ABSTRACTS OF DOCTORAL THESES ON THE INDONESIAN ECONOMY

Essays on the Economics of Education: Public–Private School Choice and Student Performance in Indonesia
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The central aim of the thesis is to determine the relationship between school quality and student performance in Indonesia. Student performance is measured by higher education participation and future earnings determination. The thesis also analyses the determinants of upper secondary school choice by parents and their children. Four types of schools are investigated: public, private non-religious, private Islamic and private Christian.

Two key econometric techniques used in the research are (1) a two-step method applied to a selected sub-set of observations, where selectivity was modelled as a polychotomous multinomial logit; and (2) the Blinder–Oaxaca decomposition technique.

The thesis makes two main contributions. The first is the application of the extension, proposed by Fairlie (2005, Journal of Economic and Social Measurement 30 (4): 305–16), of the Blinder–Oaxaca decomposition technique to investigation of the effect of school quality on higher education attendance. The second contribution is the use of upper secondary school samples obtained from the Indonesia Family Life Survey (IFLS) in evaluating the effect of school choice on student performance.

The results suggest that public schools in Indonesia are generally superior to private schools in terms of higher education participation and the future earnings of their respective graduates. However, the findings of this thesis should not be interpreted as support for the depletion or closure of the private school sector in Indonesia.
Private schools play a key role in providing places for students who either cannot gain entrance to or cannot afford public schools, particularly at the secondary level. The implication is that low socio-economic status students are over-represented in private non-religious and Islamic schools in Indonesia. This over-representation suggests that these schools are at a disadvantage in terms of starting student quality, and require additional resources to improve outcomes. It can easily be argued that Indonesian private schools would benefit from additional resources to improve student outcomes and that this would be a cheaper and more effective policy than the replacement of private schools with public schools. Alternatively, earlier investments in the human capital of these children may be needed, perhaps at pre-school level.

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A General Equilibrium Perspective on Energy and Environmental Policies in ASEAN

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The argument that environmental degradation will reduce future benefits from economic activities has been widely accepted, so much so that integrated energy–environmental strategies and policies are needed that take into account the complex interactions between climate, economic and social systems. As such, the first goal of this thesis is to develop methodologies to model economic activities in six selected member countries of the Association of Southeast Asian Nations (ASEAN) and to link these activities to the environment. The second goal is to identify and understand the impact of energy and environmental reforms in these countries. The success of each reform depends largely on its effect on economic growth and welfare distribution.

In order to achieve the first goal, the thesis develops an integrated social accounting matrix (SAM) for six ASEAN member countries – Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. This is called the ASEAN–SAM. The study then uses the ASEAN–SAM to construct a unique static multi-country computable general equilibrium (CGE) model, called the Inter-Regional System of Analysis for ASEAN (IRSA–ASEAN) model.

The thesis fulfils the second goal by using the IRSA–ASEAN model to look at the impact of two policies: an energy subsidy reduction policy and the implementation of a carbon tax. In the case of the energy subsidy reduction, the model eliminates the existing energy subsidies – fuel subsidies in Indonesia and Malaysia and an electricity subsidy in Indonesia. The study finds that the elimination of energy subsidies is effective in reducing pollution in the form of carbon dioxide (CO₂) emissions, generates economic expansion in these countries, and is progressive in nature. It also finds that implementing an emissions sales tax of $10 per tonne of CO₂ on coal, petroleum products and manufactured gas is effective in improving the environment through CO₂ emissions reduction. However, this environmental improvement comes at a cost, because GDP contracts in some countries if a carbon tax is uniformly applied. Vietnam stands to lose the most, while the Philippines,
Singapore and Thailand are slightly adversely affected. Indonesia’s and Malaysia’s economies, on the other hand, actually expand. In terms of distributional impact, a carbon tax is strictly progressive in Vietnam and strictly regressive in Singapore. For Indonesia, Malaysia, the Philippines and Thailand, a carbon tax is progressive for those in the lower-income groups and regressive for those in the higher-income groups.

In summary, the thesis finds that reducing energy subsidies and implementing a carbon tax are both effective measures for improving the environment. However, in terms of economic development, a carbon tax appears to be a second-best policy alternative to energy subsidy reduction. The thesis also finds that recycling mechanisms do not have differential effects on overall change in GDP and CO₂ reduction. In other words, whether the government redistributes the extra revenue generated through an increase in government expenditure, an industrial tax reduction or a one-time lump-sum transfer to households, the overall change in GDP and CO₂ reduction remains the same. However, the recycling mechanisms do greatly influence the distributional impact of the two policies under consideration. Thus energy and environmental reforms do not necessarily conflict with development and equity objectives, but any policy in these areas must be carefully designed to account for public acceptability, feasibility and utility.

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