A Systematic Literature Review of Education Financing Model in Indonesian School

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ABSTRACT
Financing school education is one of the issues faced by many countries, this is related to inclusive education, namely education for all people. This article was written to review three financial journals in schools, the evaluation of this article aims to identify the strengths and weaknesses contained in these three articles. The results of the three journals show that there must be an active role for the government in implementing loan schemes for students and support to schools so that the number of education participation can increase significantly.

INTRODUCTION
Educational institutions as an important means of shaping future humans in their operations cannot be separated from the element of financing. Each country has a different perspective on the function of educational institutions. The consequence is that the allocation of the education budget varies. The higher the level of awareness of State officials on the interests of educational institutions, the higher the determination of the education budget in their policies, and vice versa (State officials’ awareness of the interests of education has a positive relationship with the amount of the world education budget). The sources of education financing can be categorized into two categories, namely government financing and community financing. Government parties can also be grouped into central government and local government. As for the community, it can be classified as the general public and the parents of students. Given that there are various parties that must be involved in providing funding for education, it is necessary to pay attention to the element of clarity / acuteness in its distribution.

According to Asbari [2019], the implementation of quality education cannot be separated from the element of financing. It is easy to accept that quality education requires a lot of financial support. The education budgeting system is one of the issues in education in Indonesia, both in terms of calculation procedures and distribution mechanisms. Participatory financing mechanisms allow schools to obtain additional sources of financing from economically well-off parents. According to Hyun [2019], this indirectly results in an increase in the source of funds for schools which is directly proportional to the quality of the school. Quality schools are generally inhabited by students with parents who are capable or rich. Meanwhile, the parents of students who are less well-off economically cannot afford to send their children to quality schools which are generally expensive. The choice for parents of students who are less well-off economically is a school with minimal quality services at low cost of education.

In various levels of life, education has a very strategic role. Education provides many opportunities to improve the standard or quality of life. With good education, a person’s rich human potential can continue to be developed. At the social level, education can lead to the achievement of desired goals and a more established social stratum. Accumulatively, education can make a society more civilized. Thus, education, in a broad sense, plays a very important role in the process of transforming a person and society. In order to produce the expected human resources, it is impossible to happen naturally in the sense that it is not without effort and sacrifice. The quality of the expected output is greatly influenced by the amount of effort and sacrifice given. The higher the demand for quality, will have an impact on the types and sacrifices that must be given up. Education financing (financing of education) is one of the important issues in education development in almost all countries in the world. Developing countries generally spend their funds on education relatively lower than developed countries. The low cost of education in developing countries compared to developed countries is not only in terms of percentage but also nominal. The low cost of education in developing countries has become a public discourse that always wants to find a way out, but due to the complexity and complexity of this problem, efforts to resolve this problem are incomplete. In the Indonesian context, most of the education funding in state schools is directed more towards administration and teaching staff. Meanwhile, operational and maintenance activities are still very limited. Moreover, academic development activities in order to find more effective learning patterns are still not being reached.
According to Elmira & Suryadarma (2019), testing the feasibility of a contingent loan system from income to finance higher education in Indonesia. Using graduate income data obtained from the 2015 National Labor Force Survey, we model the lifecycle income distribution of university graduates and use quantitative regression. We use these estimates to simulate various income contingent loan schemes (ICL) to observe their effect on repayment amounts, length of repayment, government subsidies, and the burden of repaying men and women in different amounts of income. We simulate three loan schemes: no real interest, with an additional fee of 25% of the total loan, and with a real interest of 2%. The government has the lowest implicit subsidy with a 25% surcharge scheme. The results show that ICL with a lower payment burden is feasible in Indonesia and can improve access to higher education. We also discuss administrative capacity among tax authorities.

According to Chapman & Doris (2018) tested the feasibility of various alternative student loan schemes for Ireland. Using large data derived from an employer survey, we model the distribution of life cycle earnings for Irish graduates. We then use these estimates to simulate the effects of alternative types of student loans, including mortgage-type loans and income-contingent loans of various designs, incorporating participation and migration patterns into the simulation. The results show that mortgage-type loans require unsustainably high rates of return for low-income graduates. Through the specifications of several alternative income contingent loan schemes, it appears that this higher education financing approach is feasible both in terms of outreach by graduates and regarding government subsidies within it. Several issues in funding policies are important that must be addressed and conclude with some recommendations for future Irish schemes.

Kim & Park (2018) stated that since 2005, total expenditure on Korean higher education has increased. However, financial support is weak compared to financial support for K-12 education. This paper first describes the current situation and issues of financial support for higher education and then suggests policy implications. There are 9 obstacles to obtaining university funding in Korea: instability, small budget allocations, overlapping investments, the central government, program promotion, linkages to structural reform universities, imbalance in financial support, uncertainty in prediction of financial support, very large private university financial structure, depending on tuition fees, and various causes of increases in tuition fees. Here are some possibilities to solve financial problems at university and to get financial support from the government: Higher Education Grant Financing, higher education taxes, funding formulas, local college support, private college support, and consumer-oriented financial support. Program directions driven by state subsidies can be categorized as follows: financial support that takes into account the factors of equity and excellence, integrated administration of government support funds, reduced program support, then operational cost support for private universities, and sharing financial support for private universities by adjusting the financial condition of the college. The main tasks to solve the problem of financial structure in Korean higher education are three such as high dependence on private institutions, high dependence on school fees, and minimum investment rules issued by the government. There should be further discussion about the high dependence on private resources for financing university education. Some research relevant to this research is research conducted by Baker (2012), entitled: Does Money Matter in Education? In that study it was shown that costs can affect school quality which will have an impact on changes in student outcomes, but money is not the most fundamental for school improvement but stimulates improved funding for the better after a failure. Furthermore, research conducted by Alderman et al (2001), with research titles: School Quality, School Cost, and the Public/Private School Choices of Low-Income Households. In this study, it shows that parental input has an impact on school achievement. School quality was found to have a better impact on student achievement and private schools had better outcomes than public schools.

According to Ashari (2020) and Purwanto (2020), there is an effect of operational costs on education on the quality of student graduates and increased school performance. There are several factors that affect student satisfaction according to Dib and Alnazer (2013) and Sumaedi et al (2011) including service quality, Image, Perceived Value, Students perceived price). The four factors that affect student satisfaction above can be described as follows: Service Quality Image Student Satisfaction Students perceived price Perceived Value. According to Dib and Alnazer (2013) and Sumaedi et al (2011), several factors that can affect student satisfaction are the quality of academic services and the cost of education. According to Purwanto (2020), other types of education costs, known as social costs and private costs, can be explained as follows. Social costs are costs incurred directly by the community which can be in the form of school fees, book fees, and other costs, and indirectly in the form of taxes and levies. Private costs are costs incurred directly by the family to pay for their children’s schooling, such as school fees, book purchases, and other incidental costs.

**LITERATURE REVIEW**

The higher education system has several characteristics that must be considered in the design of student loans (Chapman and Doris 2018). This also applies to the Indonesian context. First, the quality of higher education in Indonesia, where only 55% of people receive tertiary education according to data from Ristekdikti (2016). This implies that the central government’s tuition fees may not be high enough to allow graduates to repay their loans. Second, students who drop out of school may not be able to pay back the tuition fees. Third, returns to tertiary education are not constant over time, making calculating potential defaults to some degree extremely difficult to quantify. These characteristics pose risks that can deter prospective students. This is the main reason that, in most countries, the government bears this risk.

**The concept of an income-contingent loan (ICL)**

An important feature that differentiates ICL from a mortgage type loan is that borrowers are expected to start repaying their loan once their income reaches a predetermined amount at the threshold, with the RB (financing expense) set at a relatively low proportion of income. When income is low, the payment amount is absolutely low. The repayment amount increases as revenue increases. This feature, which follows a progressive age profile, will streamline the payment process, enabling more people, including those from disadvantaged families, to participate in higher education. The two main advantages of implementing ICL are default protection through the government, namely subsidies and guarantees and smooth consumption due to lower RB.
Some countries have a 25-30-year time limit on the loan repayment life cycle, meaning that if the time limit is exceeded, the loan will be written off. According to Chapman, 2018 ICL is more effective because mortgage-type loans for tuition and income allowances are available to students based on tests on family income in several countries, including the US, Canada and Japan have shortages Public sector support usually (for example, in Canada) takes two forms: interest payments on debts before a student graduates; and guarantees of repayment of debts to the bank in the event of default. Such arrangements are designed to facilitate the involvement of commercial lenders by addressing the risks they face in this market. However, mortgage-type loans pose problems for borrowers, because loans requiring repayment on a time basis rather than the ability to repay are insensitive to individual financial circumstances and are associated with default risk and the prospect of financial difficulties. Default causes damage to the credit reputation of the graduate and thus the eligibility of other loans such as for the home mortgage (Chapman, 2006). Thus, in anticipation of a potential loss of credit reputation, some prospective students may choose to avoid the risk of loan default.

**Government Support for Education Providers**

Supriyadi (2020) state subsidy programs for tertiary institutions can be categorized into two types based on unit support: institute-base and program-base. Institution-based support is used to build infrastructure or to encourage the formation of special programs for universities. This is the support provided using the method of allocating funds for the total budget. Program-based support is provided to incentivize these institutions to specialize and strengthen in a particular area. Such support also has characteristics that reinforce autonomy and obligation. Examples are the program for specialization (university specialization program) and the Leader in Industrial-University Cooperation. However, critics claim that because the program team is operated for a limited time for a specific purpose, the results of the program cannot be achieved continuously when state subsidies end. State subsidized programs for universities are divided into three types for the purpose of their use: operational costs of public universities and private colleges, scholarships, and programs of special purposes. Sunarsi (2020) the Ministry of Education has supported the university financially by program team units. In other words, government files have used the public offering method to drive change and innovation for government-centric universities. The government has used a ‘apply-select-evaluation’ process to strengthen evaluation and competing structures and this support has also been used to restructure the university. Policies at the university that rely on higher level state subsidy programs are constantly changing along with the government’s evaluation index. This means that the state subsidy program not only serves as financial support, but also as a key factor for education management. Meanwhile, the government is also using the program to re-enforce the role of the university which embraces industrial demand and rapid social change.

According to Thomas H. Jones (1985: 100-131), there are six models of education financing, namely: a. Flat Grant Flat grant is the first and oldest type of education financing aid planner. Under this plan, each school has the same amount of funding, which is calculated per student or per other funding unit. As explained earlier, as a result of the equal sharing system, schools with a large number of students will make more money, so that on this basis the flat grant is not considered as equalizing. Flat grants can be suitable under political conditions where there is a consensus that determines that all districts or all schools receive equal assistance regardless of how wealthy they are or how low the tax rates they apply. b. Power Equalizing Power equalizing is charged to very wealthy districts to pay part of the school taxes they collect back into state pockets. The state can use the money from rich areas to add assistance to poor areas. Each region will receive a different amount of funds depending on the regional income capacity (APBD). Poor areas will receive 5 per mile plus 7 per mile of basic municipal funding. Thus, there will be a balance of funds between regions with rich natural resources. is the only education financing plan designed to remove all local differences, both in spending and in tax collection. There will be no local school property taxes to varying degrees and the local tax base is unequal. Proponents also say that local financial oversight is inefficient for society as a whole. Thus, the complete state model places more responsibility for education accountability equally at the state level. d. Foundation Plan The Foundation Plan, is designed to explore four major problems in education and finance, namely: equity in spending, setting minimum tax and school expenditure standards, demarcating political authority between state and local school areas, and provisions for continuous improvement of the educational process. Its proponents argue that the state should set minimum limits and local governments should be allowed to go beyond the minimums to the level they want to do. The way the foundation plan works is that, first, the state must determine a fee per student per year for a satisfactory educational program. Second, the state must set a minimum tax rate that must be imposed by all school districts. Third, the state provides the same amount of grants to each school district. Meanwhile, the amount of assistance is situational for local wealth but not for tax efforts. The foundation plan divides the cake equally, but the poorer districts take precedence. e. Guaranteed Percent Equalizing Model Guaranteed percent equalizing model means that the state pays a certain percentage of the total cost of education desired by each local school district. The inclusion of the percentage of state applied is high in poor school areas, and the percentage of schools is low in rich districts. Proponents of this model argue that it maximizes local supervision, taxpayer equity, and the efficiency of local schools. This model also supports taxpayer equality. This model ensures or guarantees each local school district a certain amount of funding for each mile of tax collected locally. Complete Local Support Model In the complete local support model, all sources of funding from the state government or funds from the province are expected to be the responsibility of all education costs to the local or local government. This system will have an impact on the existing education system in the region, because high regional income may also provide a high amount of funds, which in turn will allow the government to maintain quality of output. The financing model illustrates that there are advantages and disadvantages of each. In Indonesia, education financing is the joint responsibility of the central government, local governments, parents of students, and the community. The application of the aforementioned financing model will be an ideal model in accordance with the local geographic and socio-cultural background.
METHODS
The method used in this research is a literature review or literature study, where the author will compare the results and assess the journal’s contribution to the topic of school financing, and identify the limitations or lack of updates to the selected journal journals.

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<tr>
<th>Author</th>
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<tr>
<td>Elmira &amp; Suryadarma (2019)</td>
<td>Financing tertiary education in Indonesia: assessing the feasibility of an income-contingent loan system</td>
<td>Quantitative; Pricing Model</td>
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<td>Kim &amp; Park (2017)</td>
<td>Lessons learned from financing universal higher education in Korea</td>
<td>Qualitative</td>
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The method used by Elmira & Suryadarma [2019] is to form a pricing model to estimate income after graduation. Elmira & Suryadarma (2019) state that income and work dynamics need to be combined to obtain an accurate estimate of life cycle income. The limitation of the study is that there is no Indonesian data set that meets these two requirements. The only panel is the dataset available which is the Indonesian Family Life Survey, with surveys in 1993, 1997, 2000, 2007, and 2014. However, the sample size is too small to allow for dynamic estimates of lifetime income therefore, in this paper, Elmira & Suryadarma (2019) estimate that conditional quantile regression is the right model to estimate this ICL scheme. According to Chapman & Doris (2018) used an alternative scheme analysis, namely modeling life cycle income throughout Ireland by utilizing the distribution of graduate income using the Unconditional Quantile Regression and 2006 data from the National Labor Survey (NES). The NES collects payroll records on earnings and hours worked from a large sample of companies with three or more employees. The sample is selected in proportion to the number of firms registered in each sector and size class. This payroll data is supplemented by information on the personal characteristics of the sample of those employed by each company surveyed. The sample size used by 67,700 employees at 4,800 companies was surveyed, including about 8,500 graduating Irish people aged 25-55. Kim & Park (2017) use secondary data and analyze it where the data used is data obtained from related ministries and statistical data centers. State subsidy programs must consider equity and advantage. For guaranteed equity, all universities must be evaluated on the basis of their quality and make improvements in management as well as support them in mentoring them with what is lacking. Financial support is required when considering the poor conditions of university education. Upgrading some of the best universities is important but helping lagging universities and improving the overall level of quality in universities is also important. If the government limits support for specific purposes, universities will reduce or eliminate their own budget items.

RESULT AND DISCUSSION
This study has several main findings regarding student loan modeling using the ICL scheme. First, ICL with a lower RB (Repayment Burden) can reduce or even eliminate default (risk of default). Both governments must provide subsidies for student loans, with amounts that adjust to the type of ICL scheme being applied. However, the subsidy is certainly smaller than the full subsidy that the government must provide if it provides scholarships or eliminates school fees. In this study, modeling the 25% surcharge will result in smaller implicit subsidies, even though the repayment period is longer than the scheme using a real zero or 2% interest rate and at no additional cost. Third, women, especially those earning at the Q25 level, they pay off debt more slowly than men and have higher implicit subsidies than men. These results reflect the experience that female graduates’ earnings have increased more slowly than men and require higher subsidies from the government to repay their loans. Based on the analysis, a scheme that applies a 25% surcharge is the best option for government and students. First, compared to other schemes, adding a 25% surcharge would reduce the implicit subsidy given to the majority of borrowers, which would benefit the government. Among men, this scheme requires the least number of subsidies. Second, this option is not regressive. Those on lower incomes do not have to pay more in real terms than those on higher incomes. Finally, the surcharge scheme is easier to operate than the 2% real interest scheme, which is more advantageous given the growing capacity of the Indonesian tax office. This is a characteristic of a well-targeted program considering the level of payment burden.

Another important discussion is that the ICL system requires reliable lifetime income. Documentation, which is more feasible for graduates working in the formal sector or in a context where most self-employed persons report income. As the first simulation of the ICL system in Indonesia, this study has several limiting factors that must be addressed in future, more detailed studies. However, they also have the potential for higher income in the future and the government may want to provide additional subsidies to attract students to study more in the desired course of study. Second, our simulations do not take into account the likelihood that ICL will affect sustainability to tertiary education due to restraint or burden. ICL is more likely than a mortgage type loan. There are many ways in which ICL can be implemented, but they should all guarantee a smaller RB and financial protection in the difficult times that graduates will face.

The government has an important role in financing higher education. The market system no longer provides efficient loan schemes due to moral hazard and adverse loan selection options, then the ICL scheme must be able to provide a form of social security. I think that welfare will be influenced by the education financing scheme. The main contribution of the Study This study is to evaluate higher education financing based on the price and quantity effects of debt. When we ignore the externalities of money, the education system stagnates. These articles also contribute to identifying government interventions in higher education that can improve welfare and reduce inequality. This contribution can be broken down into four findings. First, the tuition loan scheme. If the cost of financing education is lower and the length of study time can be
shortened, then the subsidy for tuition fees or student loans can reduce the total funding. This means, if education is relatively easy to achieve, education investment can be expanded through government intervention. When education costs are calibrated with realistic values, the government guaranteed income contingent loan (ICL) and tuition fee subsidies are the best options from the models or schemes considered to finance higher education. Second, this study shows the difference in policy means, comparing the conditions Korea, Indonesia and Ireland may not be straight apple to apple but we can see the transition costs have to be taken into account. Third, the balanced budget tax rate could be higher in systems that rely on contingent student loan income. Fourth, public financing of tertiary education only increases inequality if government support for education is very low; if these costs increase, the level of inequality will fall as public sector support increases. Education financing is a vital aspect in efforts to develop the national education system. Education as an investment in Human Resources (HR) for the life of the nation and the State in the future should not be underestimated. The mandate of the law which obliges the government to realize a 20% budget for education is actually based on a far-reaching outlook. However, in reality at the implementation level, the 20% budget is still being twisted and politicized. This causes the education budget to be inconsistent with the mandate of the law, and even seems modest.

Costs in education include direct costs (direct costs) and indirect costs (indirect costs). Direct costs consist of costs incurred for the implementation of teaching and student learning activities in the form of purchasing learning tools, learning facilities, transportation costs, teacher salaries, whether they are issued by the government, parents, and students themselves. Meanwhile, indirect costs are in the form of lost benefits (opportunity costs) that are sacrificed by students while studying. The problems of national education never end. More specifically, when it comes to the issue of education financing, anyone admits that the cost of entering education is increasingly expensive at this time. It is not wrong to say that quality education costs money. However, the problem is, the financial power of some people in this country is still inadequate due to uncertain income sources. The problems of education in almost all developing countries are generally the same, ranging from problems with school fees, illiteracy, dropping out of school, curriculum to education budget. However, everything can change as long as the government and all related elements are strongly committed to advancing education in their respective countries. The quality of the education system greatly influences the development of a society and nation because it brings major changes to the life of the nation. The successes achieved basically cannot be separated from the support of government policies, one of which is the education financing budget. Cook (2009) states that the cost educational is the source which is used educational quality given as feedback of the continual information through application forms. Tuition fees are resources used for the quality of education provided in exchange for information collected regularly through application forms. Meanwhile, Hallak (1969) states that "the cost of education is the whole business community devoted to education, either in the form of monetary or not, should be inventoried and consolidated." This opinion can be interpreted that the cost of education is all the efforts that the community devotes to education, both monetary and non-monetary, that must be collected and determined. Johnstone (2003) states that "educational cost is burden from governments and taxpayers to students and families may not be easily accepted, especially in countries with dominant socio-political ideologies that hold higher education to be another social entitlement: to be free, at least, for those fortunate enough to make it through the rigorous academic secondary system. Education costs are funds obtained from the government and taxpayers that are used as social assistance for underprivileged students and families to obtain higher education so that they are free from the educational burdens obtained through the appropriate additional systems. Bond and Horn (2009) state that "educational costs is a social inclusion approach involves the building of personal capacities and material resources, in order to fulfill one's potential for economic and social participation, and a life of common dignity. It stresses personal capacities-health educative social networks, material resources - adequate housing transport, income and access to services, to fulfill potential for economic (work) and social participation (recreational, cultural, sport housing and everyday living activities) - and a socially valued lifestyle. The cost of education is a social inclusion approach that involves building personal abilities and financial resources to meet one's potential economic needs and participation. It emphasizes personal health skills, educational social networks, financial resources - adequate housing transport, income and access to services, meeting potential economic needs (employment) and social participation (recreation, culture, sports, and daily activities), and style, social life. Based on the description above, it can be synthesized that the cost of education is a resource spent by the government, society, and parents of students to schools, either in the form of goods or money collected and determined to achieve educational goals. With indicators: 1) financing academic services, 2) provision of tools and equipment, 3) maintenance, and 4) social participation. Hallak (1972) states that "cost benefits as the relationship between the inputs and the resulting benefits that accrue thereafter. It used to measure of external productivity. The price advantage is the relationship between income and results that exist after being calculated. It is used to measure external results. Pacharakapas (1987) states that cost benefit analysis is to compare the opportunity cost of a project with the expected benefit, measured in terms of the additions to income that will accrue in the future as a result of the investment." Price benefit analysis is compared to the opportunity cost in a project with the expected benefits, measured in addition to the income that will increase as a result of the investment. Finally, Sahlberg's opinion (2007: 150) states that "centrally prescribed curricula, with detailed and often ambitious performance targets, frequent testing of students and teachers, and high-stakes accountability have defined a homogenization of education policies worldwide, promising standardized solutions at increasingly lower cost for those desiring to improve school quality and effectiveness. " A centrally defined, detailed, and sometimes ambitiously targeted curriculum, frequent examinations of students and teachers, and high accountability mean the same in educational regulations around the world. Promises standard solutions at increased costs for people who want improved school quality and effectiveness. Frank (2007) provides an explanation of costs with quality as follows as the quality of design (features) increases; costs typically increase. As the quality of conformance
However, every thing can change as long as the government and all related elements are strongly committed to advancing education in their respective countries. The quality of the education system largely influences the development of a society and nation because it brings major changes to the life of the nation. The successes achieved basically cannot be separated from the support of government policies, one of which is the education financing budget.

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