



ABSTRACTS OF DOCTORAL THESES ON THE INDONESIAN ECONOMY

Rural Financial Institutions and Households in Indonesia after Liberalisation: An Analysis of the Rural Financial Market of Lombok

Ketut Budastra (kloping@hotmail.com)

Accepted 2003, School of Natural and Rural Systems Management,
University of Queensland

This thesis is concerned with rural financial development in an economically less developed region of Indonesia, Lombok in the province of West Nusa Tenggara (NTB), after financial liberalisation (particularly during the period 1988–98). The study examined (a) the impact of financial liberalisation on the extent and efficiency of the rural financial system at the provincial level; (b) the performance of rural financial institutions (RFIs) at the subdistrict level; (c) household demand for and access to financial services from various sources; and (d) the factors associated with the above.

The research used quantitative and qualitative data collected from primary and secondary sources, including two surveys (involving 25 RFIs and 180 Lombok households), several case studies, and published and unpublished financial and socio-economic statistics from relevant institutions at the provincial level. The data analysis included descriptive statistics, associations, mean differences and correlation.

The study found the following. In many respects, financial liberalisation brought about substantial improvement in the rural financial market of the less developed economy of NTB province, of which Lombok is a part. The liberalisation of interest rates shifted the economics of the rural (micro) financial services from unprofitable businesses to economically promising ones, while the liberalisation of rural financial institution entry opened the way for the establishment of new RFIs. As a result, five types of RFIs, one upgraded and four new, were brought into the rural financial market during the liberalisation process. All these were for-profit entities. The level of financial intermediation by bank RFIs was generally improved, as their loan-to-deposit ratio (LDR) moved toward 100%. The bank interest rate was consistently higher than the inflation rate, providing a basis for cost-effective financial intermediation.

Apart from financial policy, aspects of the market environment such as population, economic conditions and infrastructure also affected the performance of the RFIs. Further, the performance of individual RFIs varied by type, office network, asset size, service policy and service mechanism.

The structure of household demand for financial services revealed that the formal financial system was superior to the informal one in terms of total savings amounts, number of savers and credit amounts, but inferior with respect to number of borrowers. Small borrowers and farmers remained under-served by the

formal financial institutions. Households' demand for and access to formal financial services were determined not only by their socio-economic characteristics but also by the features of the financial services they used.

The study drew two general conclusions. First, financial services to rural households in less developed economies can be profitable, given the opportunity to charge market rates. Second, rural financial development appears to be jointly determined by factors internal and external to the three principal actors—financial institutions, households and government—in the rural financial development process and the functioning of the rural financial market. The study has a number of implications for the field of rural (micro) finance and for rural financial development policies and practice.

**Technology Transfer and Industrial Development:
A Case Study of the Indonesian Automotive Industry**

Fahmy Radhi (fahmy-radhi@ugm.ac.id)

Accepted 2003, Faculty of Economics and Commerce,
University of Newcastle, NSW

This study is concerned with the contribution of technology transfer to industrial development in Indonesia, with specific reference to the automotive industry, under alternative transfer channels (joint venture arrangements, licensing agreements, subcontracting arrangements or wholly-owned subsidiary relationships) and transfer sources. The automotive industry is selected as a case study because it is one of Indonesia's most important industries. Its significance in a large developing country like Indonesia derives from the multiplier effects transmitted through backward and forward linkages to other industries. The automotive industry may also serve as a vehicle for technological development through intra-firm (foreign to domestic) and inter-firm (domestic to domestic) technology transfers, since it uses a large and sophisticated array of technology and has been the subject of intense foreign company involvement.

The study extends the UNCTAD model of international technology transfer (cross-border diffusion of technology from one entity to another) in order to develop a comprehensive framework, integrating major constituencies of technology transfer such as the transferor (the entity that possesses technology being transferred), the transferee (the entity that seeks and receives the technology) and the transfer channels. Employing the concept of transfer stages, which uses personnel localisation ratios (PLRs, the proportion of local to foreign employees) in various activities as a measure of technology transfer, the study investigates the nature of technology transferred and the enhancement of technological capabilities. Through the use of several indicators, the effectiveness of technology transfer is also examined, as well as the factors that influence its effectiveness.

The findings indicate that the nature of technology transferred tends to be dominated by hard technology (technology embodied in machinery and equipment) as opposed to soft technology (knowledge and information). During the transfer process, acquisitive capabilities (the capacity to duplicate existing technology) were enhanced the most; adaptive capabilities (the capacity to adapt existing tech-

nology to local conditions) were somewhat enhanced, but innovative capabilities (the capacity to create new technology) were not enhanced at all. Local content rates (LCRs, the proportion of local to foreign content in a product) achieved were also low. The findings indicate that several factors can impact on the effectiveness of technology transfer, including a firm's market share, local equity ratio and length of operation. These factors are statistically significant when regressed against the transfer stage for both hard and soft technologies. However, only market share is positively related to the transfer of hard technology.

As measured by indicators such as the transfer stage achieved in relation to the nature of the technology and technological capabilities transferred, local content rates achieved, and the devolution of R&D from parent firms to domestic companies, technology transfer to the Indonesian automotive industry has largely been ineffective. Therefore, government efforts to use the industry as a vehicle for the country's technological development through technology transfer have essentially been unsuccessful.

Non-linear Impacts of the Asian Financial Crisis on Income Distribution in Indonesia: A Financial Computable General Equilibrium Approach

Yuri Surtadi Mansury (ymansury@latte.harvard.edu)

Accepted 2002, Department of City and Regional Planning,
Cornell University, Ithaca NY

During the Asian financial crisis in the late 1990s, national survey data indicate that income distribution among Indonesian households had become increasingly egalitarian. However, it was unclear whether a more equal income distribution emerged because of or in spite of the crisis. The direction of causality was equivocal because other exogenous events were occurring at about the same time. This study aimed to establish the impact of the Asian financial crisis on income distribution as if this crisis were the only exogenous shock that occurred during that period. To that end, we used fixed-price multipliers, structural path analysis (SPA) and a computable general equilibrium (CGE) model.

The magnitude of the fixed-price multipliers suggests that it was the urban elite households that were hardest hit by the Asian financial crisis. This method therefore supports the view that the financial crisis indeed brought about a more egalitarian distribution of income among households. The fixed price nature of the multipliers and the SPA missed important features of the crisis, however, namely escalating prices fuelled by exchange rate depreciation. We therefore employed a non-linear, price endogenous CGE framework as our principal tool of analysis. To our knowledge, this is the first study that combines the production (i.e. 'real') economy with financial markets and assets within a unified CGE framework in order to examine the distributional impact of the financial crisis.

Using our CGE model, we performed simulations in four sequential stages. We found that at every stage of the simulations, income distribution consistently became more equal. The trend towards a more egalitarian income distribution continued even when interest rates rose sharply, which, combined with exchange rate depreciation, could be expected to provide urban elite households with

windfall gains. The contraction of factor income forthcoming from the production economy was so severe that the windfall financial gains failed to tilt the distribution of income in favour of elite households.

A critical element in the distributional outcome was the reallocation of government expenditure towards low-income households. We found that the government's budgetary policies have potentially provided a social safety net for poor households, while causing the government to lose the support of its most influential political patrons, the urban elite.

The Development of a Horizontal Hybrid Method for Constructing Input-Output Tables:

A Fundamental Economic Structure Approach to Indonesia

Muhammad Handry Imansyah (mhandryi@indo.net.id)

Accepted 2002, School of Economics, University of Queensland

The objectives of this study are (a) to identify the fundamental economic structure (FES) of Indonesian regional economies; (b) to develop a hybrid method for constructing regional input-output tables using the FES approach; (c) to evaluate the performance of the FES approach; and (d) to apply the model for constructing regional input-output tables in small regions to two districts in South Kalimantan province.

An important offshoot of the identification of the FES is the development of a hybrid method for constructing regional input-output tables. The FES is a major underlying component of any economy, the identification of which makes it easier and cheaper to construct an input-output table.

The FES framework is used to capture the main features of regional economies in Indonesia. A partitioned approach is employed to identify the regional economic structure. Regression analysis is used to identify the relationships between regional transactions and the size of the regional economy. Three measures of regional economic size are used: total sectoral gross output (TSGO); gross regional domestic product (GRDP); and population. The FES approach is relatively efficient in that it permits accurate estimates to be made without the need for large and costly high-quality data sets.

The results of the study suggest that the FES in Indonesia has a similar pattern to that of other countries such as Australia and South Africa. However, unlike Australia, Indonesia has significant cells not only in the secondary and tertiary sectors, but in some of the primary sectors as well. Subsistence agriculture, central government food self-sufficiency policy at the regional level, island economies and limited infrastructure may help to explain these differences.

The performance of the model is evaluated by undertaking several statistical analyses of the error patterns. The results of the evaluation under different tests appear to be consistent across provinces. In most cases the errors are relatively low on average, irrespective of which measure is used.

Finally, the FES approach is used to construct input-output tables for Banjarmasin, a typical small urban economy, and Hulu Sungai Tengah, a typical small

rural economy, in South Kalimantan. The performance of this approach is satisfactory in the sense of holistic accuracy, as these tables capture the main features of the economies in question.

The work carried out in this thesis highlights a number of limitations of the FES approach: for example, the limited number of available regional input-output tables is a major constraint to the use of the FES framework with a partitioned approach. It is difficult to determine the characteristics of the distribution of the sample tables.

Economic Governance and Crises in Emerging Economies

Yoichiro Ishihara (yishihara@worldbank.org)

Accepted 2004, Graduate School of International Development,
Nagoya University, Japan

This dissertation explores the hypothesis that countries with good economic governance experience less severe crises. It provides a rationale for emerging economies to improve economic governance in order to mitigate the negative impact of crises.

Data and Methodology

Six *economic governance elements*, voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption, are examined.

Seven *crisis types* are distinguished: liquidity-type banking crises; solvency-type banking crises; balance of payments crises; currency crises; debt crises; growth rate crises; and financial crises.

As possible intermediate indicators between economic governance and crises, eight *crisis leading indicators* are selected through a review of existing studies of crisis early warning systems: the current account balance to GDP ratio; the consumer price index; the domestic credit to GDP ratio; the M2 multiplier; the M2 to reserves ratio; the real exchange rate; share prices; and the short-term debt to reserves ratio.

Fifteen emerging economies form the main sample. Of these, five East Asian economies (Indonesia, Korea, Malaysia, the Philippines and Thailand) are closely studied. A sample of 70 developing countries is also used. The sample period is Q1 1980 - Q4 2002, examined on a quarterly basis.

Thus in total, 21 indicators (six economic governance elements, eight crisis leading indicators and seven crisis types) are used to analyse the relationship between economic governance and crises. Correlation analysis is carried out for the 70 developing countries, and cross-correlation analysis is then implemented for the 15 emerging economies to address causality. Further, vector autoregression (VAR) analysis is undertaken for the five East Asian countries to address the existence, direction and extent of the relationship between economic governance and crises.

Indonesia's crisis in the late 1990s is used as a case study, because it is one of the most severe in the sample. Quantitative analysis is conducted using monthly data so that the rapid development of the crisis is well captured.

Key Findings

Economic governance and economic performance. Improved economic governance tends to be used as an intermediate instrument to achieve an ultimate purpose. Even among international organisations such as the World Bank, the Asian Development Bank and UNDP, there are discrepancies in definition, but the term's core operational content is accountability, rule of law, transparency and participation. Seemingly 'good' economic governance may not always have the desired outcomes, because of disagreements between emerging economies and the international community on its meaning and policy implications. In theory, it is a key to efficacious economic policy formulation, which in turn affects economic performance through 'policy decisiveness' and 'policy predictability'. However, Indonesia before the Asian crisis of the late 1990s showed that a country can achieve policy decisiveness and policy predictability without good economic governance.

Crisis identification and causality. There were 59 crisis episodes in the 15 emerging economies between 1980 and 2002. Currency crises declined in frequency during the late 1990s, but still had the largest share among the seven crisis types. In this period, the shares of each type of crisis were more equally distributed, suggesting that recent crises were multi-dimensional (different crisis types occurring simultaneously). The degree of crisis, measured by depth and length, was relatively high at this time, because multi-dimensionality was more pronounced. East Asian countries have relatively higher positive correlations among crisis types than other countries, and currency crises tend to lead to liquidity-type banking crises and growth crises. A Granger causality test of the five countries shows that currency crises tend to trigger other crisis types.

Relationship between economic governance and crises. The correlation analysis of 70 developing countries finds that the degree of crisis is sensitive to *change* in certain economic governance elements, while the frequency of crises is not well correlated with the *level* of economic governance. Liquidity-type banking crises, currency crises and financial crises are sensitive to *change* in certain economic governance elements. The cross-correlation analysis of 15 emerging economies finds that there is a risk of self-reinforcement among variables—for example, political stability, financial crises and the rule of law. The VAR analysis of the five East Asian countries finds that while 'voice and accountability' and 'control of corruption' tend to be positively correlated with crises (a deterioration in these economic governance elements is associated with a worsening of crisis indicators), 'government effectiveness' and 'regulatory quality' are negatively correlated with crises (a worsening of crisis indicators is associated with an improvement in these governance elements). A closer observation of the Asian crisis finds that Indonesia had more strongly significant relationships than the other Asian crisis countries between economic governance elements and crisis types.

Neither economic governance nor leading crisis indicators successfully signalled the advent of Indonesia's crisis. The VAR analysis finds that political stability does not have a significant relationship with economic governance or crisis. In other words, political stability is not the main factor determining the degree of Indonesia's crisis. On the other hand, 'policy decisiveness' and 'policy predictability', as measured by the 'regulatory quality' element of economic governance, are the main factors affecting the degree of crisis. Among the crisis types, production crisis (a proxy for growth rate crisis) tends to affect the other crisis types.