

By way of introduction to the request:

The founding co-father of the Hungarian student loan system emphasizes that it is the existing capacity of the state (tax collection administration) that is the key to achieve acceptably low loan interest rate while maintaining financial self-sufficiency of the pay-as-you-go loan system.

How come that in our study for the Czech Republic we found that most suitable options rely on capital provision and loan repayment collection by commercial banks?

**Czech Republic –Ministry of
Education, Youth and Sports**

Feasibility study of the
regulatory framework options
for tertiary education student
financial aid system to
(organisational, process and
economic study)
Final Report – abbreviated
version for international
partners



25 January 2010

KPMG Česká republika, s.r.o.
25 January 2010
This report consists of 28 pages

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1 Operational model for tertiary education student financial aid system

1.1 Bodies involved in the operational model

This chapter states all relevant institutions participating in the operational solution of the tertiary education financing system (system).

1.1.1 Overview of all bodies involved in the system

Participating bodies include:

- Ministry of Finance (**MF**) as the state budget administrator;
- Ministry of Education, Youth and Sports (**MoEYS**);
- Other bodies (Czech Social Security Administration - **CSSA**, Tax Collection Administration - **TCA**, **health insurance companies**);
- Student Aid Financing Administration Centre (**Centre**) as the institution responsible for the management of the system's administrative-methodological operation;
- Czech-Moravian Guarantee and Development Bank (**CMZRB**) as the institution responsible for the operation of financial relations;
- Tertiary education institutions (**TEIs**);
- **Student** (later **Graduate**);
- Other commercial bodies involved in the system (**Commercial banks**).

1.2 Operational model options

To achieve maximum effectiveness of the student aid financing system, several operational model (process-organisational arrangement) options are being considered. The options are based on the defined activities and bodies involved in the process.

Operational model options are based solely on the organisational arrangement of activities (at this point, they do not account for other optional impacts on the system):

- The Ministry of Finance (**MF**) scope of activities cannot be varied, this body will always operate as the 'state budget administrator' and the body superior to tax collection offices, if they participate in basic student loan (BSL) repayment or exaction. MF is also a partner to the system's 'steering body' in negotiating loan interest rate ceilings with commercial banks.

- Ministry of Education, Youth and Sports (MoEYS) can perform various activities (roles) depending on the operational model option selected (with minimum involvement, it only stipulates student aid financing parameters, with maximum involvement, it performs all activities related to student aid financing)
- The **Centre**'s involvement is also variable, the maximum scope of performed activities includes everything related to student aid financing and the minimum scope leaves the Centre out from the system entirely.
- **the CMZRB** operates as the administrator of financial resources for BSL provision, state guarantee provider, and student debt administrator. Its involvement ranges from substantial involvement to absence from the system.
- **Other state bodies** (CSSA, TCA) provide data from their systems to calculate loan repayment plans from graduates' incomes.
- In case of **TEIs** and **students**, there is no space for optional arrangements, their organisational involvement in the system is clearly defined beforehand.
- The manner of **commercial banks**' participation in the provision of loan financing resources is decisive. They can either serve just as student account administrators, or, in case of maximum involvement in the system, as BSL capital providers (i.e. use their own resources, including administration and regional business networks of branches).

With the summary of the above, the operational model options are narrowed down to the division of activities among the MoEYS, the Centre, and the potential role and involvement of the CMZRB and commercial banks.

Based on these conclusions, the following **operational model options** have been designed, and are briefly described below from the process – organisational point of view:

1. Option 1: the MoEYS as the system's steering body (cooperating with a financial institution - the CMZRB);
 - Option 1 assumes the MoEYS to be responsible for the tertiary education student financial aid provision system.
 - System management can be performed by one of the current ministerial units (with expanded staff), a newly established unit (department or section) or a current Ministry's contributory organisation (the Centre for education performance investigation, Institute for information on education, etc.).
 - No new institution (Centre) independent of the Ministry is expected to be established in this option.
 - The MoEYS administers the information system.
 - The CMZRB administers financial resources designated for BSL provision. It manages and implements loan disbursement, administers BSL repayment,

provides state guarantees, and potentially cooperates in loan exaction or student debt administration.

- The student applies for BSL directly at the MoEYS. The MoEYS verifies the student's loan entitlement and issues a transfer order to the student's account, administered by a commercial bank (the only role of commercial banks).
2. Option 2: the MoEYS as a body determining student aid financing system parameters, an independent Centre providing and managing student financial aid, and CMZBR administering financial resources;
- Option 2 assumes the MoEYS to be responsible for determining parameters for the tertiary education student aid financing system.
 - Ongoing student aid financing (BSL provision) is managed by an independent organisation - the Centre, in close cooperation with the CMZRB.
 - The Centre also administers the entire information system.
 - The CMZRB is responsible for financial operations, administers financial resources using its own administration, and guarantees the state guarantee provision. In the loan repayment phase, it cooperates with other institutions involved in exaction, or is responsible for debt management.
 - In this option, the student applies for BSL at the Centre, which, having verified the student's entitlement, issues a transfer order to the student's account with a commercial bank.
3. Option 3: the MoEYS as a body administering state budget resources and determining system parameters, independent Centre, providing aid to students and managing all financial flows;
- In option 3, the MoEYS is responsible for determining the student aid system parameters.
 - The Centre functions as an independent institution responsible for BSL provision-related activities at the administrative-methodological as well as financial level (i.e. including financial flow management, guarantee provision, debt administration and participation in debt collection).
 - The Centre operates as the information system administrator.
 - In this option, the student applies for the BSL at the Centre, which, having verified the student's entitlement, transfers the loan to the student's account with a commercial bank directly.

The operational model options also contain options of funding used for student aid financing, which are further elaborated and described in **Chapter 2**.

2 System financing options

2.1 Description of options and terms of operation

The initial need for financial resources to finance the system is determined based on the expected future financial flows, reflecting namely the tertiary education system parameters set by the state (numbers of financed students etc.).

Capital requirements for student financial aid provision shall be further influenced by other system parameters such as the BSL ceiling settings, the type of capital resources used, capital market development (interest rate estimate), or the introduction of tuition fees (on top of living expenses), including a BSL system for tuition fees, as well as the expected tuition fee level settings.

Neither the potential sources of capital considered in the text below nor the financial model include state resources potentially provided from potential ad-hoc privatisation incomes (given their uncertain determination).

The source of initial and ongoing capital differs in individual options:

1. Option A – Funding from public sources (the state, state budget, state guarantees);
2. Option B – Funding primarily from private sources (financial capital from private bodies, support from public sources in the form of financing system implementation and guarantees in the start-up phase);
3. Option C – Funding from a combination of private and public sources (private bodies provide financial capital, the state finances the guarantees).

The main difference between both sources is their potential fiscal impact:

- Public resources – provided from state sources (state budget or state assets), forming part of the state budget expenditure (a hybrid option – combination with private resources - presupposes partial participation of public resources, although significantly lower than in the purely public option);
- Private resources – provided by commercial bodies, not affecting the state budget.

For the loan (BSL) system to work, the following conditions have to be simultaneously met:

1. Accessibility and transparency for all eligible students, namely for students from socio-economically disadvantaged groups;
 - Accessibility is defined as the capacity to satisfy each student regardless their financial situation or the solvency of the family (s/he is financially dependent on).

- To ensure financial product accessibility to all interested students, initial credit scoring of students shall not be performed, i.e. each student meeting the entitlement criteria will receive a loan if s/he applies, regardless his/her financial situation.
2. The system's financial sustainability (not applicable to financing option C);
- Financial sustainability is defined as the system's capacity to function independently without progressive debt accumulation, i.e. the price of loan (interest) paid by the student covers the costs of the system, making it thus 'self-financed'.
3. Maximisation of repayment of the loaned resources back into the system.
- The objective of repayment maximisation is to minimise the abuse and use of loans by those who do not need aid. The entire system can only be balanced and self-financed in the long-term if the volume of guarantees provided by the state to private bodies does not exceed a certain limit.
 - The proposed system assumes the funds needed to finance the guarantees to be obtained in the form of a loan price risk premium. The final loan price (interest including risk premium) shall be acceptable to students provided its final level does not exceed the non-guaranteed credit product prices on the market.

2.2 General assumptions and limitations for regulatory framework parameter setting

General assumptions¹ of the system's financial model:

- The system works with income-contingent repayment: instalments are determined as a proportion of the graduate's income (i.e. the higher the income, the higher the BSL instalment);
- The student must know the repayment terms in advance, needs to know whether and based on what the interest rate shall develop;
- One of the objectives of the system's operation is to achieve the lowest possible interest rate (loan price) for the student as well as the lowest possible subsidies from the state (state budget);
- The proportion of students receiving means-tested scholarships (not a student loan) is not taken into account, as they are a form of state (state budget) social support (without repayment) within the system;
- The student shall be entitled to the loan on the following conditions:

¹ The assumptions may be different in the system's final format, according to implementation development. However, these changes have no impact on the regulatory framework substance.

- Due enrolment to a full-time study program at a Czech TEI;
- Can always only apply for the loan once at each level of studies (BC, MA, PhD) for regular duration of studies only, also if s/he studies at more TEIs / programs simultaneously;
- The student is an EU national;
- The student has no income or his/her income total does not suffice to cover study-related costs (an affirmation supplementing the loan application). The system shall be linked to TCA and CSSA systems where this information shall be verified.
- Based on the approved entitlement, the loan shall be transferred to the student twice a year (as of 31 October and 31 March) for the duration of the regular study period, assuming a 5 year study period (based on the standard ‘3+2’ study period, general assumptions do not taken into account the varying number of students continuing after bachelor’s program completion);
- The course of repayment shall be influenced by the settings of the following parameters:
 - The level of minimum income assessment base, the attainment of which triggers repayment – the lower the limit, the sooner the graduate’s obligation to repay begins;
 - Whether an earliest repayment beginning date is or is not stipulated for the student / graduate (e.g. standard study period + 1 year):
 - The advantages of the repayment starting point depending solely on the assessment base level attainment lie primarily in agenda simplification and student motivation for rational behaviour – to complete studies and begin earning as soon as possible;
 - The student shall have the possibility to start repaying during studies, as soon as the assessment base is exceeded, regardless the number of years from loan allocation;
 - Whether the student / graduate does / does not repay interest rate and loan instalments during studies;
- All graduates (successful as well as unsuccessful, i.e. without a diploma) shall repay at least CZK 6000 (apx. EUR 230) a year (the so-called minimum instalment of CZK 500 / EUR 20 a month), regardless whether their income exceeds the assessment base or not;
- The reference period for the graduate’s repayment plan calculation shall be 1 year (tax year corresponds to calendar year).

- No specific instalment collection implementation format is stipulated. Specific costs shall depend on the manner of instalment collection and debt exaction and the potential involvement of the existing TCA, CSSA systems or the commercial banks' administrative-technical facilities;
- Once a commercial bank enters the BSL provision system, it must not reject a loan to any eligible student;
- The financial model used here does not reflect macroeconomic predictions (economic development in the Czech Republic such as GDP, inflation, wages, etc.).

2.3 The cost side of the system

The cost side consists of the following components:

- A) Total capital needs – identical for all options;
- B) Capital costs – different for individual options;
- C) Operational costs – slightly different for individual options;
- D) Transaction costs – identical for all options (negligible amount, not discussed below).

A) Capital needs

Represent the amount of funding needed to finance the BSL granted to tertiary education students;

The capital needs are influenced by tertiary education system parameters defined by the state (the MoEYS) (the financed number of students – i.e. the maximum number of provided loans), the living costs loan ceiling, tuition fees ceiling.

Based on a survey performed among university students, the financial model expects capital needs of maximum CZK 54 thousand per student loan per year (BSL for living costs of 4 thousand a month for 10 months and tuition fee BSL of 14 thousand per year).

B) Capital costs

Interest rate on the necessary capital differs in individual options (for greater detail, see description of individual options below, this section includes charts showing interest rate development for various financial instruments):

- **Option A (public resources)** – this option is based on funding acquisition costs of 3.5 – 4.5 %, deduced from the following:
 - In case of an EIB loan, minimum 3.5 % + current risk premium based on country rating. The average swap rate value for the past 4 years is 3.98 %;

10-year swap rate development

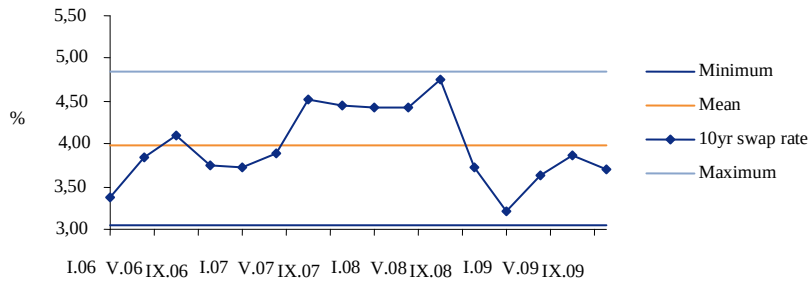


Chart 1 – Illustrative example of 10-year swap rate development

- if the funding is acquired via the issue of state bonds, the interest coupon cost currently fluctuates around 4.5 %. The average bond rate for the past 4 years is 4.4 %;

10-year state bond rate development

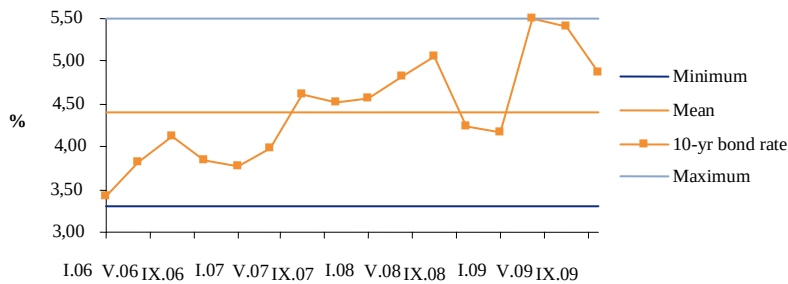


Chart 2 – Illustrative example of 10-year bond rate development

- **Option B (private resources)** – the expected funding price of 2 - 3 % in this option is based on the development of inter-bank market price of capital (within a banking group). The average deposit facility rate for the past three years is 2.81 %;

Annual deposit facility rate development

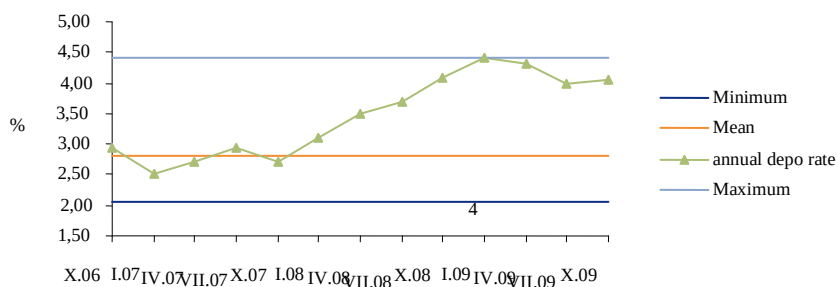


Chart 3 – Illustrative example of annual deposit facility rate development

- **Option C (public and private resources combined)** – the expected price of funding in this financing option is 2.5 – 4 % (the model expects lower price than in option A and higher than in option B);

The interest rate (i.e. also the price of funding) in individual options shall also be influenced by the development of country rating. This factor shall also influence options B and C, where only private resources are used for BSL financing. In case of country rating decline, the price of financial resources shall increase.

Though the depicted period (2006 to 2009) is illustrative only for the determination of the expected capital costs, it suffices for the purposes of this study. In this period, the Czech economy went through stages of significant economic growth as well as a time of decline, i.e. rates moved from low to relatively high levels and their fluctuation is visible. The overall interest rate level is also influenced by the overall inflation level: the higher the inflation, the higher interest rates can be expected.

C) Operating costs

Costs related to the operation of the student aid system can be divided in time:

- Initial (one-off costs incurred over a short period for system introduction and implementation):
 - Costs related to the implementation of the regulatory framework operational model (human resources, administrative costs, etc.);
 - Information system implementation costs (design and launch);
 - In this study, the state is expected to cover the initial costs, the total of which is not included in the total loan (interest) price for the student. The study does not calculate these costs.
- Ongoing (recurrent after system introduction and in the long term):
 - Day-to-day system operation, reporting, communication, human resources costs, infrastructure, system of payment operation etc.;
 - Information system operation and maintenance;
 - Outstanding loan instalment exaction (e.g. using TCA, CSSA, health insurance companies or a Single Collection Point²);
 - To simplify the model, we assume a fixed proportion of these costs in the total loan volume (in practice, savings of scale are likely, increasing with the volume of loans provided).

² *Single Collection Point* is a technical arrangement under preparation to establish a single administrative point where income taxes, social and health insurance would be collected.

- Optionally, the state may also be expected to cover operating costs in the first years of the BSL system implementation. In that case, these costs would not be reflected in the loan – interest rate – price increase for the student (the model does not include this option).

In the first phase of system implementation, there will be a lack of funding to cover system operation and risk costs. These costs shall have to be funded from state resources and have to be included in the operating costs. However, the state can gradually retrieve them in the phases when repayment has begun and financial resources including interest are coming back into the system.

In the following phases (BSL repayment phase), the system shall generate sufficient resources to fully finance operating and risk costs thanks to the reflection of the operating and risk premium in the loan price / interest.

The inclusion of the operating and risk premium into the price (interest rate) leads to overall increase in the loan price.

The BSL price (interest) increase due to the risk premium is only relevant for options A and B. In option C, state subsidies are planned to finance guarantees, i.e. risk costs shall be partly or totally financed from state resources (risk premium is not included in the loan price).

2.4 Income (repayment) side of the system

The income side (repayment) is modelled based on the following parameters:

- Graduate's average gross income (predicted using the documents “Notes on student loan proposal in the Czech Republic” and “Financial flow and cost simulation”). The parameter is based on an average student/graduate³, whose income gradually grows during his/her working career;
- Study period of 5 years; the model assumes identical study period (i.e. 3+2) for BSL disbursement for all students;
- Graduate's annual repayment amount, calculated from income exceeding the annual assessment base. The financial model assumes annual assessment base of CZK 15 thousand (EUR 600);
- Parameter stipulating the proportion (%) of the amount exceeding assessment base the student has to repay;
- Number of graduates repaying more than the minimum statutory instalment (in %), considering the speed of repayment (the rate and speed of debt write-off shall be known only after approx. 25 years);

³ Repayments may also become mandatory for students with income exceeding the assessment base level. This arrangement may represent a desirable disincentive for high earners to request student loans.

- Number of loan repayment years for the student / graduate (17 - 22 years at 8 % interest rate);
- Expected proportion of outstanding and unrepaid loans – several non-repayment levels need to be considered:
 - students / graduates who will not repay at all;
 - students / graduates who will repay sometimes;
 - students / graduates who will repay continuously but slowly (e.g. those who repay the minimum statutory instalment).
- Different repayment patterns in time need to be considered:
 - a) regular repayment following the fulfilment of covenants;
 - b) deferred repayment (minimum instalment only repaid for a certain time);
 - c) early repayment (refinancing in case of interest decrease), interest risk stemming from early repayment;
- Introduction of inspections whether students / graduates repaying minimum statutory instalment for longer periods do not deliberately manipulate their income and whether a different - higher - instalment should be assessed. Inspections should primarily focus on self-employed payers incurring long-term loss (the first inspection in 5 years, for debtors having only repaid the minimum statutory instalment for the entire time). The constant loan interest charge and the regular provision of debt status information to the debtor (once a year) provide the system with a loan repayment motivation factor: the continuous debt growth (the so-called debt trap) in case only the minimum instalment is repaid.
- Operating costs are to be covered at first from the collected instalments, then from risk costs, capital costs and finally from the principal (capital) (minimum statutory instalment covers approximately the proportion of interest financing operating and risk costs in the model).

The above parameters are defined and used for modelling within this study, they are not definite. They can change as the system's operation is further clarified and statistical data become available.

2.4.1 Price (interest) structure of the basic student loan (BSL)

The total income level of the system unfolds from the BSL price (interest). BSL prices are calculated based on individual cost items involved. All these items are described in the table below ([Table 1](#)). Whether all these costs shall be included in the final product price (interest) also depends on the availability of state funding.

Interest rate values stated in the table are illustrative and based on the current market situation (December 2009). The expected interest rate development estimate is described in the text below.

#	Student loan price (interest) structure in %	Cost financing	Option		
			A	B	C
1.	Equity capital costs	Costs related to the required return on equity capital (option B a C).	0 %	2 % (min.1%)	2 % (min.1%)
2.	Financing costs	Interest costs of state bond issue / costs of commercial bank resources.	4.5 %	2.3 %	2.3 %
3.	Credit risk costs	Costs related to students in default.	1.5 %	1.4 %	0 %
4.	Sales costs	Costs stemming from dealer bonus schemes and other sales-related variable costs.	0 %	0.01 %	0.01 %
5.	Transaction costs	Costs related to payment system operation (negligible).	0.001 %	0.001 %	0.001 %
6.	Fixed and variable operating costs	Operating costs related to financing system operation.	1.298 %	1.116 %	1.116 %
Σ	Final loan price (interest)	Final cost contribution per loan	7.299 %	6.827 %	5.427 %

Table 1 – BLS price structure (interest composition)

2.4.1.1 Equity capital costs

They express the requirement by the owners of the invested capital for its requested yield.

Option A: Since the state as an investor does not require any return on capital, this cost shall not appear in option A.

Option B: The invested capital comes from the resources of private financial institutions. The Basel II (CRD) minimum capital requirement is 8 % of risk-weighted assets. That means that if the standard required return on bank capital is 25% (the average required return on equity capital in the Czech Republic) and the minimum amount to cover risk-weighted assets is 8%, the capital costs shall be reflected in the final interest rate by 2% (= 0.08 x 0.02).

It needs to be added that the interest rate calculated in this way is based on high expected return on bank equity capital stemming from a period of strong economic growth (in previous years). The yield objectives can be realistically expected to fluctuate depending on the current economic development in the Czech Republic. Based on negotiations with the banks, the final level can vary between 1 % and 2 %.

The financial model was calculated using a generalized and simplified mathematical apparatus and a rather conservative approach (assumptions). Consequently, the table includes higher cost coverage level related to the required return on equity capital, i.e. 2 %.

This cost item shall not be very volatile in time and will depend solely on the development of the required return on equity capital in individual banks.

Option C: Capital needs shall be covered using private capital identically to option B, therefore the calculated interest rate shall be identical as well.

2.4.1.2 Financing costs

Option A: Financing costs represent the price of other capital resources used to cover capital needs and capital, operating and risk costs. In this option, it is a fixed rate the state shall pay in case of the issue of bonds, or a variable rate in case of a loan from e.g. the European Investment Bank.

Historically, the development of bond interest rates and ‘IR swaps’ (bank loan price) had been almost identical until half 2008 ([Chart 4](#)). The state bond rate increased significantly after the onset of the global financial crisis (January 2009), reflecting their increased risk. In the future, bond interest and swap rates can be expected to converge again, rendering the difference between financing capital costs using state bond issue or an European Investment Bank (EIB) loan insignificant.

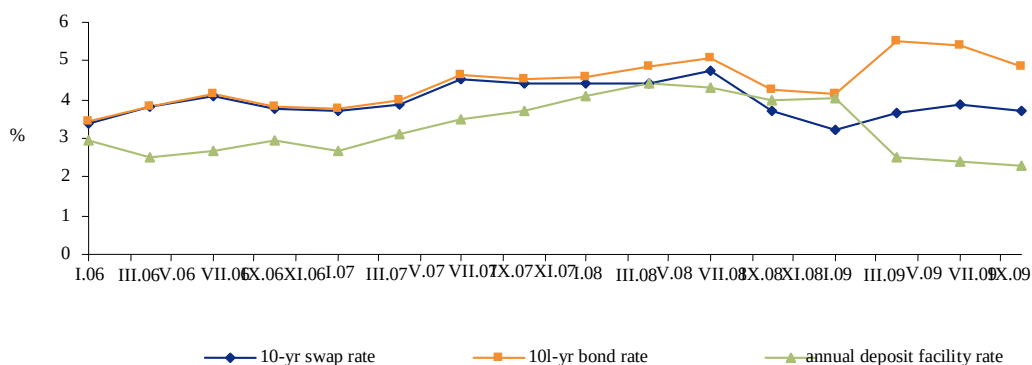


Chart 4 – Illustrative overview of financial market rate development 2006 – 2009

The current 10-year state bond rate is 4.5 %, The IR swap rate is 3.5 %. The advantage of bond financing stems from the fact that the total principal value has to be repaid only upon maturity expiration (the period which the bond is issued for). As the capital needs for student loan financing are going to increase gradually over the first 10 years, the state would issue bonds gradually each year as necessary, so that it can repay the principal gradually, not in a single year.

In case of financing using an EIB loan, the expected repayment duty starts after 5 years at the latest (according to available information). The entire system would have to be set to generate

income for the EIB loan debt principal amortisation already in its fifth year (maturity period may be further discussed between the EIB and the state and possibly extended – in that case, the above would not apply).

Provided the state bonds are issued for 100 % of the financed capital with 4 % interest, the final BSL interest rate (loan price for student) shall be burdened by 4 % financing costs.

Option B: Financing costs represent the costs of deposits or the borrowing of deposits from the parent company. The Czech banking sector currently features surplus of deposits due to the increased risk of investment alternatives relative to fixed-term bank deposits. Deposit costs fluctuate around 2.5 %. This interest rate unfolds from the economic development in the Czech Republic but we expect it to fluctuate around this value.

If 92 % capital needs were financed with capital costs of 2.5 %, the resulting interest rate (loan price) will be burdened by 2.3 %.

Option C: Due to the use of private capital, costs of financing in this option shall be virtually identical to option B. A minor difference lies in the different BSL repayment period, leading to earlier return on capital and the consequent slight price decrease in this option.

2.4.1.3 Credit risk costs

Credit risk costs directly depend on the effectiveness of debt exaction from non-repaying graduates.

At the same time, the income of a certain proportion of graduates is expected never to exceed the minimum assessment base. The duty to repay therefore never arises for them and they repay the minimum statutory instalment of CZK 500 (EUR 20) a month until their statutory retirement. The costs incurred due to graduates only repaying the minimum statutory instalment given their insufficient income **are not** included in the credit risk costs.

In the commercial environment of an established financial institution, risk premium is stipulated based on financial statements from the previous period, i.e. based on the proportion of unexacted resources, which are written-off from the balance. These are loans in such a state of unexactibility that their exaction had been concluded in the previous accounting period.

Financing of the loan system for study-related costs shall be introduced without previous history and without the knowledge of the real volume of written-off loans. Since the exaction process shall defer the acquisition of funds, this delay needs to be taken into account. In order to determine the level of interest contribution to credit risk coverage (risk premium), the following has to be estimated:

- number of students deliberately avoiding loan repayment;
- volume of students unable to repay due to lack of funds or due to ‘excess indebtedness’;
- average credit exposure level at the point of default;

- average exaction effectiveness;
- average exaction duration;
- number of students that never repay the loan (e.g. death or those who will not repay until retirement).

The estimated parameters are described below.

It is not possible to model the system's real loss calculation in a simple and reliable way based on the proportion of students deliberately avoiding loan repayment or not repaying due to lack of funding or high indebtedness (i.e. who can file personal bankruptcy petition under the Insolvency Act). Therefore, the calculation presented in this study is simplified.

The credit exposure proportion that shall not be repaid is estimated from the written-off loan amounts of selected commercial banks. Only retail loans to mortgage-free households are considered (the characteristics of this sample are the closest to those of BSL holders).

Real loss in a particular accounting period is estimated based on the expected exaction effectiveness data. The time gap between the beginning of exaction and the reception of financial resources following exaction conclusion is not taken into account in the calculation. In the financial model, this income is not accounted for in the first 5 years following the beginning of repayment (10 years from study commencement).

The financial model calculations are based on the 2008 annual report data of several commercial banks in the Czech Republic. For illustration, we provide the publicly available data of Komerční banka, a.s. (a major commercial bank).

CZK million	2008	2007
Loans to customers (retail loans to mortgage-free households)	371 421	312 661
Bills of exchange	748	851
Forfaits	1 804	985
Other amounts due from customers	2 094	67
Total gross loans and advances to customers	376 067	314 564
Provisions ⁴ for loans to customers	-12 026	-9 623
Provisions for other amounts due from costumers	-1	-3
Total loans and advances to customers	364 040	304 938

Table 2 – Overview of selected retail loan exposure items from available KB, a.s. data (a Czech commercial bank)

The table shows that the 2008 provisions represent 3.2 % of customer loan total. With the expected exaction effectiveness of 55 %, the 2008 loss is 1.44 % of the total loan volume. The resulting value provides a rough idea on the risk premium to the final interest rate.

Exaction

⁴ Accounting term for „Allowances for uncollectible receivables“.

If the graduate fails to repay the BSL, the exaction process begins, consisting of two basic regimes:

- A. Timely exaction – contact with the debtor in case several instalments are due (by phone, reminder notices), instalments due are exacted;
- B. Late exaction – the entire unrepaid amount, including current interest and other fees (e.g. fines), is assigned for repayment and then exacted;

The effectiveness of exaction is closely linked to the body performing it. In option A, the state can perform both exaction regimes, using its bodies (e.g. TCA). In options B and C, the state shall only perform late exaction, whereas timely exaction shall be performed by the banks themselves.⁵⁾

The table below shows the overall effectiveness calculation for all financing options.

	Option A		Option B,C	
Total loans entering timely exaction		100		100
Effectiveness of timely exaction	5%	5	15 %	15
Total loans entering late exaction		95		85
Effectiveness of late exaction	75%	71,25 %	75 %	63,75 %
Overall exaction effectiveness		76,25%		78,75%

Table 3 – Overview of exaction effectiveness in different options

If fully performed by state administration bodies, the expected timely exaction effectiveness is 5%. Even if timely exaction is performed by TCA, commercial banks are more effective in these activities.

Timely exaction effectiveness is significantly higher in options B and C, as commercial institutions are well motivated and possess rich experience using a broad spectrum of tools to maximise exaction success rate. Moreover, commercial institutions are motivated for higher effectiveness and success rate because if they fail and collect state guarantees, their equity capital costs shall not be recovered.

The TCA infrastructure and apparatus can be used for late exaction in all options. Its exaction effectiveness reaches 78.8 %. Given such a high success rate, the risk premium contained in the BSL price (interest) would amount to 0.68 %. However, the threefold increase in default in 2009 needs to be considered. Therefore, the final risk premium level in option A is stipulated at 1.5 %.

⁵ This chapter is not included in the English version.

The cash flow financial model assumes the expected default level of 5 % and expected loss of 1.5 %. Using the following table, the average credit exposure at the point of default is calculated at CZK 188 900 (EUR 7300).

Unrepaid exposure (debt)	Probability	Weighted exposure (debt)
CZK 470 000	5%	CZK 23 500
CZK 350 000	10%	CZK 35 000
CZK 280 000	18%	CZK 50 400
CZK 200 000	26%	CZK 52 000
CZK 80 000	35%	CZK 28 000
Weighted average of unrepaid exposure (debt)		CZK 188 900

Table 4 –Unrepaid credit exposure level

The average exaction effectiveness is estimated based on recommended data by BIS (Bank for International Settlements) and the Basel II document for unsecured retail exposures. Basel II uses the 45 % parameter as the loss given default indicator i.e. 55 % exaction effectiveness. This indicator is very conservative. Compared to average debt holders, higher exaction effectiveness can be expected for graduates. We expect 75 % effectiveness for loan exaction using TCA, i.e. the book written-off loss at the end of exaction shall amount to 25 % of CZK 188 900 (EUR 7270), i.e. CZK 47 225 (EUR 1820) per average unrepaid exposure.

Exaction costs are included in total operating costs.

Credit risk cost level shall always be fixed for one year (i.e. will change annually) and shall be calculated based on the analysis of previous periods and the volume of paid guarantees (this activity shall be performed by the aid provision system administrator – e.g. the Centre).

Risk premium level determination: summary

Option A: Credit risk costs in this option are determined by the number of non-repaying graduates – debtors, who shall fall into the late exaction regime and for whom the state shall pay guarantees (by means of the CMZRB) to a commercial bank. Guarantees shall initially be financed from state resources (until sufficient resources are collected through repayment), e.g. by state bonds issue or an EIB loan. When sufficient funds are collected from student loan repayments, the state guarantees shall be covered in the form of credit risk costs coverage from this component of repayments. The estimated final risk premium level shall fluctuate around **1.5%**.

Option B: Credit risk costs shall be determined identically to option A. The determination of the volume of loans in default is independent from the means of financing. Option B assumes public resources to be used to cover risk costs in the initial phase. The sole difference in the resulting risk costs value shall be in the timely exaction effectiveness. Higher exaction effectiveness by commercial bodies is reflected in the lower total loss and the corresponding decrease of final interest contribution. The risk premium level is stipulated at **1.4%**.

Option C: Credit risk cost level shall be identical to option B, the resulting interest rate for the student shall, however, not include this premium, making this option significantly more

advantageous for the student. The costs related to guarantee payment (compared to option B) shall be covered by the state. This is another reason why option C is most demanding for the state budget in the long term.

2.4.1.4 Operating costs

Operating costs in all options consist of the following components:

- Loan verification and approval – due to loan versatility, the cost level shall be limited solely to the information whether the student meets the BSL granting requirements (electronic communication only);
- Standard administration – cost level dependent on provider;
- Debt exaction – cost level dependent on provider;
- Fixed and other variable costs (costs of implementation, costs of assets, write-offs, rent, etc.) – dependent on loan administrator.

To determine interest contribution for total operating costs, the above component is divided into two parts. The first part consists of staff costs (verification and approval, standard administration, paperwork, debt exaction), evaluated based on man/day requirements. The second part consists of fixed costs, i.e. write-offs and amortisation calculated for average number of loans in the system (the financial model assumes approx. 350 000 BSL at various stages of disbursement and repayment in full system operation).

To determine fixed costs, publicly available CSOB, a.s. data are used. CSOB has been selected to be the reference bank. It is a versatile bank, not narrowly specialised, i.e. suitable for the determination of average operating costs in the Czech Republic's banking sector. This institution reports retail banking amortisation and write-offs separately. Apart from write-offs and amortisation, fixed costs also include costs of asset management, IT administration and telecommunications.

Cost type (fixed + other variable)	CZK mill.	Proportion of total costs
Write-offs (1.2x)	416.4	10 %
1 % of write-offs	41.64	1 %
Fixed costs (1.2x)	2 998.08	60 %
Total	3 414.48	
Average number of loans in the system	430 000	
Interest premium per loan		0.794%

Table 5 – Interest premium per loan in option A (part of fixed and variable costs)

Based on the reference bank (CSOB, a.s.) data, the cost proportions can be set as follows:

- Write-offs and amortisation: 10 % total retail costs;
- Fixed costs: 60 % total operating costs.

The total interest premium value accounting for operating costs can be expected to be lower than in the table because this value is based on average costs calculated per one commercial bank loan. The universal student loans shall focus on a clearly defined client group; in the negotiations about the overall interest value, the state should insist that banks only include the marginal costs per new contract conclusion.

Given the conservative approach in this study, the higher expected value was preserved for the total BSL interest rate (price) calculation.

When calculating the total operating costs in individual options, we work with the following parameters:

Institution	Price per man/day of exaction			
State administration	CZK 8 000			
Banks	CZK 12 000			
Cost	Man/days	Option A	Option B	Option C
Loan verification and approval	0.5	CZK 4 000	CZK 6 000	CZK 6 000
Standard administration (paper work)	1	CZK 8 000	CZK 12 000	CZK 12 000
Debt exaction	$(2+20)*0.05^6$	CZK 8 800	CZK 9 200	CZK 9 200
Total staff costs for 15 year maturity		0.322%	0.422%	0.422%
Fixed + other variable costs		0.794%	0.565%	0.565%
Other operating costs related to loan provision system		0.182%	0.129%	0.129%
Interest premium – fixed and variable operating costs		1.298%	1.116%	1.116%

Table 6 – Calculation parameters for operating costs interest rate premium in all options

Since the student aid system and its overall operation need to be self-financing to ensure long term sustainability, the loan price (interest) must also contain system operation costs exceeding the operating costs of the loan provider/administrator (namely in options B and C). Therefore, the operating interest premium also includes a part serving to finance the aid provision system operation (e.g. in options B and C, this part serves to finance the Centre's (system administrator) operation).

Determination of the operating costs premium: summary

Option A: In option A, the overall operating costs shall be higher than in options B and C, as the state shall have to establish a new centre with an administration capable of directly providing loans to students and reviewing their financing, as well as operating a highly effective branch network with adequate infrastructure and websites for student loan application and administration. Another factor is that commercial banks can partly dissolve operating costs into other products they provide and they also use savings of scale from their activities.

Therefore, the CSOB write-offs and fixed costs used for the purposes of operating premium calculation have been increased by 20 % (see [Table 5](#)). Option A assumes the fixed costs to be covered from the total portfolio of students disbursing BSL, but these costs will not be further

⁶ Assumptions: timely exaction by state administration (2 days), options B and C bank staff (2 days), late exaction: all options state administration (20 days), default probability 5%.

allocated to other financial products, unlike in commercial banks. On the other hand, it needs to be stated that a state body can be capable of contractually utilising long term contracts and provide for less costly operation.

Due to the reasons above, the interest operating premium is deduced from the assumption that the option A fixed operating costs of the body providing support to all students shall be 1.2 higher than the fixed administrative costs of the selected reference bank CSOB, a.s.

Option B and C: The loans shall be divided among several banks currently providing loans, therefore, these commercial bodies will not have to significantly increase assets and equipment investment related to the potential increase in their activities. Therefore, the relative burden of the final BSL interest rate due to the fixed and variable cost contribution shall be lower than in option A.

The banks can be expected to strive to push the operating costs related to BSL provision to the lowest possible level, also using the current equipment and infrastructure. In the area of loan administration – namely standard administration and ongoing review and administrative activities – the banks shall be able to incur lower operating costs than a state body newly performing these activities (even if probably through CMZRB). Due to the use of the existing facilities, the costs for timely exaction of unrepaid instalments shall also be lower in the banking institutions.

For both options with commercial banks' active involvement, we assume the overall operating cost level for operating coverage of 1.1 %.

2.5 Option A – resources provided from public sources

Option A assumes a one-off (or ongoing for a limited period) capital input into the system from public resources, more precisely from the state budget (to establish a kind of a pay-as-you go loan system). In the first year, the state budget (probably the MoEYS chapter) would also be increased by a predefined amount needed to perform activities related to launching the system.

To decrease the one-off burden for the state budget, the necessary financial resources planned for BSL provision and the system's operation can be gradually released as necessary over several years in a row.

In this chapter, we only look at the financing model, also because the resulting operational solution framework is not crucial in this option, as public funds can be provided from the increased MoEYS budget as well as a state institution (Centre) input and financing.

Capital needs:

Capital needs represent the funding the student loans will be paid from. The state can obtain the capital in the form of:

- A loan from a suitable bank (e.g. European Investment Bank);
- Issue of state bonds;

- Funding from general state budget revenues;
- Funding from ad-hoc privatisation revenues of the state budget.

Realistically, only the first two sources can be considered. Funds of this kind shall only serve to cover capital needs. This capital shall provide for all student loans and guarantees for loans in default.

The basic fundamental difference between options A and C is the fact that in option A, the price of the final credit product covers risk costs, whereas in option C, the state partially or totally covers this premium from other sources (taxes). This brings the entire system into long-term loss.

Operating costs:

Operating costs always depend on the number of newly established institutions in the operational solution and the complexity of the regulatory framework implementation. These costs are related to the establishment of the Centre that shall stipulate rules, limits etc. and ensure the control of their observance. Further, they include costs related to the CMZRB operation (probably determined as a service fee) and other regulatory framework institutions.

In the option A initial phase, operating costs shall be fully funded from state resources and shall fully cover all operating costs related to the regulatory framework administration and control and monetary resources distribution until the point when the system starts generating sufficient resources from the operating premium contained in the loan price.

The operations performed by the Centre include a relatively accurate estimate of capital needs for the following year and a regular issue of bonds.

Exaction-related costs:

In this option, the state shall ensure timely as well as late exaction.

Exaction costs are included in operating costs related to the exaction agenda implementation.

Transaction costs:

The basic prerequisite for transaction cost minimisation is the distribution of monetary resources for BSL from the MoEYS or CMZRB's account at the Czech National Bank to collection accounts⁷ in individual commercial banks. To establish the reporting framework for exaction agenda monitoring shall be very costly from the operational point of view. The amount of these costs shall again differ according to the operational solution.

Financial model description – option A:

At the 7.3 % interest rate, an average student repays the loan in 17 years. The state issues 20-year bonds annually to satisfy the loan demand. The capital need is about CZK 650 million

⁷ Collection account is a special type of account allowing transfer of larger amounts for all students served by a particular bank, instead of transferring items for each student.

(EUR 25 mill.) for the first year, CZK 1.3 billion (EUR 50 mill.) for the following year, and approx. CZK 4.2 billion (EUR 161 mill.) a year after five years (16 thousand students in each of the five study years apply for CZK 54 thousand (EUR 2100).

The state needs to pay interest from these bonds of about CZK 3.6 billion per year in the full system operation (pays for the entire bond volume, i.e. always the 4.5 % coupon, i.e. 20 years x CZK 4 billion x 4.5 %).

In the introductory years, when the system does not generate revenues yet, the interest coupon costs have to be covered from capital obtained by the issue of additional bonds. According to the financial model, this capital need shall amount to CZK 4 billion. To obtain these CZK 4 billion, 15-year bonds can be issued because after 15 years, the system shall contain enough money to pay these interests, also because the principal of the 20-year bonds issued to cover loan provision needs shall not be repaid yet (to cover these costs using privatisation income would be cheaper, generating savings of approx. CZK 2.7 billion for the system).

Chart 5 shows cash flows. The blue pyramids represent the considerable capital surplus accumulated prior to the commencement of the 20-year bond principal repayment. This capital also serves to repay the 15-year bonds used to finance interest in the initial phase (total of 4 billion payable in the 15th and 16th year of the system's operation). The capital surplus needs to be managed actively so that the potential revenue might help finance the student aid system operation.

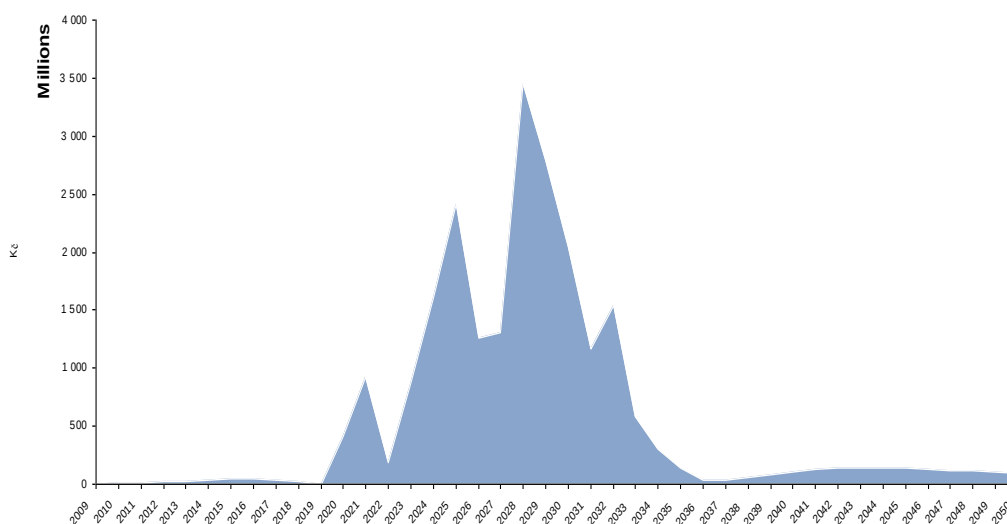


Chart 5 – Cash flow in capital needs financing in option A

Summary of basic advantages and disadvantages of option A:

Main advantages	Main disadvantages
Relatively simple setup of information systems during implementation.	Issue of securities (bonds) demanding as for time and administration.
System is more transparent for the end user - student.	Higher operating costs and costs of payments.
Limited potential negative impact of the banks.	Lower use of the existing payment and administrative infrastructure.
It is not necessary to refund commercial bank expenditures.	Higher initial costs, including more complex accessibility of necessary funding.

Table 7 – Advantages and disadvantages of option A

2.6 Option B – resources provided from private sources

Apart from involving private sources, this option expects the state to provide support in the form of financing of the initial system establishment, e.g. the establishment of an integrated information system to provide complete information and data from the tertiary education sector.

In this initial phase, the state guarantees for non-repaying graduates will have to be financed as well, however, this need will only apply until the system becomes self-financed, as the non-repayment risk shall be calculated into the loan price.

The loan provision rules for commercial banks shall also be stipulated in this phase: the so-called universal loan (BSL) with a given calculation, the loan price (interest) ceiling, and loan repayment criteria shall be established.

Capital needs:

- Commercial banks can always use their parent company capital at a cheaper price than e.g. the ten-year SWAP interest rate. This is primarily because the relationship between a commercial bank and its parent does function on the basis of external acquisition of necessary capital (from the parent bank resources), but on better than market terms.
- Commercial banks may also use deposit resources.

Capital needs financing is very likely to be cheaper in option B than in option A. Guarantees for unrepaid loans will have to be provided by a banking licence holder, i.e. the CMZRB. The resources for guarantees shall differ in the initial phase and in the phase when unrepaid loans will be covered from collected payments. During the initial phase, the state budget shall be the most efficient source to cover these guarantees (losses).

As the greatest volume of capital needs shall be covered from private bank resources, this option is the least demanding for capital from state resources. State resources will finance operating costs and risk in the initial phase.

Operating costs:

Option B operating costs shall be higher compared to option A. A reporting system will have to be established between commercial banks and the state for regular monthly monitoring of state risk exposures due to guarantees for unrepaid loans. On the whole, however, guarantees shall be lower compared to option A due to higher effectiveness of private sector operation.

The volume of operating costs shall include costs related to the operation of regulatory framework institutions, excluding operating costs of the banks' credit product administration. These costs shall form part of the final credit product price (part of the operating premium), shall be collected by the banks and then resent to the Centre.

Exaction-related costs:

These costs are included in the operating costs related to the exaction agenda implementation. We presume costs per bank official in the regime of timely exaction and costs per state official (or an employee of the state institution managing the system, i.e. the Centre) in the phase of late exaction, who will investigate the debtor's financial situation.

In this option, then, the commercial bank shall provide for timely exaction and the state shall provide for late exaction. Criteria for transition from timely to late exaction have to be strictly set and negotiated in the phase of state guarantee provision.

Financial model description – option B:

The initial financial model assumptions are identical to option A, with the sole difference in the setting of costs of capital needs (for ongoing BSL financing), which is provided by commercial banks in this option. The expected capital needs financing costs level in option B amounts to 2.5 %.

At the interest rate of 6.8 % (loan interest), an average student repays the loan in 16 years. The state (state body – e.g. the Centre) determines (in agreement with commercial banks) state-guaranteed BSL interest rate ceilings, based on the information on repayment discipline and the value of money (in the first years, this information is replaced by expert estimate).

The bank borrows the money to cover the loan demand at the money or inter-bank market (e.g. parent company). The total capital needs remain identical to option A (i.e. the expected number and financial volume of BSL provided).

In this option, the state only guarantees all unrepaid loans by those graduates, who fall into the late exaction system. To ensure the system's operation, a good quality information system needs to be established as well as a detailed reporting framework.

The financial model data show that the commercial bank begins to send part of the income collected from operating and risk premium to the system administrator (the so-called transfer of cash flows to the Centre) only in the sixth year of system operation. Until that time, the state has to cover operating and default costs from other resources (e.g. privatisation income, bond issue or EIB loan). The financial model expects costs for this period of about CZK 100 million / EUR 3.85 mill. (including the initial investment into system launch).

The chart of state cash flows in option B shows slight capital surplus that may arise due to the collected risk premium. The risk premium should be able to cover the needs during the so-called crisis periods. Therefore, the system is in surplus in this case (the model does not reflect economic development). In the tenth year, there is a swing caused by the repayment of the principal of the bonds issued to finance the above-mentioned costs (of approx. CZK 100 million) in the system's initial loss-incurring period.

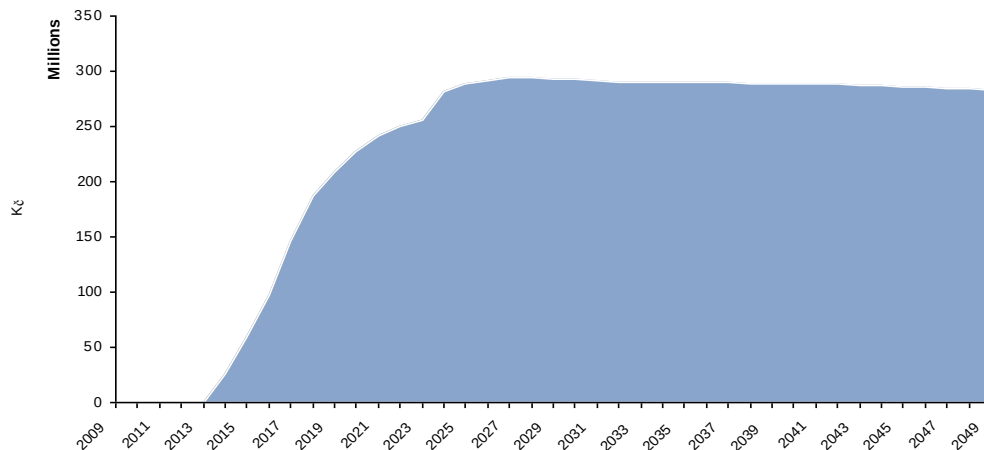


Chart 6 – Cash flows in system operation financing in option B

Summary of basic advantages and disadvantages of option B:

Main advantages	Main disadvantages
State does not provide financial resources to cover capital needs. State budget is not burdened.	More complex supervision over loan repayment by student / graduate.
More significant use of existing payment and administrative infrastructure with operating cost savings.	Banks may have the tendency to transfer costs and risks to the state.
Lower initial costs.	More complex setup of information systems during implementation.
Self-financed operating costs and risk costs in the long term.	The system is less transparent for the end user - student.
Better availability of necessary funding.	Necessity of deeper intervention to protect personal data.

Table 8 – Advantages and disadvantages of option B

2.7 **Option C – resources provided from public and private sources**

In option C, the student loan volume is presumed to be financed from bank capital, while state resources are used to finance guarantees for unrepaid loans for the entire period of system operation (i.e. the risk premium is not included in the product price).

Capital needs:

Costs of financing capital needs in option C are lower than in option A, thanks to the use of private bank resources to cover student loans provided. However, since state resources also cover risk costs - partly or completely, in the long term, option C is more costly than option B.

The fact that only option C includes costs in the form of risk cost financing, for which the system as such is not creating resources in the long term (without further interest rate increase, which would contradict the reasons for the existence of this option), means that the entire system is incurring debt in the long run (unlike option B, where risk costs gradually become self-financed).

Operating costs:

Operating costs in option C are identical with option B. The major difference is in the amount of administrative costs which translates to the final price (interest) of the BSL.

Given that the state is interested in the lowest possible interest rate (as it finances all guarantees – the risk premium), it will also be interested in determining the maximum final interest rate level that includes the coverage of the system's operating costs. This operating costs level reflected in the credit product price shall be regulated by the administrator of the tertiary education student financial aid provision system (the Centre).

Exaction-related costs:

These costs are included in operating costs related to the exaction agenda. We expect a certain number of working days of a state / bank official who shall investigate the non-payer's financial situation.

In this option, the commercial bank provides for timely exaction, while the state provides for late exaction.

Operating as well as exaction-related costs in this option are identical with option B.

Financial model description – option C:

The initial assumptions are identical with option B.

Option C differs from option B only in the student not paying risk costs (risk premium) as part of their interest rate. Therefore, the loan is significantly cheaper for him/her and the repayment period is shorter than in options A and B.

However, the state incurs large long term loss in option C. The final amount of guarantees and the unrepaid loans to be covered by the state make the system financially dependent on state budget financing (financial flows are negative for the entire period of system operation). The swing shown in the chart is caused by the delay in unrepaid loan exaction compared to

guarantee payments to commercial banks. The average state costs in the form of financing unrepaid loan guarantees amount to 200 million per year.

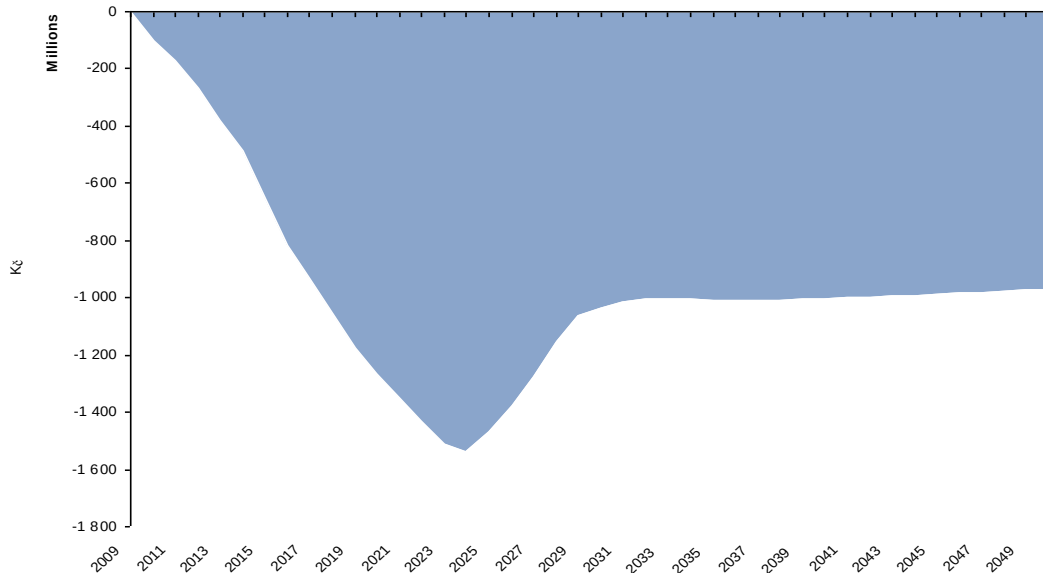


Chart 7 – Cash flows in system operation financing in option C

Summary of basic advantages and disadvantages of option C:

Main advantages	Main disadvantages
State does not need to provide funding to finance the BSL provided. More significant use of existing payment and administrative infrastructure with operating cost savings. Lower initial costs. Better availability of necessary funding.	System incurs loss in the long term. More complex supervision over loan repayment by student/graduate. Need of more consistent supervision by MF and CNB. More complex setting of information systems during implementation. The system is less transparent for the end user - student. State bears the costs of unrepaid loan exaction and the guarantees provision costs.

Table 9 – Advantages and disadvantages of option C

Comparison of 2009 – 2050 data from the point of view of the state and the banks is included in the following table (optimistic option):

The assumed initial parameters of the financial model are as follows (annual):

- Average number of students in the Czech Republic: 320 000;
- Average number of entitled new students: 78 504;
- Average proportion of students who take a loan: 20 %;
- Average student loan amount per year: **CZK 30 000 (EUR 1170)**;
- Loan disbursement period: 5 years.

Optimistic scenario	A	B	C
Return on resources for the state (turning point) *	7 years	6 years	never – burden to state budget
Interest rate for student	7.30%	6.83%	5.42%
Value of bonds issued by the state at system introduction [CZK]	2.9 billion	100 million	from state budget
Total state bonds issued as of the 16th year from system introduction. [CZK]	35 billion	100 million	from state budget
Operating costs (state and banks)	1.30%	1.12%	1.12%
Initial state investment into IS, distribution, operation [CZK]	200 million	30 million	30 million
Average annual state operating costs [CZK]	80 million	20 million	18 million
No of years to repay initial state investment	15th year	10th year	never
No of years when state starts repaying the principal	20th year	only bank	never
Average annual savings incentive premium state contribution [CZK]	-	-	160 million
Total state costs during first 20 years **	0	0	CZK 5 billion - directly into state deficit
Impact of country rating change on price of money	high	low	medium
Cost sensitivity to interest rate change	high	medium	medium
Total amount paid by student [CZK]	229 261	221 973	202 840
Total interest paid by student [CZK]	79 261	71 973	52 840
Total capital price paid by student [CZK]	46 695	45 332	41 867
Total risk premium paid by student [CZK]	20 339	14 770	0
Total operating costs paid by student [CZK]	12 227	11 871	10 963
No of years for student to repay the loan	12	12	11
Short term exaction performed by	state	bank	bank
Long term exaction performed by	state	state	state

Table 10 – Comparison of major indicators for individual options in optimistic financial model

* costs of IS development and administration during initial years when no graduates are repaying

** costs paid by graduates as a part of the interest rate – part of the operational premium is transferred from banks to state. In option C, costs include guarantee payment.

3 Regulatory framework system arrangement options (operational solution and financing model combined)

[Table 11](#) includes basic combinations of operational model and financing options.

Operational model	Option 1 MoEYS: steering and admin. body, CMZRB: fin. flow admin.	Option 2 MoEYS, Centre and CMZRB manage individual areas	Option 3 Centre: steering and admin. body for the entire system
Financing model			
Option A Public resources	1-A	2-A	3-A
Option B Private resources with state support	1-B	2-B	3-B
Option C Private resources with state guarantees and subsidies	1-C	2-C	3-C

Table 11 –List and brief description of optional tertiary education financing system arrangements

The options are described in individual sections of the student aid financing system operation (the ongoing student aid financing and BSL repayment sections).

Option descriptions are based on the assignment of individual bodies to perform specific activities, their relations to other bodies, and the terms of performance of the given activities. The descriptions also include a summary of basic differences among options.

Each chapter is introduced by an overview table showing the characteristics of activities and stakeholders, and the assignment of activities to specific bodies in individual options.

3.1 Ongoing student aid financing (BSL provision)

Options of ongoing student aid financing differ as to the scope of the individual stakeholders' activities in the operational model as well as to the source of BSL financing.

From the stakeholder point of view, this section involves:

- Ministry of Education, Youth and Sports (**MoEYS**);
- Student Aid Financing Administration Centre (**Centre**);
- Czech-Moravian Guarantee and Development Bank (**CMZRB**);
- Tertiary education institutions (**TEIs**);
- **Student**;
- **Commercial banks**.

3.1.1 Operational model

As to the ongoing financing of tertiary education student aid in the form of basic student loan (BSL) for living costs, the operational model can vary not only from the point of view of organisational structure but also depending on the resources used for financing.

The options mainly differ:

- in terms of system management and administration:
 - who is responsible for the system's operation;
 - who administers the entire system;
 - who ensures and manages financial flows.
- in terms of sources of funding:
 - funding from the state budget (public resources);
 - funding provided by commercial banks (private resources).

The first column of [Table 12](#) contains the basic activity areas (processes) related to ongoing financing (in this case, these are processes in an already established and operating system). Further columns include activities and process owners - the bodies that perform them and bear overall responsibility for their performance.

Ministry of Education, Youth and Sports
Final report – abbreviated version
Feasibility study of the regulatory framework for tertiary
education student financial aid system (organisational, process
and economic study)
25 January 2010

NR.	Activities	Operational model	Option 1			Option 2			Option 3		
		Financing model	A	B	C	A	B	C	A	B	C
1.	Specific BSL parameter determination (tuition fee / living cost loans)			S t a t e			S t a t e			S t a t e	
2.	Regulation of eligible operating and transaction costs that the commercial banks reflect into the final student loan price (interest)	x		M o E Y S		x		C e n t r e	x		C e n t r e
3.	Assets and liabilities management	CMZRB		B a n k s		CMZRB		B a n k s	Centre		B a n k s
4.	Student account establishment			S t u d e n t				S t u d e n t			S t u d e n t
5.	Application for basic student loan			S t u d e n t				S t u d e n t			S t u d e n t
6.	Verification of loan provision terms			M o E Y S				C e n t r e			C e n t r e
7.	Guarantees for the student (for BLS provided)			C M Z R B				C M Z R B			C e n t r e
8.	Transfer of resources to student account (or payment of deposit for the deferred TEI tuition fee)	CMZRB		B a n k s		CMZRB		B a n k s	Centre		B a n k s
9.	Information system administration			M o E Y S				C e n t r e			C e n t r e

Table 12 – Division of activities among bodies in the section of ongoing tertiary education student aid financing (BSL provision)

3.1.2 Ongoing student aid financing: optional solutions description

The ongoing student aid financing section deals primarily with the administrative and operational model of the system's expenditure for BSL provision.

The main difference among options is the organisational arrangement of the system's 'steering body'. In options 1-A, 1-B, 1-C, it is the MoEYS (a department within MoEYS or an already operating contributory organisation – e.g. Institute for information on education / Centre for education performance investigation), in other options, steering activities would be carried out by the Centre as a newly established independent body.

Another difference pertains to the BSL guarantees provided within the system. These guarantees cover the potential unrepaid loans. Whereas options using public resources (options 1-A, 2-A, 3-A) do not deal with guarantee provision because the BSL are provided by the same body that collects (or exacts) instalments later, options using private resources for BSL provision (options 1-B to 3-B and 1-C to 3-C) require guarantee provision to be introduced.

Provision of guarantees to private bodies is ensured either by the Centre's own structure (options 3-B and 3-C) or with the assistance of the CMZRB (coordinator of financial flows in the system) in options 1-B, 1-C and 2-B and 2-C.

The state's role in guarantee provision is most important in options 1-C to 3-C. Whereas options 1-A to 3-A and 1-B to 3-B count on gradual self-financing of guarantee provision (thanks to the risk premium included in the loan interest rate) and the consequent gradual decrease of demand for guarantee provision and the gradual decrease of resources designated for default financing, in options 1-C to 3-C, these guarantee sources are provided and permanently financed directly from state budget resources (the Centre / CMZRB, as the debt administrator, therefore, does not actively manage these resources. It only calculates the expected state budget requirements to be covered annually, based on financial models).

The role of the information system (IS) is very important in all options. It serves as a communication channel among all operational model bodies. The IS is more complex and demanding in options 1-B to 3-C, where commercial banks enter the operational model actively and a commercial relationship is therefore formed between the student, applying for BSL directly with the commercial bank, and the MoEYS or the Centre, which grants the loan following entitlement verification. From this process point of view, commercial banks also have to be actively connected to the IS.

3.2 Repayment of BSL provided

The BSL repayment system is divided into two basic process lines: **regular loan repayment** and **exaction** of unrepaid BSL debt.

From the stakeholder point of view, the following bodies are involved in the BSL repayment system:

- Ministry of Education, Youth and Sports (**MoEYS**);
- Ministry of Finance by means of Tax Collection Administration (**MF / TCA**);
- Czech Social Security Administration (**CSSA**);
- Student Aid Financing Administration Centre (**Centre**);
- Czech-Moravian Guarantee and Development Bank (**CMZRB**);
- Tertiary education institutions (**TEIs**);
- **Graduate**;
- **Commercial banks**.

3.2.1 Operational model

Operational model for the repayment of student aid provided in the form of basic student loans for living costs varies from the point of view of the organisational arrangement of activities performed as well as in dependence on the selected environment for unrepaid BSL debt exaction.

The options mainly differ:

- in terms of system management and organisational arrangement:
 - who is responsible for the system's operation;
 - who prepares repayment plans;
 - to whom the instalments are sent (or who initiates potential exaction).
- from the point of view of establishing relationships among bodies:
 - private-law relationship (are prepared by private bodies – possible only in options B and C);
 - public-law relationship (repayment and especially exaction plans are prepared by public bodies – possible in all options).

Other general starting points include:

- a graduate generating income other than from regular employment is obliged to submit tax return individually to TCA (repayment plan is calculated based on the unadjusted tax base);

- a graduate employed by single employer without other taxable incomes is not submitting any tax return to TCA because taxes and social security contributions are deducted by the employer, therefore, the repayment plan is calculated based on the assessment base provided by the employer to the CSSA (already exists in the system);
- using IS, the Centre (or MoEYS) receives tax base and assessment base information from the relevant TCA or the CSSA. The higher base value is used for repayment plan calculation (in case the graduate is not registered in either system - e.g. the unemployed, renters - the minimum instalment is prescribed);
- the system does not take into account possible tax corrections prescribed later than in the year of tax return submission;
- the graduate repays at least the minimum instalment for the entire period (i.e. also self-employed graduates with zero tax base);
- banks (in options with their active involvement – B and C) are informed about the instalment value (electronically). Based on this information, they prepare an annual repayment plan, which they send to the graduate (e.g. together with the annual statement). If necessary, the graduate may object to the stipulated instalment amount with the bank (the bank then verifies the calculation accuracy together with the Centre and admits the objection or not);
- statutory instalment is the minimum amount the graduate is obliged to repay. The system allows the graduate to repay more and to complete the BSL debt repayment earlier;
- banks are willing to collect loan instalments in an income-contingent manner.

These general starting points are based on the requirement of the entire repayment system simplification. The following process steps already include these points.

The main **advantages** of the above-mentioned starting points include:

- lower burden for bodies involved, if the existing systems and processes are used (tax returns, CSSA assessment base);
- commercial banks will have access to information from the IS about the assessment base for repayment plan calculation purposes, i.e. other sensitive data shall not be included herein (e.g. income level), higher compliance with the data protection legislation;
- until potential loan debt exaction by the TCA, the entire system shall be based on the commercial relationship between the graduate and the bank (or Centre), state bodies will therefore not be significantly burdened;
- the accuracy of documents for repayment plan calculation (tax base, assessment bases) will have been verified by the TCA or CSSA.

The main **disadvantages** include:

- higher IS demands in all bodies involved (generating batch graduate lists with required data);
- the system does not take into account potential tax or assessment base corrections prescribed after the year of the tax return submission.

Column one in [Table 13](#) lists basic activity areas (processes) related to the repayment of BSL provided. In other columns, bodies are assigned to activities for which they are responsible and which they perform (i.e. they are the process owners).

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NR.	Activities	Operational model	Option 1			Option 2			Option 3		
		Financing model	A	B	C	A	B	C	A	B	C
	Regular BSL repayment										
1.	Information on study completion			TEI			TEI			TEI	
2.	Loan repayment plan	MoEYS		Banks		Centre	Banks		Centre	Banks	
3.	Loan repayment			Graduate			Graduate			Graduate	
4.	Transfer of outstanding part of deferred tuition fee	MoEYS		Banks		CMZRB	Banks		Centre	Banks	
	Exaction of unrepaid BSL										
5.	Unrepaid instalment records	CMZRB		Banks		CMZRB	Banks		Centre	Banks	
6.	Outstanding debt exaction (prior to guarantee use - timely exaction)	CMZRB		Banks		CMZRB	Banks		Centre	Banks	
7.	Performance of state guarantees; or transfer of financial provisions from risk premium into the system			C M Z R B			C M Z R B			Centre	
8.	Outstanding debt exaction (after guarantee use - late exaction)			CMZRB / MF - DS			CMZRB / MF - DS			Centre / MF - DS	
9.	Unrepaid debt amortisation			MoEYS			Centre			Centre	

Table 13 –Division of activities among bodies in the section of due repayment of BSL provided

3.2.2 Repayment of BSL: description of options

BSL repayment by the graduate is crucial for the functioning of the entire system and represents the so-called system's income side.

The operational model of BSL repayment can be divided into two parts – regular repayment and exaction of unrepaid debt. The exaction is further divided into timely and late exaction. The difference between timely and late exaction is that in timely exaction, only unrepaid instalments are exacted, whereas in late exaction, the entire amount of the debt is subject to exaction, including the current interest rate, exaction costs, and the potential contractual penalties and fines.

The main difference in the BSL repayment section lies in the body receiving the money collected.

In case of regular repayment on the part of the graduate, it is the body that issued the BSL (MoEYS in option 1-A, the Centre in options 2-A and 3-A, or the commercial bank in options 1-B to 3-C). Based on the repayment plan, the graduate repays the amount determined beforehand. The regular repayment system assumes graduate's active participation.

Timely exaction is performed by the bodies collecting regular repayments. Timely exaction is performed in a short period after repayment plan due dates (in the order of several months at the most) and its main aim is to maintain contact with the graduate, to resolve technical and simple problems of repayment omissions, to renew the graduate – debtor's payment duty as fast as possible. In options 1-B to 3-C, timely exaction is performed by the commercial bank that provided the BSL. In options 1-A and 2-A, this activity is performed by the CMZRB, as the financial resources administrator, and in option 3-A by the Centre itself.

Unsuccessful timely exaction is followed by late exaction. When the graduate fails to meet a previously determined repayment obligation, the entire loan debt is prescribed for lump-sum repayment and later for exaction. Operationally, this step is performed based on the manner of guarantee provision. In options 1-B to 3-B, guarantees in terms of monetary repayment are provided to commercial banks, which are then no longer part of the system and late exaction is performed either directly by the CMZRB (or the Centre in options 3-B and 3-C), independently or with the assistance of the TCA.

In option 3-A, late exaction is performed by the Centre, in options 1-A and 2-A by the CMZRB. In these options, the bodies can perform exaction independently or may also use the state structures and TCA services.

3.3 Regulatory framework options evaluation

The options were scored according to a set of evaluation criteria. The table below only includes evaluation criteria groups (which contain subgroups). Only subgroups were scored and the scores for evaluation criteria groups were calculated as the mean of subgroup scores.

Individual options were scored based on their relationship to the criteria: the best complying option (i.e. least demanding implementation) acquired the highest score and vice versa. An option scored 3 in case it was neutral vis a vis the evaluation criterion.

The resulting suitability scores for individual options are stated in the last row (total). Green circles mark the three best-scoring options. The long term perspective was substantial for evaluation as it is more important from the system operation point of view. In case scores were identical from the long term perspective, short term suitability was taken into account.

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3.3.1 Scorecard

Critical success factors (CSF)		Weight	1-A		2-A		3-A		1-B		2-B		3-B		1-C		2-C		3-C	
Area	Parameter		ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT	ST	LT
Technical																				
implementation complexity		20,0%	3,25	3,00	2,50	3,00	2,00	3,00	4,00	3,00	3,25	3,00	2,00	3,00	3,25	3,00	2,50	3,00	1,50	3,00
	information system implementation		5	3	4	3	4	3	3	3	2	3	1	3	2	3	1	3	1	3
	time required to launch option		3	3	2	3	1	3	5	3	4	3	2	3	4	3	3	3	1	3
	need to establish new institutions		3	3	2	3	2	3	3	3	2	3	2	3	3	3	2	3	2	3
	use of existing payment and administrative infrastructure		2	3	2	3	1	3	5	3	5	3	3	3	4	3	4	3	2	3
operational intensity		20,0%	4,50	3,50	4,00	3,00	3,00	2,50	2,50	3,50	2,00	3,00	1,75	2,50	2,50	3,50	2,00	3,00	1,75	2,50
	information system administration		5	3	5	3	5	3	2	4	2	4	2	4	2	4	2	4	2	4
	system transparency		4	5	3	4	2	3	2	3	1	2	1	2	2	3	1	2	1	2
	administrative intensity		4	2	5	3	1	1	2	4	3	5	1	2	2	4	3	5	1	2
	control centralisation		5	4	3	2	4	3	4	3	2	1	3	2	4	3	2	1	3	2
Economic																				
financial intensity		40,0%	1,80	2,20	2,00	2,60	2,00	2,40	3,80	3,60	3,60	3,60	3,80	3,60	3,40	3,20	3,20	3,00	3,40	3,20
	initial capital costs		1	3	1	3	1	3	4	3	4	3	4	3	4	3	4	3	4	3
	initial costs availability		3	3	3	3	3	3	5	3	5	3	5	3	4	3	4	3	4	3
	operating costs		1	1	2	2	2	3	4	5	3	4	4	5	4	5	3	4	4	5
	financial intensity of payments		3	2	3	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4
	financial intensity for public finance		1	2	1	3	1	1	2	3	2	4	2	3	1	1	1	1	1	1
Regulatory																				
legal complexity		5,0%	3,00	3,00	2,00	3,00	1,00	3,00	4,00	3,00	3,00	3,00	1,00	3,00	3,00	3,00	2,00	3,00	1,00	3,00
	legal complexity		3	3	2	3	1	3	4	3	3	3	1	3	3	3	2	3	1	3
Strategic																				
probability of fulfillment of maximum number of defined objectives		5,0%	3,00	4,00	3,00	4,00	2,00	4,00	4,00	4,00	4,00	4,00	3,00	4,00	4,00	4,00	4,00	4,00	3,00	4,00
	probability of fulfillment of maximum number of defined objectives		3	4	3	4	2	4	4	4	4	4	3	4	4	4	4	4	3	4
total		90,0%	2,57	2,53	2,35	2,59	1,95	2,41	3,20	3,09	2,84	2,99	2,40	2,89	2,80	2,93	2,48	2,75	2,21	2,73

Table 14 – Evaluation of student aid provision system operation options

Key: LT – Long term; ST – short term;
 Note: The higher score the better evaluation

Scores: 1 – very low; 2 – low; 3 – neutral; 4 – high; 5 – very high

4 Themes for discussion

Issues to be consulted with international partners:

1. Which of the options A-A, A-2, ..., C-3 corresponds most closely to the system in your country?
2. Do you find the parameters presupposed and estimated (costs, etc.) in our study realistic and if not, why?
3. Why did you implement a different system from the ones our study identified as the most promising (1-B, 2-B, 1-C)? Is it: (i) because the functioning and background of commercial banks is different, (ii) because the functioning and background of tax and mandatory social security systems are different (iii) due to inadequately estimated parameters in our study, (iv) due to political barriers to implement more suitable options in your country?
4. What are the financing principles of the loan provision system implementation in Hungary? In particular, what are the basic steps to acquire the necessary capital (why was the selected manner chosen)?
5. Has EIB used for funding? If so, on what terms?
6. What are the main arguments against using private capital in Hungary (financing provided directly by commercial banks from their own capital)? What are the main obstacles to active involvement of commercial banks into the system? Why did the negotiations with the banks fail?
7. Who manages financial resources of the Student Loan Centre (own or outsourced financial expertise)? More detailed description of the current Student Loan Centre capital needs financing?
8. Operating costs in the first two years were financed by the state – in what way? How were operating costs financed in the following years, i.e. until the point when financial resources started to be collected from the operating premium to the loan price (interest rate)?
9. Basic principles of the cooperation in repayment collection between tax administration bodies and the Student Loan Centre? Do these bodies receive a fee for their activities?
10. What is the proportion of unrepaid loans? How effective is the exaction process?
11. Is there a more substantial problem with debtors disappearing abroad?
12. Is there any serious problem due to EU Citizens claiming publicly provided/guaranteed student loans?
13. What other notable problems (expected and unexpected) appeared during the system's implementation or operation?