## The Prospect of Income Contingent Loan in Malaysia Higher Education Financing Using Deterministic and Stochastic Methods in Modelling Income

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**Abstract :** In Malaysia, increased take-up rates of tertiary student borrowing, and reliance on retirement savings to fund children's education show the importance of public higher education financing schemes (PTPTN). PTPTN has been operating for 2 decades now; however, there are some critical issues and challenges that include low loan recovery and loan default that suggest a detailed consideration of student loan/financing scheme alternatives is crucial. In addition, the decline in funding level per student following introduction of the new PTPTN full and partial loan scheme has raised ongoing concerns over the sustainability of the scheme to provide continuous financial assistance to students in tertiary education. This research seeks to assess these issues that put greater efficiency in an effort to ensure equitable access to student funding for current and future generations. We explore the extent of repayment hardship under the current loan arrangements that presumably led to low recovery from the borrowers, particularly low-income graduates. The concept of manageable debt exists in the design of income-contingent repayment schemes, as practiced in Australia, New Zealand, UK, Hungary, USA (in limited form), the Netherlands, and South Korea. Can Income Contingent Loans (ICL) offer the best practice for an education financing scheme, and address the issue of repayment hardship and concurrently, can a properly designed ICL scheme provide a solution to the current issues and challenges facing Malaysia student financing? We examine the different potential ICL models using deterministic and stochastic approach to simulate income of graduates.

1

Keywords : deterministic, income contingent loan, repayment burden, simulation, stochastic

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