make the designated "parental contribution". Thus many students, including those from non-poor backgrounds, may face financial difficulties during study, while potential students may not enroll if they feel that the parental contribution will not be forthcoming. A very different approach is taken in a number of countries, which base student support on the concept of student financial independence; student entitlement to loans support is based on student, not parental, income. Such arrangements are in place in Denmark, Finland, Sweden, Norway and in the Netherlands. In the Netherlands, grant and loans support is available for tuition and living expenses; in the Nordic countries, where tuition is free, grants and loans are for living expenses only.

Loans scheme objective and expectations

A clear distinction may be drawn between the cost-sharing model and the other two models (Table 2).

Table 2. Student loans schemes: objectives and expectations

Expectations	Loan scheme objective		
	Cost-sharing Model	Social targeting model	Student independence model
Facilitate increased tuition fees	Yes	No	No
Generate additional university funding	Yes	No	No
Loans restricted to public universities	Yes	No	No
High subsidy levels	No	Probably	No
Loans confined to a target group	No	Yes	No

Cost-sharing is concerned with facilitating tuition fees increases and in generating funding for the university sector; it has constituted the major rationale for the spread of student loan schemes in industrialized countries. The other two objectives are not concerned with augmenting university funding as such, but are wider in scope, with a clear social perspective. Loans schemes aimed at cost recovery would be restricted to universities in the public sector, while in meeting the other two objectives loans should, in principle, be available to students enrolled in public and private universities, on an equal basis. Most loans schemes are highly subsidized, mainly because they are offered at below-market interest rates; however, in most cases, such subsidization cannot be justified (loans subsidization is dealt with subsequently).While the aim should be near full loans recovery, loans schemes targeted on the poor may constitute an acceptable exception.

2.2 Loans scheme initial funding

In most government-sponsored student loans schemes, initial loan capital is supplied by the government, usually to a national loans agency which is responsible for the administration of the loans scheme, including loans allocation to students and repayments collection. This is the practice in the Australian and the United Kingdom loans schemes. In addition, interest subsidies and default guarantees are provided by the government.

In a pure version of the cost-sharing model, in which student enrollments are not increasing, there is no rise in unit costs and quality remains stable, no additional government budgetary appropriations are necessary to initially finance the loans scheme. In this case, cost-sharing entails a *shifting* of the existing financing burden from the government onto the beneficiaries of higher education – the students. The government reduces its budgetary subvention to the universities; in parallel, universities introduce (or raise) tuition fees to maintain revenues. Government sponsored loans are made available to students, from which students pay the newly introduced fees. In the event that all students take out loans to finance the fee increase, the initial cost to the government of financing the loans scheme is equal to the total reduction in its direct budgetary support to the universities. Government overall expenditure on higher education could be *reduced* if many students do not take a loan.

More usually, a new loans scheme will require an immediate infusion of capital; however, the government can avoid these expenditures if the scheme is funded by external institutions. Such loans are generally subsidized and guaranteed by the government. External financing can be supplied in two main ways: through commercial banks (and other financial institutions) which finance student loans from their own funds or through a specialized student loans agency which finances loans by recourse to borrowing from the capital market (usually through the issue of bonds).

Student loans regimes financed by the banking system are in place in such diverse settings as India, China (state commercial banks), Korea (the Ministry of Education scheme) and Canada (until 2000). A major problem with this approach - the need for state guarantees against payment default - is illustrated by Canadian experience of commercial bank loans funding, as summarized in Table 3. For three decades, Canadian commercial banks were responsible for student loans funding, disbursement and repayment collection. But the hundred percent repayment default guarantee considerably reduced the incentive for lending banks to seek out

recalcitrant borrowers and enforce repayment; default rates were unacceptably high. Subsequently, banks bore the risk of default but were compensated by a five percent risk premium; banks militated against this, and even the proposal to raise the premium to ten percent, was seen as unsustainable. In mid-2000, the government assumed responsibility for loan scheme funding.

Table 3. Canada: alternative funding sources

Period	Loans scheme funded by:	Description	Problems
1964- 1995	Commercial banks	Banks responsible for loans disbursement and collection; 100% government default guarantee	Low incentive for banks to collect; high default rates
1995-2000	Commercial banks	Banks responsible for loans disbursement and collection. Banks bore burden of defaults; government paid banks a 5% risk premium	Risk premium unsustainable (also at suggested rate of 10%)
August 2000	Government	Government accountable for all aspects of the program	Perhaps more bureaucracy

While lending through a national student loans agency is usually funded by government, in some national loans schemes these agencies finance student loan activities through borrowing from the money and capital markets. Fixed interest bonds, tradable on the stock exchange, are issued by the student loans agency; in this process of "securitization", the issued bonds are secured by the future stream of loan repayments. This process has a number of advantages over commercial bank borrowing (Berlinger and Gonczi 2007B). Because they operate on a non-profit basis, these national loans agencies are, in principle, able to offer student loans at more attractive conditions that can commercial banks. And they can achieve much cheaper financing because of greater competition from the broader range of financial institutions, both domestic and foreign, that may be involved. The new, but faulted, TICAL scheme in Thailand is one instance of this use of private funding though the Hungarian case is probably the best documented example.

2.3 Financial viability

We have noted that considerable differences are evident in loans schemes across countries. However there is one element that is common to almost all government-sponsored loans schemes: they are highly subsidized by governments. This means that, unlike commercial loans, a sizeable proportion of the total loans outlay by the loans body, be it government department, loans scheme authority or commercial bank, will not be received back in repayment. A sizeable and sustained gap between disbursements and recovery implies continuing governmental financial support if the scheme is to remain viable. A number of factors militate against full

recovery of loans: these may be divided into two groups. First, there are built-in interest rate subsidies, incorporated into the design of the loans scheme. And, second, there are inefficiencies in running the scheme, in terms of substantial repayment default and high administration costs (Table 4).

Table 4. Factors leading to less-than-full loans recovery

Built-in design factors

- Below-market interest rates
- Interest-free study and grace periods
- Repayment in nominal terms
- Long amortization period

Administrative factors

- Payment temporarily in arrears
- Non- repayment (evasion)
- Administration costs

Repayment ratio: the individual loan account

Lending conditions in virtually all government-sponsored loans schemes are "softer" than those on regular commercial loans; this difference represents a subsidy received by the student, in the sense that the borrower is not required to pay back the full value of the loan received. As shown in the table, these conditions include below-market interest rates on the loan, periods in which no interest is levied on outstanding debt (both during study and in grace periods after study completion) and repayments not linked to the rate of inflation This is the case also where loans scheme capital is provided, not by government, but by such non-governmental funding sources such as the banking system; here there is a need for ongoing government guarantees against default, in addition to interest rate subsidies.

The effect of these built-in subsidies is amplified where amortization periods are long. The larger are these built-in subsidies, the less of the original loan is the individual borrower required to repay; the difference between original loan size and actual required repayment represents, effectively, a *"hidden grant'* to the student taking out a loan.

The *loans repayment ratio* measures how much of a loan an average borrower is required to repay: it is defined as the ratio of required repayments to the loan size received, both measured in terms of present values. The *hidden grant ratio* (how much of the loan does not need to be repaid) is equal to 100 percent minus the repayment ratio.

Loans recovery: the overall perspective

Since the repayment ratio relates to the typical borrower; it fails to show the extent of recovery to the loans fund, from the overall perspective of the scheme as a whole. Even if student loans were not subsidized, and the individual student was required to repay in full, not all of the sums loaned would be recouped by the loan authorities. The extent of such a shortfall would be dependent on the level of administrative efficiency under which the loans scheme is run. Thus, overall loans recovery depends not only on the total of all individual cash repayments. It takes account also of administrative costs that are not passed on to the student borrowers and of the extent of repayment default. Repayment default is broadly defined to include payment in arrears and repayment evasion. An efficiently managed loans scheme will both maintain administrative costs at reasonably low levels and minimize the extent of repayment default.

Loans recovery, then, focuses more widely on the scheme as a whole, rather than on the individual borrower. It is concerned with the question of how much of the total outlays of the loans scheme (total loans disbursements plus all other costs including administration) will be recovered through loans repayment. It takes into account all of the items listed in Table 4, both the fixed, built-in design factors as well as the effects of administrative efficiencies in running the scheme. Thus, if some borrowers defaulted, total repayment receipts would fall, but the individual required repayment ratio would remain unchanged. The *loans recovery ratio* is measured by the ratio of total (discounted) repayments to total (discounted) outlays. Clearly, the recovery ratio is always lower than the repayment ratio, because the latter takes no account of the probability of repayment default and does not include general administration costs.

In some schemes, there is an additional, though usually minor, element affecting the recovery ratio. This is the possibility of canceling individual repayment obligations ("forgiveness") for such reasons as disability, death, student academic performance and the encouragement of graduates to enter skills-shortage occupations.

Repayment and recovery ratios: international comparisons

How large are these gaps across countries in practice? This issue was probed in a recent joint paper by the author, for 44 loans schemes in 39 countries (Shen and Ziderman, 2008, updating Ziderman and Albrecht, 1994). The analysis shows considerable variation in the size of the repayment and recovery ratios across schemes. Many loans schemes exhibit sizeable built-in subsidies accruing to student borrowers. The average repayment ratio is 61 percent (so that, on average, borrowers are required to repay only about 60 percent of the total loan received).

Table 5. Repayment and recovery ratios: international comparisons

Ratio	Number of schemes	
	Repayment ratio	Recovery ratio (with default & administration costs)
Above 80 percent	13	0
61 – 80 percent	13	5
41 – 60 percent	8	11
21 – 40 percent	7	2
20 percent or less	3	8
Total number of schemes	44	26
Average repayment ratio:		**61%**
(Average hidden grant:		39%)
Average recovery ratio, including default:		**49%**
Average recovery ratio, overall:		**39%**

Source: Shen and Ziderman (2008)

The distribution of repayment ratios across the 44 schemes is shown in Table 5. Thirteen schemes (about 30 percent of the sample) have relatively high repayment ratios, in excess of 80 percent. However, most schemes contain large built-in hidden grants: the repayment ratio in 18 schemes (over 40 percent of the loans schemes examined) is less than 60 percent.

Overall loans recovery is considerably lower. No scheme has a loans recovery ratio exceeding 80 percent. Only five programs (above 20 percent of the sample) display recovery ratios higher than 60 percent, for the most part loans recovery is not high; eighty percent of the schemes display recovery ratios of 60 percent or less. In a third of the cases, loans recovery does not rise above 20 percent. Overall, the average recovery ratio is 39 percent.

There are two noteworthy points emerging from the results reported in Table 5; both dispel prevalent myths about the financing of loans schemes. The first relates to the shortfall from full recovery in virtually all government-sponsored loans (and the very heavy losses in some). The implication of this is that government subsidization is to be seen as an enduring feature of these schemes; the widely held view that loans schemes can act as a revolving fund which, once capitalized will finance themselves through repayments of earlier loans, is not consonant with the facts[4]. The second relates to the supposed dominant role played by repayment default and high administrative costs in accounting for low loans recovery. As the bottom section of Table 5 shows, the major factor, by far, accounting for recovery loss is the large built-in, interest rate subsidy element in most schemes. Excluding default and administration charges, recovery (i.e. the repayment ratio) is surprisingly low on average. The average repayment ratio is 61 percent, representing a hidden grant (a loss to the scheme) of some forty percent. The addition of default and administration costs reduces the recovery ratio by only a further ten percentage points, in each case. Can such large interest rate subsidies be justified? This issue is now addressed.

2.3 Justifying student loan scheme subsidies

In loans schemes where either cost recovery or student independence constitutes the central objective, the case for heavy built-in student loan subsidies is not strong. In both of these cases, the intended effect of student loans is to reduce the financial burden on students during study and to delay fee payment (through borrowing) until after graduation, when payment is more readily made from the expected enhancement of earnings. The aim should be near-full loan recovery; in these cases, the level of built-in subsidy is often excessive in practice.

It is only where loans schemes are aimed directly at social targeting that a clearer case for sizeable built-in subsidies can be made.

To be effective in increasing the education access of the poor, loans may need to be substantially subsidized through low interest rates. But such subsidies, we have noted, will entail considerable budgetary costs. Since a grant offers a stronger and more direct incentive for access than does a (partially) repayable loan, the apparent advantage of loans over grants is less clear-cut. This highlights a central conundrum in loans policy: at what level of in-built loans subsidy does a grant become a more cost-effective instrument for helping the poor than a subsidized loan (with hidden grants)? This suggests that, in country settings where state budgets are constrained, a more appropriate financial aid program for the poor is likely to involve a combination of both loans and grants, with a relatively larger overt grant element for the very poor. This is the practice in the LFS Hong Kong scheme, in England and Wales and in many other loans schemes.

In the recent comparative study of loans schemes in South East Asia, most schemes were shown to conform to the social targeting model (Ziderman, 2004). Yet the evidence did not indicate any high degree of success in increasing the university access of the poor. A number of essential conditions for success were lacking. These include a sufficiently high level of individual support to cover necessary expenses; a broad coverage of poor students to achieve national impact; and careful and deliberate loans targeting so that loans do indeed reach the poor and other disadvantaged groups, otherwise the central objective of the scheme is compromised. Loan schemes aimed at greater participation of the poor are often not effective because these ingredients for success are missing.

The upshot of this discussion is that the levels of built-in subsidies, resulting in low repayment ratios, are often excessive. High subsidies may be either unnecessary (cost sharing and student independence models) or not very effective in practice in achieving objectives (social targeting). Since the level of built-in subsidy is fixed by government, these subsidies may be reduced, as appropriate, by government decision. However, vested interests are likely to militate against these desirable changes.

2.4 Repayment collection

Mortgage loans or income contingent repayment?

Mortgage-type loan repayment is the common standard for loans schemes in most countries. Loan repayment is made over a specified time period, usually in fixed periodic repayments; a

designated interest rate and a maximum time horizon are employed to calculate the fixed periodic repayments. The higher the rate of interest that is set and the shorter the repayment period, the greater will be the monthly sum required as repayment. More recently, a number of mainly industrialized counties, including Australia, New Zealand and the UK, have employed income-contingent repayment schemes. Periodic loan repayment obligations are not fixed but are determined as a proportion of the graduate's income in each period; collection is usually entrusted to the income tax authorities because information on individual incomes is required. In the income contingent case the lender can be described as a shareholder while in the mortgage case the lender is more akin to a bondholder

There is now a sizable theoretical and applied literature on the relative merits of the two approaches; alternative viewpoints are provided in Chapman and Ryan (2002 and 2003), Johnstone (2004 and 2006) and Usher (2005).

One advantage of mortgage-type loans, from the perspective of the lender, is the ease in ascertaining individual borrower monthly repayment obligations, which are time-invariant; thus the stream of total repayment receipts is fairly well known in advance. However a regime of fixed-level repayments may impose a heavy burden on new graduates in the initial years following graduation, given low starting salaries of new graduates and the reality of graduate unemployment, particularly in many developing countries. A heavy repayment burden will encourage repayment default. A much touted benefit of income-contingent repayment is that the repayment obligation is lower in the earlier repayment years. Yet, in practice, a number of measures may be employed, within mortgage loan repayment procedures, to obviate the emergence of heavy repayment burdens; some of these are standard practice, others could be adopted with ease. These measures include the introduction of a period of "grace" following graduation and of a longer repayment time horizon. And repayment deferral may be made available to borrowers on an individual basis, in cases of financial hardship: to the unemployed and to low-income workers (whose income falls below a designated low income ceiling).

There are two necessary conditions for successfully implementing a system of income contingent repayment: information on graduates' current income and the institutional capacity to effect repayment collection (Chapman and Ryan, 2002) . Usually, both functions are performed by the tax authorities, as in the Australian scheme. In Hungary, the tax authority does little more than providing information on graduate incomes to the Student Loan Centre, which is the operative body responsible for all aspects of the loans scheme, including collection of repayments. The participation of the tax authorities in collection can be effective only where PAYE systems are widespread and effective; these mechanisms are insufficiently well developed or too over-burdened in many countries to be adopted for this purpose. Yet, if the tax authority proved to be an effective collection agent in any given country context, it could be employed also for conventional mortgage-type loans schemes (where repayments are not income-contingent).

There is now an emerging consensus that income-contingent repayment schemes may be appropriate only in more industrialized economies; however, a prior decision on the initial funding source may obviate a choice of repayment collection mechanism. When facing the decision whether to use banks, special lending institutions or government budget funds to

finance the lending scheme, the government will have to take into consideration certain constraints that arise from the characteristics of these different institutions – these include the intended system of repayment. The repayment scheme must be compatible with the lending institution.[5] Banks usually base repayments on installment schemes that are not income contingent. The bank has two limitations with respect to income contingent repayment. Banks do not have access to data on income and second they will face a moral hazard problem. Nor, usually, do they enter lending agreements that resemble shareholder rights such as with income contingent schemes. Solving these problems may be costly. Therefore, if the government chooses banks as its lending vehicle then a system of mortgage type repayments is a natural choice.

Self collection versus agency collection

Choosing an appropriate collection institution is central to effective loan recovery. Two major types of loans repayment collection mechanisms may be defined: 'self-collection' and 'agency collection'. Self-collection refers to situations where the institution operating the loan scheme also takes responsibility for the mechanics of repayment In the case of agency collection, the task of collection and follow-up is outsourced to a specialist agency. Examples are given in Table 6.

Self-collection by bodies such as autonomous public student loans institutions, government ministries or universities might work well, as in Hong Kong. However, while such institutions may possess comparative advantages in selecting students and targeting, their capacity for effective repayment collection is less evident. Banks often have the necessary infrastructure and expertise that such bodies may lack. Self collection by commercial banks (which also supply the loan capital) may be expected to be effective, given the expertise of the banking system in these activities.

Banks may also act as collection agents. However, it is not sufficient that banks have a comparative advantage in collection; they must also have an incentive to collect proactively. But this may be undermined by public policy. A full government guarantee on loans may encourage private or public banks to collect from the government rather than the debtor. Thus a less-than-full government guarantee may be advisable, with commercial banks taking on a small part of the risk (as in the Korean Ministry of Education scheme).

In addition to banks, collection agency options are available, including national institutions concerned with collection, such as the income tax authorities and social security. The use of the income tax authorities as a collection agent in the present context should not be confused with the central role played by the tax system in income contingent loan schemes. The participation of the tax authorities (or the social security administration) in contingency loans collection is necessary because information on individual income is required. Thus while income contingent loans imply the use of the tax system, the opposite is not true.

Table 6. Loans repayment: collection alternatives

Type of collection	Collecting institution	Country example
Self collection	National loans agency	Hong Kong South Africa
	Commercial banks	Korea (MOE) Finland Israel (Shochat Committee)
	Universities	Philippines (Centers of Excellence scheme)
	Ministry of Education	Philippines (SNPL)
Agency collection	Banks	Thailand (Student Loans Scheme)
	Taxation Authorities	Australia
	Social security organization	Israel ("Free to Learn")

Similarly, over-reliance by self-collection loan organizations on government budgetary support may undermine the incentive to follow up on delinquent borrowers (as in the Philippine Study Now Pay Later scheme); loan bodies may tend to rely solely on public funds to supply new loans rather than stepping up efforts to secure repayment to finance loans for new borrowers. Thus a fine balance must be struck between the dual needs of providing incentives for rigorous collection and of offering last-resort government guarantee against default.

3. Lessons from two international case studies

3.1 Adopting the "Australian model"?

In the public debate on university finance reform in Israel that has ensued over the last decade, much reference has been, usually approvingly, to the "Australian model" of student finance.[6] The Australian schemes is often thought of as being typical of loans schemes in general; yet the main thrust of Section 2 has been to emphasize the diversity across schemes. What then are the distinguishing elements of the Australian scheme and how far can it serve as a model for the design of a loans scheme for Israel?

Following the imposition of a small tuition charge in 1987**,** the Australian government embarked two years later on an overt policy of cost-sharing through the imposition of a standard university tuition fee roughly equal to some 20 percent of university unit costs. This was a response to a shortage of state funding for public higher education institutions (all of which operated free tuition regimes since 1973), the result of a national policy goal of expanding access. The introduction of these new charges was accompanied by subsidized loans (Higher Education Contribution Scheme - HECS) available to all students, regardless of their personal resources. Students were given two options. They could pay the new charges as an "up-front" free (at a 15 per cent discount, subsequently raised to 25 percent). Or payment could be made in installments after graduation, when the repayment would be collected on an income-contingent basis by the tax authorities. The vast majority chose the latter option (i.e. to take out

a loan and thus obviating the payment of tuition charges up-front, during the years of study). In 1996, tuition fees, differentiated by course-subject, were raised by about 40 per cent, on average; since 2005, loans were available also to students in the private sector.

While the central aim of HECS was the augmentation of university resources through cost-sharing HCS was designed also to avoid adverse consequences for access, particularly of relatively disadvantaged prospective students. Thus repayments were not onerous: zero on all incomes below a defined income threshold, two percent of taxable income above this threshold, subsequently rising to three or four per cent for higher taxable incomes. Moreover, debt obligations were linked to the cost-of-living index only, so that effectively graduates paid a zero real rate of interest on outstanding debt; the effect is that the longer is the period of repayment (i.e. the lower are annual earnings), the greater are the subsidies received, *ex post*[7] (Chapman and Ryan, 2003).

Table 7. Australian loans scheme: phases of development

Timing	Tuition fee regime	Loans availability
1973-1986	No tuition fees	None: no fees
HECS* introduced in 1989	Standard (delayed) tuition fee	Tuition loans for public sector students
Reforms of 1997	Higher (delayed) differential fees	Tuition loans for public sector students
Since 2005	Higher (delayed) differential fees	Loans extended to private sector students

* Higher Education Contribution Scheme

How far can HECS serve as a model for an Israeli loans scheme? We examine some of the key features of the Australian scheme,

- *Initial funding:* As in many loans schemes worldwide, initial loans funding in HECS is financed from the central budget**.** This may not be apposite for higher education systems, such as the Israel case, which operate within a framework of stringent budgetary restraint and where an objective of cost-sharing is to lighten the burden of university funding borne by the state. Alternative, non-government sources of funding may be more appropriate.
- *Continuing subsidization:* The zero real rate of interest levied on loans, together with repayment default and administration costs not charged to the student, imply continuing state subsidization of the loans scheme; these costs fall on the state budget.
- *Income contingency:* Income-contingent repayment is the key element characterizing the Australian model. The system of repayment is progressive, with temporary exemption for low earning graduates and the repayment rate (as a percentage of income) rising with income

- *Differential subsidization by gender:* The effect of income contingency, reinforced by progressive repayment, is that those graduates receiving higher earnings will complete repayment sooner than will lower earners. The longer the individual repayment period, in practice, the greater is the subsidy received (a larger hidden grant) and the lower is the effective rate of interest paid. Thus given their lower level of expected earnings, an (unintended) result of income contingency is the greater subsidy of female students..
- *Zero fees during study:* For the vast majority of students who took advantage of the new scheme, no up-front tuition fees were charged. But a regime of zero up-front tuition fees is not an essential feature of HECS. Zero tuition fees were retained in order to avoid imposing any additional financial burden on students during their study years.
- *Access of low SES groups:* The evidence indicates that HECS has not had deleterious effects on the access of lower SES groups. The representation of students from low SES backgrounds has not fallen and although it is widely held that poor families are debt averse, recent evidence for Australia does not support this. Andrews (1999), examining attitudes towards taking up student loans, failed to find differences in debt aversion between different SES groups.[8]
- *Differentiated fees:* Tuition fees differentiated both by institution and subject are a logical extension of the cost sharing approach. Students pay more for studying in disciplines that command high rewards in the labor market.
- *Loans availability for private students:* The more recent extension of subsidized HECS to the private sector is a controversial measure, since it does not contribute to cost-sharing at universities in the public sector nor to an enhancement of their income. However, the move lightens the financial burden falling on students at private universities, thus promoting greater equity between students in the two sectors. And the externality argument for public university subsidies should apply also to the private sector.
- *Promoting the scheme:* It is noteworthy that the Australian scheme is referred to not as a loans but rather as a "contribution" scheme. The semantics here are important. While no additional upfront financial burden is placed on the student during study, it is reasonable for the graduate to contribute to higher education subsequently, from enhanced labor-market earnings. This line of emphasis did much to promote the acceptability of the scheme.

3.2 England & Wales: from grants to cost-sharing

England and Wales too has moved strongly in the direction of greater cost sharing, though in a rather different context.[9] The system of student support has gone through four major phases in little over a decade and a half (Table 8). For very many years, the government subsidized both tuition costs and living expenses. Until 1990, no tuition fees were paid by students. Means-tested maintenance grants were available, the size of the grant depending on family income. Parents were expected to make up the difference between living expenses and the assessed grant - the parental contribution. A traditional mortgage-type loan scheme, introduced in 1990, represents the first major step taken in the direction of cost-sharing; it ushered in a gradual process of replacing grants by loans. The subsidized loan (carrying a zero real rate of interest) covered half of living expenses; the remainder was covered by a maintenance grant for poorer students or by a parental contribution for others. There were still no tuition fees falling on students.

The Dearing Report (1997) ushered in the third phase. In line with the Report's conclusion that "the costs of higher education should be shared among those who benefit from it", students became liable for the payment of tuition fees for the first time. Initially set at £1000 in the 1998/99 academic year but reaching £1075 subsequently, tuition fees still accounted for only a small part of total tuition costs; however, the imposition of sizeable tuition fees represented a major break both with the past and with current practice in many West European countries. The introduction of tuition fees, for which poor students were exempt, was accompanied by income contingent student loans for living expenses (grants for living expenses were phased out); 75 percent of the maximal loan for living expenses was available to all students, regardless of income. The number of students from low-income families receiving exemption from fee payment was substantial: 30 percent of all students received full exemption, 30 received partial exemption and the better-off 40 percent paid full fees (Vossensteyn, 2001).

Table 8. Four phases in the movement towards cost-sharing: England &Wales

Phase	Tuition fee regime	Student support for:		Student group covered	Loans repayment regime
		Tuition	Living expenses		
Prior to 1990	No tuition fees	None: no fees	Grants	Low income	No loans
Introduced in 1990	No tuition fees	None: no fees	Loan plus grant	Poor	Mortgage-type fixed repayments
		None: no fees	Loan	Non-poor	
Introduced in 1998 / 99	Standard tuition fee	Grant	Loan	Poor	Income contingent repayment
		None	Loan	Non-poor	
Since September 2006 *	Higher, differential tuition fees	Loan	Loan plus grant	Poor	Income contingent repayment
		Loan	Loan	Non-poor	

* September 2007, in the case of Wales

The design of the system was much influenced by the Australian scheme, but there is an essential difference between them. Loans served a very different purpose under each of the schemes. HECS provides loans for tuition fees, which are levied on all students regardless of SES background; there is only minimal support for living costs, in the form of grants for poor students. Under the English scheme, loans were provided for living expenses and not for tuition; tuition fees were paid up front (though poor students could receive a grant for tuition costs).

There was considerable criticism of the 1998/89 reforms, relating to the effects they were having on access. It was argued that the low level of individual support acted both as a barrier to access for poor youngsters considering university studies and also forced large numbers of students (particularly of low SES) to take on part time jobs to the detriment of their studies. This was aggravated by the system of parental contributions, which may not have functioned well.

Criticism has not been abated by the considerable changes that took effect in the 2006/07 academic year - the fourth phase. Under the provisions of the 2004 Higher Education Act, the up-front, standard tuition fee was replaced by variable fees across universities and subjects (differential top-up fees, capped at £3,000). Virtually all universities chose to charge the full £3000 fee (Shattock, 2005). The loan system was broadened to cover (generally augmented) tuition fees; in parallel, the loan size for living expenses was increased. These reforms represented a further, decisive move towards greater cost sharing, facilitated by deferred payments.

The effects of these measures on access are likely to be mixed. Poor students are now liable to pay tuition fees for the first time but this may be mitigated by two complementary measures. The first is the reintroduction of maintenance grants, available for poor students in addition to a loan. However, there is ongoing criticism that the level of the maintenance grant is too low and that the eligibility income ceiling is set too high. And while university education will be generally free at point of entry, the greater accumulated debt and larger repayment obligation falling on graduates may be seen as countering government policy of raising the participation in higher education of under-represented, lower SES, groups (Callendar, 2003). The second measure is more innovative. Individual universities are required to establish (tuition fee) bursary funds for students from disadvantaged backgrounds, financed out of fee income, as a precondition for introducing higher tuition fees. The system will be administered by the new Office for Fair Access.

These misgivings about access are out of kilter with the findings for Australia. The source of these contrasting findings for the two countries is unclear. Partly, this may be associated with differences in research methodology and disciplinary perspective. But differing institutional and cultural factors in the two countries are also important. Indeed, this dissonance emphasizes the dangers inherent in institutional imitation across countries What may work well in one country setting, may not do so in another; eclectic adaptation is appropriate, rather than over-eager adoption. Hence lessons from international experience in the field of student loans, as in other policy areas, are important but need to be learned with care.

4. Designing a student loans scheme for Israel

This discussion of international experience of loans schemes provides a comparative black-cloth for a consideration of what might be appropriate for Israel. In addition, two contrasting models have been developed in recent years in Israel – the “Free to Learn” program and the Shochat Committee recommendations; one task of the present section is to compare and contrast these very different approaches

4.1 "Free to Learn" program

The “Free to Learn” student loans scheme was introduced into the public discourse with much fanfare, prior to being sponsored as a private bill in November 2005 by Yuli Tamir, then a back-bench member of the Knesset. Subsequently, as Minister of Education, Yuli Tamir announced her intention to set up a committee to move forward with its implementation. Strangely the Shochat Committee (of which Yuli Tamir was a member) makes no mention of the scheme in

its report, though there is perfunctory reference to the scheme in a short footnote in the report of the subcommittee on student support and tuition fees. This omission is notable not only because the two schemes are strikingly dissimilar but also because the points of difference between the two schemes relate to some of the major areas of contention in loan scheme design.

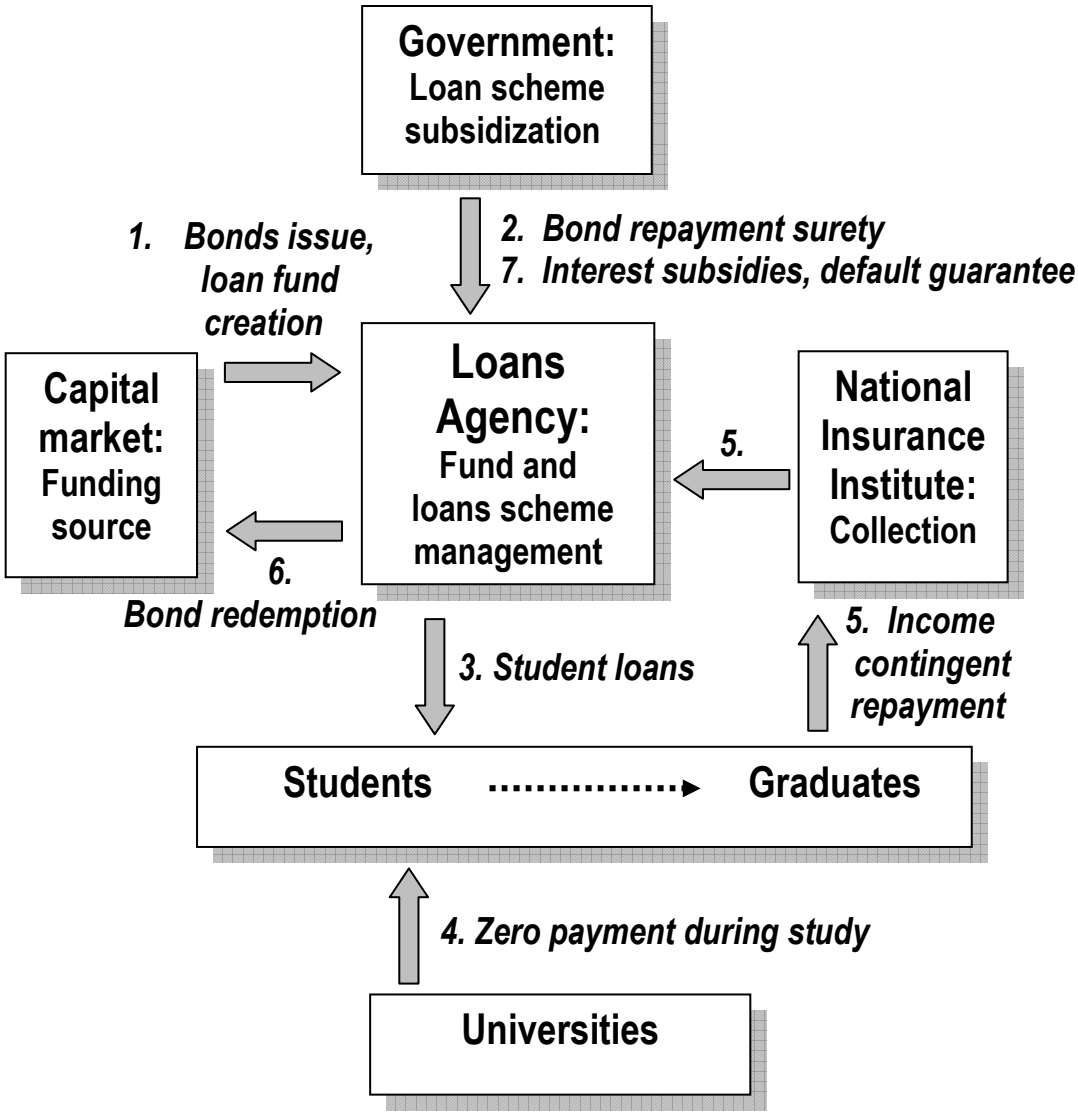
Mechanics of the scheme

"Free to Learn" is an income-contingent loans scheme, loosely modeled on HECS, though it seriously departs from the Australian scheme in a number of aspects. Chart 1 outlines the planned working of the scheme.[10]

The scheme would be funded through the issue of bonds on the capital market (1), backed by government suretyship (2) which would render them more readily marketable. For the majority of students expected to avail themselves of a loan (3), no up-front tuition fees would be charged (4) apart from a registration fee (currently, annual tuition fees are 8,600 shekels); Graduates will be liable to return the sum of 13,500 shekels for each year of study; this would be repaid through a levy of 3.5% on annual earnings, with temporary repayment exemption granted to graduates earning less than the average wage. The National Insurance Institute acts in the role of an intermediary, both in assessing individual annual repayment obligations and in repayment collection (5). Repayment proceeds are used to redeem bonds (6); the shortfall due to interest subsidies and repayment default is met by the government (7). As with HECS, students are given the option of paying upfront an annual fee payment of 10,000 shekels a year rather than taking a loan. This also is the sum that would be paid by the Loans Agency to the universities, for each student choosing the delayed payment route.

Scheme objectives

The foregoing discussion outlined the mechanics of the scheme. But what is its rationale? The Act Proposal for enacting the "Free to Learn" scheme was presented to the Knesset in November 2005; the objectives of the Act are detailed in Table 9. Two objectives are listed: increasing access amongst the low socio-economic groups and easing the financial burden during study of middle SES students. In terms of the three central objectives for loans schemes, outlined in Section 2.1, the cost sharing objective (and augmenting university income) is conspicuously absent. And the raising of upfront fees to 10,000 shekels is fairly minimal and would leave tuition fees below the level in force prior to the (partial) implementation of the Winograd proposals (11,600 shekels). While this fee increase would result in an enhancement of university income of some 250 million shekels, this is offset by the scheme's estimated running costs of a similar amount, covering Government-borne interest subsidies and repayment default costs.



Note: the chart format is adapted from Berlinger and Gonczi (2007A)

Chart 1. Student loans scheme: "Free to Learn"

How would the scheme fare in meeting its two central objectives? The discussion in Section 2.1 above suggests that the scheme would not have any sizeable influence on the access of potential students from low SES backgrounds. No doubt, the ability to avoid payment of upfront fees entirely during study would provide some incentive for greater access for these groups but this is likely to be rather limited. At present, students may avail themselves of various schemes, such as Perach, which cover usually half of the tuition fee. Moreover, living expenses and earnings forgone during study are likely to be the major financial barriers to access. More important, however, is the recognition the main barriers to access are more likely to be sociological and psychological rather that financial.

Table 9. Objectives of the "Free to Learn" program

Act Proposal - November 2005

Objectives of the Act

*"The Act will **increase access amongst the low socio-economic groups** of the population to higher education and will **ease the burden** of paying tuition fees **for middle level groups**, by allowing students studying at higher education institutions to postpone payment of tuition until their absorption into the labor market.*

Turning to the second objective, it is clear that all students would welcome the lessening of the university study costs under a regime of zero fees. However, it is difficult to justify the elimination, across-the-board, of tuition fees during study. Indeed, while Israeli students have campaigned strongly (including strike action) for the full implementation of the recommendation of the Winograd Committee (2001) - a reduction of fees to 5,600 shekels -they have not sought their abolition. This drastic move would also strongly run counter to the trend internationally to raise fees.

Why then did the scheme plan for zero fees during study? No doubt this was due to a desire to emulate the successful Australian model, combined with a misreading of HECS with regard to zero fees. HECS and tuition fees were introduced into a system where university fees were zero. In order to render the reforms acceptable, the status quo – zero payment during study - was maintained. Thus the whole of the new payment obligation was delayed until after graduation. The Israeli case is very different: the whole of the *existing* fee (together with a small fee increase) would be converted into a loan.

Financial viability

Would the scheme be financially viable? Is the level of built-in subsidization acceptable? To probe these issues, repayment ratios are computed for the scheme, based on the declared repayment conditions.

Unlike the case of mortgage type loans repayment, there is no unique repayment ratio for the scheme because the size of annual payments and the length of the repayment horizon will vary across individuals, according to the income they receive. Instead, we compute the repayment ratio for the average (expected) earnings stream, based on Israel-educated graduate earnings reported in the Incomes Survey of 2004, of the Central Bureau of Statistics. Since graduate earnings differ strongly by gender, separate estimates are provided for males and females, respectively.[11]

Table 10. "Free to Learn":
repayment time horizons and repayment ratios, by gender
(discount rate: 6%)

Earnings profile		Repayment time horizon (years)	Repayment ratio (percent)	Hidden grant (percent)
"Optimistic"	Males	9	92.8	7.2
	Females	13	79.5	20.5
"Realistic"	Males	12	82.8	17.2
	Females	19	66.4	33.6

Two sets of results are shown in Table 10: "optimistic" and "realistic". The optimistic estimates are for the levels of subsidy, and the hidden grant, relating to full time employed graduates (working 35 hours or more, weekly).. The differences by gender are marked. Because of lower average salaries, female graduates take thirteen years on average to pay off their loan obligations, compared with nine years for men. This leads to greater subsidies, reflected in a lower repayment ratio, for women than men (79.5 and 92.8 percent respectively). However, for varying periods many graduates will not be at work and some will be employed only part time; the realistic estimates are based on average earnings for all graduates (including those with zero earnings). Lower average salary streams result, for both groups, in longer repayment horizons (12 and 19 years for males and females, respectively) and in greater subsidies and lower repayment ratios (82.3 and 66.4 percent).[12] Female graduates are required to repay only two-thirds of the value of the loan received. These results are compatible with international practice (Table 5).

4.2 Shochat Committee proposals

The Shochat Committee loan scheme recommendations follow closely the conclusions of its Subcommittee on Determining Student Aid and the Level of Tuition Fees, headed by Leora Meridor, macro-economist and banker. While some weight is given to the objectives of increasing access of the poor and lightening students' financial burdens, the scheme is essentially aimed at facilitating greater cost sharing through increased tuition fees. A central role is accorded to financial institutions, notably commercial banks.

Mechanics of the scheme

The working of the scheme is set out in graphic form in Chart 2. A dual payment regime for first degree study is to be established. Annual tuition during study is set at 5,800 shekels (1), a reduction from present level of 8,600 shekels. A second payment, payable after graduation by

loan (2), is set at 9,000 shekels for each study year; students may chose to pay this sum upfront rather than taking out a loan. These sums are fixed in real terms.

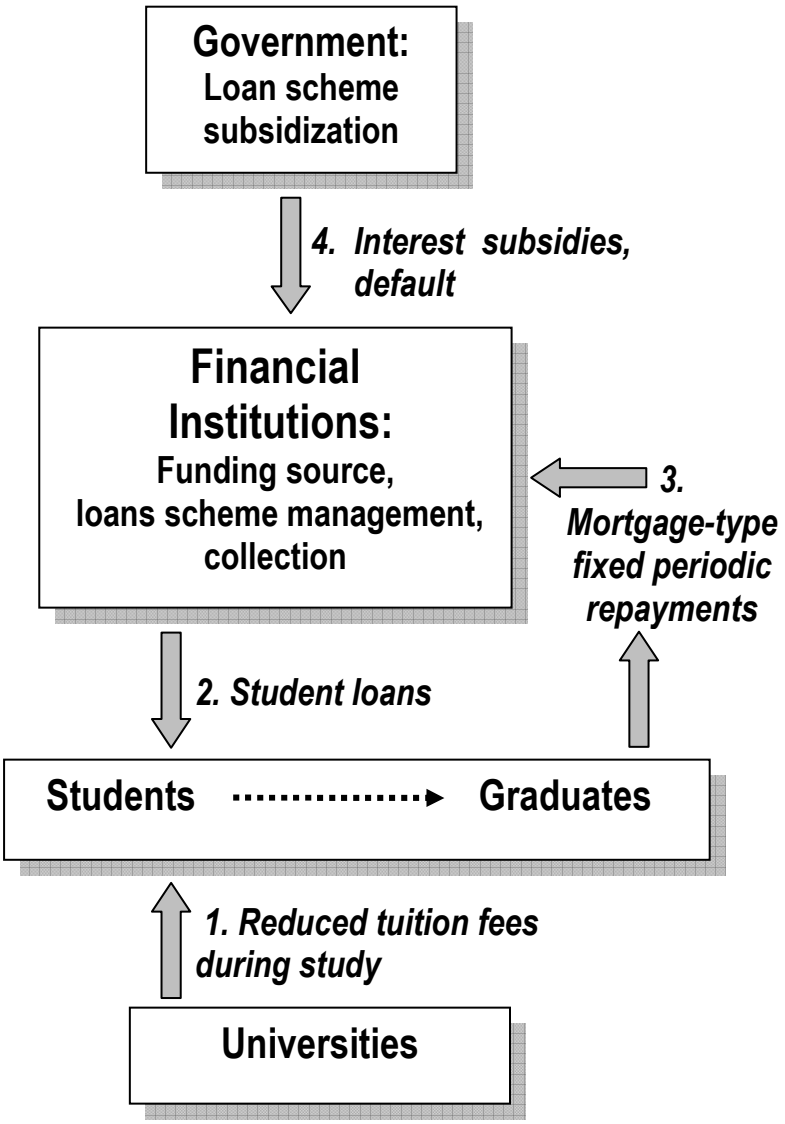


Chart 2. Student loans scheme: Shochat Committee recommendations

The loan scheme will be run competitively by a number of financial institutions (not restricted to commercial banks), to be selected by open tender. These institutions dominate the scheme: they will supply loans funding, manage the loans allocation system and undertake loans collection. The loans take the form of mortgage-type, fixed repayment loans, extending over a ten year repayment horizon following a year a grace (3). Repayment is set at 10.5 shekels in real terms for each 1,000 shekels taken in loan (equivalent to a monthly payment of 285 shekels for students taking out a full loan for three years of study). Low income graduates will be temporarily exempt from repayment. To ensure the financial viability of the scheme for the

lending institutions, the government will guarantee against repayment default and bear the cost of interest subsidies (4).

Financial viability

The scheme's repayment horizon and repayment ratio are computed, based on information provided in the Report. These results (assuming temporary repayment exemptions due to low income are minimal) are presented in Table 11: eleven year repayment horizon including a grace year and a 74.6 repayment ratio. The subsidy level is compatible with international standards: borrowers are given a hidden grant of some 25 percent of the value of the loan. These results may be compared with those relating to the "Free to Learn" program (realistic estimates). The repayments extend over a shorter period: eleven years, compared with twelve and nineteen years, respectively, for males and females under "Free to Learn". However, the overall average repayment ratios of the two schemes are virtually identical, though, as noted, females are more highly subsidized in the "Free to Learn" scheme.

Table 11. Shochat and "Free to Learn" proposals:
repayment time horizons, repayment ratios and recovery ratios
(discount rate: 6%)

Loans scheme	Gender	Repayment time horizon (years)	Repayment ratio (percent)	Hidden grant (percent)	Recovery ratio* (percent)	
					10% default assumption	20% default assumption
Shochat Committee	--	11*	74.6	25.4	67.2	59.7
"Free to Learn" program ("Realistic estimates")	Males	12	82.8	17.2	69.0	61.3
	Females	19	66.4	33.6		

*includes one grace year

The table also presents recovery ratios, estimating how much of the loan value actually accrues back to the lending body. As neither scheme has been implemented, no information is available on default levels or administration costs. The results presented in the table simulate recovery ratios for the two schemes based on alternative assumptions regarding default (ten and twenty percent). Since administration costs, unrealistically, are assumed to be minimal, the results are somewhat underestimated. Again, results are broadly similar for the two schemes: somewhat less than seventy percent for the ten percent default rate assumption, falling to about sixty percent if default proved to be more substantial, at twenty percent. While these results show that substantial losses would accrue to both schemes, indicating the need for sizeable and continued government subsidization, the schemes do perform well in relation to other loans schemes, worldwide (see Table 5).

Reservations concerning Shochat

The central aim of the scheme is the enhancement of funding for the public higher education system; indeed, the Report estimates that the package of increased fees supported by student loans will generate net additional annual funding of some 605 million shekels by 2013 on the basis of current student numbers and a further 229 million shekels from the recommended increase in student numbers (Shochat Committee, Table 2, page 56). The scheme is well designed to lighten financial burdens both during stud y (by reducing upfront fees by about a third) and subsequently (by temporary repayment exemption for lower income graduates). The scheme is unlikely to impose additional barriers to the access of disadvantaged groups.[13] And in funding the scheme through financial institutions, the budgetary burden on government is contained; loans repayment collection is likely to be executed efficiently by these specialized institutions.

However, there are some reservations that need to be voiced.

The first relates to the employment of financial institutions as loans granting bodies. In Section 2.4 it was argued that banks may regard income contingent loans repayment as incompatible with operating norms. This would obviate any choice in the loans repayment system, since only mortgage-type loans would be appropriate. But the type of loans repayment system to be adopted is perhaps the central and most debated issue in loan scheme design; choice, based on the relative merits of the two mechanisms in the Israel context, has been pre-empted in this case.

Second, while the scheme is basically sound, its promotion is poor. The problem here is how the sensible dual payment system should be presented. The Report states that the annual tuition fee will comprise of two parts, 5,800 shekels during study and a second part to be paid through a loan of 9,000 shekels. While a single figure for the total annual payment does not appear in the Report, public attention immediately focused on the total payment of 14,800 shekels, representing an increase of 72 percent over the present tuition fee level.

While the Report does note that the reduced fee is aimed at easing liquidity problems during study, it does not place this fee decrease in an appropriate perspective. The recommended tuition fee of 5,800 shekels reflects the sum that the full implementation of the Winogrod Report (stalled under Treasure pressure) would represent. Thus the Shochat Committee championed the very fee decrease that prolonged student strike action had failed to achieve. Yet, strangely, no mention of Winograd, in this context, appears in the Report. Thus an opportunity for gaining student support for the scheme was missed.

The Committee also displayed a less-than-deft hand in presenting its proposal for the second, delayed payment element. Here, it failed to learn from the Australian experience. HECS is deliberately called a “contribution” scheme, not one of delayed tuition payment. Graduates, after completing studies and employed in well paying jobs (low income graduates are exempt from payment), may be expected to make a contribution to the higher education system, in sharing part of the achieved gains. This should be regarded as both equitable and socially acceptable.

Overall, the financial recommendations of the Report are sound, as might be expected from a Report where the majority of the signatories are economists of repute; unfortunately public relations expertise was lacking.

4.3 "Free to Learn" and Shochat compared

Summary Table 12 lists fifteen points of comparison between the "Free to Learn" and Shochat Committee loans scheme proposal

Table 12. "Free to Learn" and Shochat compared

	"Free to Learn" scheme	Shochat Committee
Central objective(s)	Assisting the poor Reducing student burdens	Cost recovery
Additional funding for universities?	Virtually none	Substantial
Tuition fees: **Annual tuition fee payment during study** **Nominal repayment sum** **Up-front annual tuition fee (in lieu of a loan)**	Zero (registration only) 40,500 shekels (3 X 13,500) 10,000 shekels	5,800 shekels – Winograd recommendation 27,000 shekels (3 X 9,000) 9,000 (+ 5,800) shekels
Funding source	Bond issue	Commercial banks
Loan mechanism	Income-contingent repayment	Mortgage-type: fixed periodic payments
Repayment collection: **Type of collection** **Collection institution**	Agency collection National Insurance Institute	Self collection Commercial banks
Financial viability	Compatible with international standards	Compatible with international standards
Default risk	Borne by Government	Borne by Government
Gender equity	Longer repayment horizon for women, resulting in greater subsidies	Common repayment horizon for all borrowers
Promotion	Well promoted	Poorly promoted
Acceptance by key players	Broadly accepted	Significant opposition
Student coverage	Restricted to public sector institutions	Restricted to public sector institutions

4.4 Towards the design of a new scheme

In Section 2, we outlined four central issues in loans scheme and looked for lessons that might guide Israel in fashioning an appropriate student loans scheme. These issues were: the definition of loan scheme objectives; funding source; financial viability and loan subsidy levels; loans repayment method and repayment collection institution.

Objectives

A first imperative is a clear definition of the objectives to be served by the loans scheme. This will strongly influence many aspects of loan scheme design; one important example is the coverage of the scheme. Thus, if the central objective is cost sharing and the enhancement of income of public sector higher education institutions, then loans should be made available to all students enrolling in state universities. But if student independence and the easing of student financial burdens was the central (or major subsidiary) objective, then a strong case can be made for extending loans availability also to students enrolled in private institutions. This is the practice in a number of schemes, such as in Thailand and, more recently, in Australia. While neither "Free to Learn" nor the Shochat proposals considered this possibility, there is a clear precedent for this: the reductions in tuition fees following the Winogrod Report, was extended to private colleges and financed by the Treasury. On the other hand, the social targeting objective should lead to a considerable *contraction* of loan coverage, with loans targeted on the poor student; if dual objectives were to be served, it might be justified to offer more favorable loan conditions to needy students, compared to other students. Similarly, the objective of the loans scheme will have implications for other aspects of design, including targeting and subsidy levels.

Funding

The initial funding of loans schemes is secured from central budgetary appropriations in many loans schemes. But in the Israel context, this funding may be less than fully assured. University funding itself has fallen by 20 percent in recent years and this is not a good omen. Government-sourced loans funding will be subject to the vagaries of the annual central budgetary process. The financial viability of the Thai student Loans scheme was highly compromised by the failure of government to maintain the level of loans funding support from the central budget that had been planned; the result was cutbacks in the number of available loans and a fall in the average loan size. Both "Free to Learn" and the Shochat Committee propose non-government loans funding, but the relative advantages of financing through bond issue on the capital market and assigning the loans process to the banking system has not been enunciated.

Financial viability

We noted in Section 2.3 that most loans schemes are subsidized; very few operate effectively as a revolving fund but remain in receipt of continuing government support over the longer term, in order to remain financially viable. The financial viability of a loans scheme will depend on the level of built-in, mainly interest, subsidies and the efficiency with which the loans scheme is run. However, low interest rates are the main source of low loans recovery.

Where the main objective of a loans scheme is either cost-sharing or the easing of student financial burdens during study, the substantive interest rate subsidies that are in place in many countries are not justified; a stronger case can be made for the subsidy of loans addressed to disadvantaged groups. Often, the level of built-in subsidies (size of the hidden grant) implicit in a loans scheme is not measured by those who were charged with the design of the scheme nor known to decision-makers concurring in its adoption. An essential, but often neglected, element

in loans scheme design is the measurement and justification of built-in interest subsidies. While built-in interest subsidies in the "Free to Learn" and Shochat Committee proposals are not high by international standards, they do represent a substantial repayment leakage of some 25 percent. There is some doubt whether sufficient scrutiny was given to this issue in developing these programs.

Repayment

Three aspects of repayment are essential ingredients in loan scheme design: loan repayment conditions, the collection mechanism and the collection institution.

Many schemes adopt "soft" repayment conditions, including low interest rates, grace periods, extended repayment horizon and temporary repayment exemption for low income recipients; this results in both low periodic repayment obligations and also in low repayment ratios. The central justification for this, even for schemes where high subsidization is not justified by the scheme's overall objective, is to ease difficulties of repayment and thereby reduce repayment default (and also the political one of gaining student acceptance of the scheme). But in many schemes these concessions are excessively generous. This may be examined (but is usually not) by measuring the repayment burden, i.e. the ratio of annual repayment obligations to graduate age-specific incomes and, even more relevantly, to incremental incomes (the difference between the average age-specific income of university graduates and high school graduates). In many low recovery schemes, this "burden" was found to be only a few percent (Ziderman, 2004).

Apart from marshalling the theoretical and practical arguments for and against mortgage–type collection and income-related repayment, this ongoing debate can be resolved only in the specific context of a country's institutional environment. Thus the use of income-contingent repayment mechanisms (which are found to be otherwise appropriate) may be obviated by institutional constraints, particularly relating to the income tax authorities. Thus the income tax collection may be either insufficiently broad in coverage or simply inefficient. Or, they may be working well but too overburdened to assume additional tasks: this may account for the preference of collection by the National Insurance Institute in the "Free to Learn" scheme.

It is necessary to distinguish between two separate institutional functions in relation to income-contingent repayment collection: the provision of current information on borrowers' income and the task of repayment collection itself. The income tax (or social security) authorities may provide the requisite information on borrowers' salaries, but collection remains in the hands of the loan organization; these arrangements characterize the Hungarian income-contingent loans scheme. Or the income tax authorities may take charge of repayment collection even for mortgage-type schemes, particularly where PAYE arrangements are in place and work well.

An effective repayment collection mechanism must be in place to assure the financial viability of any loans scheme. The task of collection may best be placed with institutions that have both the expertise and facilities to execute the collection process effectively and efficiently. While this may indicate a preference for agency collection (such as national loans agencies employing the collection services of commercial banks), self-collection may be appropriate where the

lending institution (such as a commercial bank) has also a comparative advantage in payment collection.

Peroration

In recent years two comprehensive, national loans scheme proposals have been placed on the public agenda: the "Free to Learn" scheme promoted by Yuli Tamir and, later, the Shochat Committee recommendations on student tuition fee policy and student loans. While very different, both schemes have merit (as well as some shortcomings); in practice, "Free to Learn" has been replaced by the Shochat committee recommendations, without sufficient debate on the relative merits of these contrasting schemes. The proposals of the Shochat Committee have been put on hold for a year, pending government consideration (and possible approval and adoption).

A theme of this paper is that these schemes have been developed with insufficient attention to the lessons that may be learned from practice in some seventy loans schemes worldwide. The aim is to take some initial steps in filling this lacuna, in preparation for the time when the national debate on student loans is resumed.

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References

Barr, N. 2005. "Financing Higher Education". Finance and Development, Vol.42, No.2

Berlinger, Edina and Eva Gionci, 2007A. "An Efficient Student Loan System: Case Study of Hungary" Power Point presentation, International Conference on Funding, Equity and Efficiency of Higher Education, Portoroz, Slovenia

Berlinger, Edina and Eva Gionci, 2007B. "An Efficient Student Loan System: Case Study of Hungary" Paper presented at the International Conference on Funding, Equity and Efficiency of Higher Education, Portoroz, Slovenia. Processed

Biffl, G. and J. Issac, 2002. "Should Higher Education Students Pay Tuition Fees?" *European Journal of Education,* Vol. 37, No.4.

Chung, Y-P., 2003. *The Student Loan Scheme in Hong Kong.* International Institute for Educational Planning. Paris: UNESCO

Callendar, C., 2003. *Attitudes to Debt: School leavers and further education students' attitudes to debt and their impact on participation on higher education.* London: Universities UK

Chapman, B. and C. Ryan, 2002. "Income-contingent financing of student charges for higher education: assessing the Australian experience". *The Welsh Journal of Education,* Vol.11, No.1

Chapman, B. and C. Ryan, 2003. "The Access Implications of Income Contingent Charges for Higher Education: Lessons from Australia". Discussion Paper No 463, Center for Economic Policy Research, Australian National University. Canberra: Center for Economic Policy Research. Available at: http://cepr.anu.edu.au/discussionpapers.htm

Dearing Report, 1997. *Higher Education in the Learning Society.* Report of the National Committee of Enquiry into Higher Education. London: HMSO

Debande, O., 2004. "A Review of Instruments for Student Loans in Tertiary Education". *European Journal of Education,* Vol. 39, No.2

Diaakhitel, (2007A). Company Summary. Budapest, September 2007. www.diakelhitel.hu

Diakhitel, (2007B). *Student Loan Scheme in Hungary, Academic Year 2006/2007*. Annual Report of the Student Loan Centre. Bucharest

Gilboa Y. and M. Justman, (2008). "The Impact of Tuition and Student Loans on Access to Higher Education and on its Fiscal Cost, and on Aggregate Measures of Equity and Efficiency". Paper presented at the Hurst Seminar on Higher Education and Equality of Opportunity: Cross-National Perspectives". Ben Gurion University of the Negev, Israel, June 3-5, 2008

Guille, M., 2002. "Student Loans: A Solution for Europe". *European Journal of Education.* Vol. 37, No. 4

Johnstone, D. B., (2004). "Cost-sharing and equity in higher education: implications of income contingent loans". In P. Teixeira, B. Jongbloed, D. Dill and A. Amaral (Eds), *Markets in Higher Education: Rhetoric or Reality*. Dortrecht, the Netherlands: Kluwer Academic Publishers

Johnstone, D. B., (2006). "Higher Educational Accessibility and Financial Viability: The Role of Student Loans". In D. B. Johnstone, *Financing Higher Education: Cost-Sharing in International Perspective*. Rotterdam: Sense Publications

Kim, A and Y. Lee, 2003. *Student Loan Schemes in the Republic of Korea: Review and Recommendations.* International Institute for Educational Planning. Paris: UNESCO

Kitaev, I, T. Nadurata, V.Resurrection and F. Burnal, 2003. *Student Loan Schemes in the Philippines: Lessons from the Past.* International Institute for Educational Planning. Paris: UNESCO

M. Krausz and A. Ziderman, (in preparation). *Two central issues in loan scheme design*

Shattock, M, (2005). "The trouble with fees". *International Higher Education*, Fall

Shen, Hong and Li Wenli, 2003. *A Review of the Student Loans Scheme in China.* International Institute for Educational Planning. Paris: UNESCO

Shen, Hua and A. Ziderman, (2008). "Student loans repayment and recovery: international comparisons". *Higher Education.* Forthcoming

Shochat Committee, (2008). *Report of the committee to examine the higher education system in Israel, chaired by Mr. Avraham (Beigat) Shochat*. Jerusalem. July

Usher, A., (2005). *Much ado about a very small idea: straight talk on income-contingent loans.* Toronto: Educational Policy Institute.

Vossensteyn, H., 2001. *Cost Sharing and Understanding Student Choice: Developments in Western Europe and Australia.* New York: University at Buffalo, International Comparative Higher Education Finance and Accessibility Project

Vossensteyn, J.J., 2005. *Perceptions of student price-responsiveness: A behavioural economics exploration of the relationships between socio-economic status, perceptions of financial incentives and student choice.* (Ph. D dissertation, Center for Higher Education Policy Studies (CHEPS), University of Twente). Brno: VUTIUM Press

Winogrod Committee, (2000). *Report of the committee of tuition fees, chaired by Justice Emeritus Winogrod.* Jerusalem

Ziderman, A., 2002. "Alternative objectives of national student loan schemes: Implications for design, evaluation and policy". *The Welsh Journal of Education,* 11(1), 37–47. Reprinted in: *Peking Educational Review,* No. 3, 2004 (Chinese)

Ziderman, A., 2003. *Student loans in Thailand: are they effective, equitable, sustainable?* International Institute for Educational Planning. Paris: UNESCO
Chinese edition, 2008

Ziderman, A., 2004. *Policy options for student loan schemes: lessons from five Asian case studies*. International Institute for Educational Planning. Paris: UNESCO
Vietnamese edition, 2006
Chinese edition, 2008

Ziderman, A., 2006. "Student Loans in Thailand: From Social Targeting to Cost Recovery", *International Higher Education,* Winter

Ziderman, A. and D.Albrecht, 1995. *Financing Universities in Developing Countries,* Stanford Series on Education and Public Policy. London: Falmer Press

Footnotes

[1] The regional study, a joint endeavor of UNESCO-Bangkok and the International Institute for Educational Planning, consisted of five in-depth studies on the functioning of student loans schemes in Asia. The studies are reported in the following monographs: China (Shen and Li, 2003), Hong Kong (Chung, 2003), the Republic of Korea (Kim and Lee, 2003), the Philippines (Kiteav *et al*, 2003) and Thailand (Ziderman, 2003). A synthesis study is provided in Ziderman (2004)

[2] This process is illustrated by two major loans schemes - in Thailand and in England & Wales – both of which have undergone a process of dramatic reform and change in direction and objectives. A brief account of changing objectives of the Thai scheme is provided in Ziderman (2006). The changing scheme in England & Wales is discussed in Section 3

[3] Good discussions of European loans schemes are given in Biffl and Isaac (2002), Guille (2002) and Debande (2004).

[4] There are a few notable exceptions. While the main LSFS loans scheme in Hong Kong which is directed towards poor students is highly subsidized, the Non-means-tested Loans Scheme (NLS), available to all students, operates on a full cost recovery basis; a "no gain, no loss" rate of interest is charged, which includes a risk-adjustment element to cover the loans agency's risk in disbursing unsecured loans. In addition, the NLS charges an annual administration fee to cover the costs of processing and administering the loan. Similarly, in Hungary, there is no general interest subsidy (except for the grace period during study). The self-sustaining nature of the loans scheme is underpinned by a rate of interest which consists of three elements covering, in turn, the financing cost (cost of funds available on the money and capital markets, a risk premium and the costs of operation. In certain cases, such as where borrowers are raising small children, interest is paid by the state budget.

[5] See Krausz and Ziderman (forthcoming) for a fuller discussion

[6] Thus, for example Professor Stanley Fisher, in his address on receiving an honorary doctorate at the Hebrew University, (11 June 2006) and Professor Moshe Kave, as Chair of Association of University Presidents on many occasions; and, of course, the Free-to-Learn program is based on the Australian scheme.

[7] However, this may not act as an incentive to poor potential students unless, as a group, they earn relatively low post-graduation earnings on average or, at least, expect to do so.

[8] In a more recent study set in the Netherlands, Vossensteyn (2005) found no relationship between willingness to take up student loans and SES background.

[9] The discussion is concerned with England and Wales rather than with the United Kingdom as a whole (which includes Scotland) because a rather different scheme is currently in place in Scotland.

[10] This account of the planned working of the scheme is based on information in the now defunct website, www.hofshi-lilmod.org.il

[11] The method employed is as follows. Cross sectional wage data are augmented by two percent annually, to take account of the expected real increase in wages over time. For each age, an annual salary is computed. Average annual repayments are measured (3.5 % of average salaries); repayments cease once the total repayment obligation has been reached (40,500 shekels for three years of study). The present value of the repayments stream is compared with the present value of the upfront payments alternative during study (10,000 shekels a year), using a 6 % discount rate.

[12] These results are contingent on the rate of discount used to compute present values (6%). Using a lower 4.5% discount rate would raise the "realistic" repayment ratios to full repayment for males (101.5%) and very high repayment for females (90.2%).

[13] The results of a simulation model by Gilboa and Justman (2008), based on a rather similar loans scheme design (but without a tuition fee reduction during study) do not show any sizeable negative effects on access of disadvantaged groups.

Working and Position Papers

1) Romanov, D., Zussman N., Furman, O., and Caplan T. : "Do All Diplomas Look Alike? Comparing First Three Years of Israeli College and University Graduates on the Labor Market." Economy of Higher Education Program (EHE) Working Papers Series EHE-WP-1-, January 2007.

2) Gilboa, Y., and Justman, M.,: "Equity and Efficiency Effects of Different Funding Arrangements for Higher Education: A Calibrated Analysis Applied to Israel." Economy of Higher Education Program (EHE) Working Papers Series EHE-WP-2, April 2007.

3) Limor, N, and Volanski, M, "Tertiary Education in Israel A New Paradigm for Policy Making." Economy of Higher Education Program (EHE) Working Papers Series EHE-WP-3, 2007.

4) Friedmann Y., "Liquidity Constraints on the Attainment of Tertiary Education in Israel." Economy of Higher Education Program (EHE) Working Papers Series EHE-WP-4,

   May 2007.

5) Elkin-Koren, N, "The Ramifications of Technology Transfer Based on Intellectual Property Licensing". Economy of Higher Education Program (EHE) Working Papers Series EHE-WP-5, 2007.

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