AN ANALYSIS OF ECONOMIC GROWTH IN INDONESIA A NEW PARADIGM

Carolyn Currie

Abstract: Analyses of the nature of debt relying on the theory of rational expectations conclude that the burden of public debt need not fall on future generations if the present generation anticipates the higher taxes needed in the future for debt servicing. However, there have been many instances where increases in budget deficits have been followed by a decrease in the savings propensity of the private sector. Foreign exchange earnings also have to be set aside. It appears that the main problem for countries in an early stage of economic development, is that often the borrowings have not been productively employed so that a national debt crises results. Foreign lenders become increasingly reluctant to lend further amounts to a country, which has been a net capital importer. This paper puts forward a methodology of testing a new theory of economic growth using Indonesia as a case study, as it represents a case of faltering economic growth and financial instability resulting in a huge increase in foreign debt, a depreciating currency and a dramatic increase in the percentage of population below the poverty line. The theory emphasises key factors determining the success or failure of policies that change underlying economic structures, and hence would lead to an intrinsic monitoring of "over-borrowing”.

JEL classification: L33; O11; O38; O47; P11; P52

Key Words: Economic Growth, Debt Burden, Regulation, Ownership Structures
1. Introduction the Relationship between External Debt and Economic Development

Caprio and Klingebiel (1999, 2003) have identified 117 systemic banking crises (defined as the exhaustion of bank capital) occurring in 93 countries since the late 1970s. Indonesia appears one of the worst where the 1997 Asian crises halted a period of unprecedented growth. From May 1997 to May 2002, Bank Indonesia closed 70 banks and nationalized 13, of a total of 237. Nonperforming loans for the banking system were estimated at 65% to 75% of total loans at the peak of the 1997 crisis decreasing to about 12% in February 2002. Fiscal costs were estimated at 55% of GDP, but financial instability continued into 2005 with fraudulent lending at the largest reconstructed state owned bank, Bank Mandiri, and with the Bank Indonesia entering the market in May 2005 to support the currency.

Privatisation of state owned entities has been touted as the solution to promoting economic growth and assisting post crisis recovery, but it has failed to clarify three vital points - the range of ownership structures that could be used as a staged approach to development in both emerging and advanced nations, the distinction between development of the economy and the underlying society, as well as the interdependence between the two. This has been extensively illustrated in an account by Tanri Abeng when attempting to privatise a range of Indonesian state-owned enterprises between March 1998 and December 1999 “economic reform should be understood not simply as a technical process but also a political one... In the case of state-owned enterprise reform, key questions such as how fast to privatise and what method to use, need to be considered, not only in terms of their implications for efficiency and growth but also in terms of their impact on political structure”. Another factor that has been ignored is that in the process of economic growth and development, an emerging economy can build up substantial external private sector debt even if the public sector runs a domestic surplus. This occurred during the build up to the Asian crisis, and the dissipation of that debt was deemed a precipitating factor in the ensuing panic. The new theory of economic growth espoused in this paper attempts to combine the arguments of both Stiglitz et al (2001) and Dabrowski et al (2001) in a model combining many aspects which have been examined in relation to failed economic growth and development. The model is built on three equations which emphasise the importance of assessing the stage of vital input factors of P, E, L, M and C; that is, the political system (P), the state of human capital (E), the type and stage of development of the legal infrastructure (L), and the regulatory models governing both the financial system (M) and the industry (C) - before choosing the ownership structure (O) as well as timing (T) and valuation.
methods \( V \) to be used in moving an economy from an efficient production frontier based on state ownership to a full market economy. The relationship embodied in the equations illustrate that the design of \( M \), the regulatory model governing the financial system, is a starting point which must take account of the type of existing, and desired market structure, i.e. \( C \), as well as the calibre of \( E \), human capital. It is postulated that if all of the factors are weak at the starting point of economic reform, a careful staged approach should be used. Only a formal deregulation and program of ownership change should be considered. This will involve continual monitoring both by the government undertaking the change, and by external aid agencies such as the IMF and World Bank. Otherwise, an entrenched elite will take the place of the state in ownership and control, without the requisite spread of the advantages of moving an economy to a full free market basis. Indonesia provides fertile evidence of the latter phenomenon.

As noted by Robinson (2002), most of the nonperforming loans in the Indonesian financial system, particularly those of state owned banks, are to "politically well connected borrowers", totalling US$7 billion \(^7\). In addition a state audit faulted Bank Indonesia's accounting of emergency loans made in 1997 and 1998 to support failing commercial banks, many of which were owned by political elites, estimating that 95% of these US$16 billion in loans may never be repaid. Meanwhile the very agency for reconstructing banks, IBRA, became the centre of a scandal approving large loans to a bank that were on lent to the ruling political party \(^8\).

The full version of the new theory of economic reform is outlined in Section 2 after the link to accumulation of a debt burden is explained, together with methods of monitoring economic development. The empirical tests outlined in Section 3 will test two specific hypotheses that follow from the model embodied in the new theory of economic reform. This will aid in understanding the principal factors that can constitute barriers to the success of economic reform strategies, which rely on new ownership structures to promote efficiency, and thus raise the production frontier of an economy. In conducting these empirical tests, two new indices of development will be used to measure the success of outcomes. Section 4 attempts to quantify the indices and variables which are the basis of this model as a preliminary to full testing. Section 5 draws some initial conclusions from the database and indicates some policy conclusions which could follow from full testing.
2. Explaining, Measuring and Monitoring Economic Development: the Role of Debt

It has been debated as to whether there is a single measuring rod by which we can say that debt has reached an "excessive" level, whereby through inadequacies in fiscal or monetary policy or corporate and public sector governance and accountability, or whether through adequate savings and foreign reserves not being set aside for debt servicing (Buchanan, 1986). For instance, Binhadi (1995) assessed the effect for foreign exchange deregulation using ratios of non-oil exports to GDP, and non-oil imports to GDP, as well as the number of months represented by official reserves. Other indicators used were net domestic credit granted, net government deposits, private credit, M2 and reserve money. Simple tracking models have compared inflation with evidence of exchange rate instability, and thence to fiscal position, output gap and then current account deficit as a percentage of GDP (see Table 1). However, this paper will propose several other yardsticks in relation to debt accumulation, which could provide early warning signals to both governments and external lenders.

<table>
<thead>
<tr>
<th>Year-End</th>
<th>Average annual exchange rate (rupiah per S1)</th>
<th>Inflation rate (%)</th>
<th>Price Index 1990-100</th>
<th>Fiscal stance</th>
<th>Current Account Deficit to GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>1707</td>
<td>6.4</td>
<td>93</td>
<td>0</td>
<td>-3.8%</td>
</tr>
<tr>
<td>1998</td>
<td>1991</td>
<td>7.5</td>
<td>100</td>
<td>-1.2</td>
<td>-1.0%</td>
</tr>
<tr>
<td>1997</td>
<td>2002</td>
<td>9.4</td>
<td>109.4</td>
<td>0</td>
<td>-3.3%</td>
</tr>
<tr>
<td>1996</td>
<td>2082</td>
<td>7.8</td>
<td>117.7</td>
<td>-1.5</td>
<td>-1.0%</td>
</tr>
<tr>
<td>1995</td>
<td>2110</td>
<td>9.6</td>
<td>129</td>
<td>-1.2</td>
<td>-1.7%</td>
</tr>
<tr>
<td>1994</td>
<td>2100</td>
<td>8.5</td>
<td>140</td>
<td>-1.7</td>
<td>-1.8%</td>
</tr>
<tr>
<td>1993</td>
<td>2108</td>
<td>9.4</td>
<td>153.1</td>
<td>-1.8</td>
<td>-2.3%</td>
</tr>
<tr>
<td>1992</td>
<td>2185</td>
<td>8</td>
<td>165.4</td>
<td>1.1</td>
<td>-3.3%</td>
</tr>
<tr>
<td>1991</td>
<td>1650</td>
<td>6.7</td>
<td>175.5</td>
<td>n.a</td>
<td>n.a.</td>
</tr>
<tr>
<td>1990</td>
<td>8092</td>
<td>57.6</td>
<td>276.2</td>
<td>n.a</td>
<td>n.a.</td>
</tr>
<tr>
<td>1989</td>
<td>7410</td>
<td>20.5</td>
<td>315.6</td>
<td>-2.5</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

a. End of period  
b. Annual change in the CPI  
c. Negative indicates contractionary

Economic development (Y,) is defined as sustainable growth. This can be measured at the level of the individual by the increase in a maintainable and stable level of income per capita, and at the corporate or institutional level by the increase in maintainable and stable accumulated earnings per capita. At the country level, improvements in the ratio of external debt and current account balance to Gross Domestic Product (GDP), as well as increases in the level of maintainable and stable GDP per capita, are appropriate measures of success. Specifically the following targets are proposed as a means of monitoring debt levels in relation to economic development:
1. The percentage increase in Total Debt / GDP and Total Debt Servicing/GDP Ratios (rapid increase signalling a danger point);

2. The proportion of Investment from Total Expenditure/Income in relation to the first two ratios (a decrease in this ratio in relation to an increase in the debt service ratio).

3. Composition of external debt for instance increases in interest on overseas debt and income payable on foreign equity investments will affect a country's ability to increase exports. A litmus test is a ratio of 25% of gross property income payable overseas to total current receipts from overseas this has been related to ensuing depressions or recessions.

4. Trends in both Gross and Net debt and in the servicing cost of that debt relative to total foreign earnings.

This proposed definition of economic development avoids the criticism of using inappropriate yardsticks of growth based solely on GDP, because in transition economies, growth may initially be negative as pre-reform crisis conditions impact immediately after reform. This was one of the areas of disagreement between Dabrowski et al, (2001) and Stiglitz (1998a, b). Also a policy may appear to successful in the short term using growth in GDP as a yardstick, but it is the maintenance of income per capita, corporate profitability and an increasing debt servicing ability at the national level over a long term that is the best criteria of success.

**Social development (Y_{S})**

is defined as growth in the equitable distribution of wealth, which can be measured by the dispersion and distribution of per capita income, and participation in institutions. Dispersion measures would use the Gini coefficient, which shows Indonesia in 2000 with a ranking of 32, with 41.1% of the total income earned by the richest 20% of the population, and 9% earned by the poorest 20%, with a national poverty rate of 27.1% and 55.3% of the population living on less than US$2 per day. The United Nations has also developed its own Human Poverty indices. A scale ranking the capacity to participate in the institutional framework of government may be a useful adjunct to wealth distribution measures. Studies of the number of non-profit organizations and others ranking governance can be used to produce such a measure. However, active participation is in turn is a function of improving the quality of human capital, in terms of education, knowledge and skills, which are vital to social and economic development. Development of human capital permits the embodiment of ethics and values to reduce corruption, and the
promotion of the understanding essential to the acceptance of the goals of government in introducing a legal infrastructure necessary to economic development. For instance to privatize SOEs (State Owned Enterprises), standards of corporate reporting, and securities issuance, and trading must be introduced, and enforced.

This requires that holders of equity or debt have the educational levels to understand their rights and obligations. They can therefore help enforce agency relationships, through the supervision of monitoring and bonding contracts. In addition, the quality of human capital is a prerequisite in allocating credit. Otherwise, banks and other financial institutions cannot perform, within acceptable risk and return parameters, as delegated monitors, in a situation of asymmetric information (Stiglitz and Weiss, 1981). The degree of development of human capital involves not just increasing the capacity to learn, but enables the individual to participate in a financial system. Hence social and organizational capital, or the interrelationships and systems for mediation and dispute resolution, need to be adapted to increasing stages of development (Stiglitz, 1998a, b). Miguel et al (2003) have applied a diverse set of social capital measures including multiple measures of voluntary associational activity, levels of trust and informal cooperation, and family outcomes to Indonesian data over the period 1985 to 1997. Such a study provides a starting point for gathering input data into the model developed in this paper.

Measuring the level of human capital is however a separate essential input to assess if the stage of social development is sufficiently advanced to permit the benefits of new ownership structures to be utilized, and to assess which structures are appropriate. The quality of human capital could be diagnosed using a combination of data inputs, such as, the percentage of population with basic literacy and numeracy skills, secondary, tertiary education; the number of books sold per capita; the education level of women; internet use; the standard of health services; longevity, and the number of cooperative and community groups including charities, and their relative size or contribution to GDP. Such data is available from the United Nations Statistical Offices in Asia and the Pacific and also from Indonesian Family Life Surveys conducted regularly under a Rand Corporation funded programme. The United Nations studies show for instance increasing internet usage but one which still places them in the lowest percentile of 3.76% of the population but with a dramatically increasing literacy rate 92.8% of males and 84.1% of females by 2003.

In addition under the United Nations Development Programme a range of Human Development Indices (HDI) have been developed to incorporate life
expectancy and literacy. Participation and gender equality are incorporated in Gender Empowerment Measures (GEM) targeting economic participation and decision making by the percentage of female administrators, managers, professional and technical workers and politicians. The Gender Development Index uses the same variables as HDI but adjusts the average achievement of each country in life expectancy, literacy and gross enrolment and income in accordance with the disparity in achievement between men and women. In the latest Human Development Report (2004) Indonesia ranks 111 out of 177 countries, 113 out of 177 in GDP per capita, 35 out of 95 in the HPI-1 rank, 90 out of 144 in the GDI index, and cannot be ranked using the GEM as some of the data are missing.

The distinction between emerging, transition, and advanced nations thus can be made using scores derived from these measurement scales. \( Y_1 \) and \( Y_2 \) can interact positively or negatively depending on whether feedback mechanisms exist. For instance, a society with only basic literacy skills will not be able to understand the benefits of share ownership. Privatization may substitute control by a private elite for state control, leading to dysfunctional allocation of resources. Alternatively, a society starting with a grossly skewed distribution of income and control of economic resources, such as in Russia, may need to consider gradations of phasing in ownership structures that introduce the role of the private sector gradually into an economy. This could be done through the financial system. The first step may be to develop a private residential housing, construction, and property development market through targeting loans for these purposes. The next stage would be the introduction of compulsory pension or superannuation funds that not only can invest in housing but also in the stock market. After that could come the marketing of equity linked home loans to individual households. Such a staged process requires however, the development of other factors such as appropriate regulatory and legal structures, as well as increasing the quality of human capital. Accepting for the purpose of this paper these definitions of economic and social development, we still need to understand the variety of ownership structures that can exist, in order to explain the purported beneficial impacts of changes therein on the development process. Constructing a scale of reducing state involvement in the ownership and control of the means of production, we could consider public private partnerships (PPPs) the first stage of evolution away from a state controlled economy to full market driven one. Private finance initiatives (PFIs) could be considered as a half way house in the middle. The final stage of evolution would be privatizations. The reason for starting with PPPs is that they have been described as a “third way economics” (Montanheiro, 2002). This is
because if the degree of government ownership rather than control is taken as a
criterion, PPPs are a halfway house between full state ownership and control,
and loosening the reins through PFIs and privatizations. There is yet to be an
economy where there has been zero state involvement, so an economy
characterized by large-scale privatizations can be taken as the far end of the
spectrum. The proposed criteria for measuring success in any economic reform
programme which relies on changing ownership are whether the ownership
structure will advance a nation along the economic and social development
scales as measured by \( Y_1 \) and \( Y_2 \), with that judgement dependent on the four
dimensions implicit in the theoretical framework. Table 1 describes the
database set necessary to measure \( Y_1 \) and \( Y_2 \).

A New Theoretical Framework to Aid Choice

The new theory of economic reform starts with an attempt to incorporate a
political dimension, or \( P \) factor, which reflects a belief that private owners
manage scarce resources better than state officials do. However political
instability, lack of political commitment, and a philosophical view of changing
ownership as a device to generate revenue, instead of one to fundamental
transform an economy by introducing market forces, can explain the lack of
success of privatization in an economy. The \( P \) factor can be assessed by the type
of government, which can range from that typified by communist regimes,
which use a command economy with 100% state ownership and control, to a
capitalistic society where market mechanisms allocate resources with minimal
government interference, ownership and control. Governance studies such as
those of Radelet (2003) allow the ranking of \( P \) over time.

Table 2: Necessary Database

<table>
<thead>
<tr>
<th>Measuring Economic Development</th>
<th>Measuring Social Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Level of income per capita for period 1989 - 2005 and range, mean, median and mode.</td>
<td>1. the percentage of population with basic literacy and numeracy skills, secondary, tertiary education,</td>
</tr>
<tr>
<td>2. Accumulated earnings is corporate profits or retained earnings per capita for period 1989 - 2005</td>
<td>2. the number of books sold per capita,</td>
</tr>
<tr>
<td>3. Total Debt / GDP for period 1989 - 2005</td>
<td>3. the education level of women</td>
</tr>
<tr>
<td>4. Total Debt Servicing/GDP Ratios for period 1989 - 2005</td>
<td>4. internet use,</td>
</tr>
<tr>
<td>5. Investment from Total Expenditure/Income for period 1989 - 2005</td>
<td>5. standard of health services,</td>
</tr>
<tr>
<td>6. Gross property income payable overseas to total current receipts from overseas for period 1989 - 2005</td>
<td>6. longevity, and,</td>
</tr>
<tr>
<td>7. Servicing cost of Gross debt relative to total foreign earnings for period 1989 - 2005.</td>
<td>7. the number of cooperative and community groups including charities, and their relative size or contribution to GDP</td>
</tr>
</tbody>
</table>
The type of government will influence government goals (G) and in turn will determine the allocation of resources. The optimum set of government goals can be derived from theories of financial regulation (Sinkey, 1992). These theories emphasise the pre-eminence of safety of depositors in financial institutions, currency and price stability, industry structures that promote competition, convenience of users of financial services (such as access to a product or service) and general public confidence in the financial system. Such goals are considered necessary to promote a market economy. However, how a government allocates its economic resources can determine whether such goals are achievable. An economy can expand its resource allocation through spending more than it raises in revenue, assisted by direct foreign investment, borrowings, and aid. Hence, government goals can be expressed as,

\[ G = f(S, S, S, C, C) = f(R) = f(D, FDI, K, A) \]  

(1)

Where safety (S), stability (S), structure (S), convenience (C) and confidence (C) are a function of how economic resources (R) are allocated and may require deficit spending (D), direct foreign investment (FDI), private capital formation and borrowings, (K) and foreign aid (A). The economic and financial dimension is that before privatization, both state and state owned entities should increase welfare levels by operating efficiently and effectively. To ensure a private monopoly does not take the place of a public monopoly, or that the newly owned private entity is not asset stripped, it is a prerequisite that a regulatory model must be in place to monitor the industry affected. The goals of this regulatory model should depend on the type of market to ensure safety, stability, structural efficiency, convenience, and confidence in the newly privatized entity. This is called the model, or M factor, and is a necessary condition in any change in ownership structure occurring in an industry, that was characterized by a high or partial degree of non-contestability. The type of market is characterized by its competitive structure, the C factor. Non-contestability can be due to barriers to entry and exit, either natural, or due to the high level of investment required, or legislated, due to particular government goals, or both. Degrees of non-contestability occur in industries such as banking, financial services, airlines, general transport, electricity, water, housing, health, education, and defence (Baumol, Panzar, Willig, 1983). Barriers are hence a result of the natural economic resources, human capital, technology, and infrastructure necessary to commence operations. Thus, it may be difficult to both enter and exit an industry by finding a takeout party or purchaser. Barriers
to entry or exit also can be the result of mandatory controls, such as licences and regulations that a government deems necessary to achieve economic or social goals.

The legal dimension, or the L factor, refers to the necessity to pass legislation that contains the optimum flexible but clear legal framework. This must be consistent with constitutional law necessary to the realization of privatization goals. The L factor could be measured according to compliance with the Compendium of Standards developed by the Financial Stability Institute, a joint cooperative effort between the IMF, the World Bank, the Bank for International Settlements and the Organization for Economic Cooperation and Development. The objective of the Compendium of Standards is to provide a common reference for the various economic and financial standards that are internationally accepted as relevant to sound, stable and well-functioning financial systems. The Compendium highlights 12 standards, which the Financial Stability Institute has designated as key and deserving of priority implementation, depending on country circumstances, and includes around 60 more standards considered relevant for sound financial systems. While the key standards vary in terms of their degree of international endorsement, they are broadly accepted as representing minimum requirements for good practice. They cover macroeconomic policy and data transparency, institutional and market infrastructure (insolvency, corporate governance, accounting, auditing, payments, and settlements, market integrity) as well as compliance with financial regulation and supervision, such as banking supervision, securities regulation, and insurance supervision. The latter financial regulation standards are included as a legal L factor, as the performance of the regulatory model and competitive industry structure (M and C factors) needs constant checking through legal test cases and convictions. The form of the regulatory model, or the appearance of the M factor, may that of a strong prudential supervisor, but the substance may be different. Alternatively, the market structure may be permitting non-competitive practices, because of flaws in the legal infrastructure. The IMF now conducts ratings of countries according to compliance with the Compendium of Standards, and this could be used as a scale to measure whether the necessary legal infrastructure is present, together with World Bank assessments of judicial independence.

The final dimension managerial expertise, organizational structure, and process or the E factor refers to the quality of those factors. An essential ingredient is the competitiveness of salary packages of government owned entities, which can mitigate against corruption. Inbuilt structures to prevent frequent changes in leadership within such entities, due to changes in
government, help ensure consistency in management. However, there should be agency relationships embodied in the enterprise structure. Such agency relationships must be supervised by the operation of the \( M, C, \) and \( L \) factors that prevent overcompensation of government officials prior to changed ownership structures. The state of regulatory model, industry competition, and legal infrastructure contribute to optimum enforcement of agency agreements.

In the process of changing ownership structures, hasty actions without essential preparations can lead to crucial mistakes and delays. "Moreover, bureaucratic formalities slow down the process while the opposing groups to (change).... use their influence to cancel the whole process or further postpone the process" (Culpin, 1999, p.12). Measuring human capital as outlined in Section 2 above can assess the state of \( E \) factor.

Given the spectrum of ownership structures, movement from 100% state ownership and control may require deregulation of industry structures and controls, that is, changes in the \( C \) factor. Here deregulation means protective measures, but should be conducted by increasing prudential supervision of the industry, that is by changing the regulatory model, or the \( M \) factor given the type of market structure or \( C \) factor. At the same time, development of the legal infrastructure or the \( L \) factor is a necessary condition in order to apply legal sanctions as part of prudential supervision. Changes in \( C \), and \( M \) are not sufficient without changes in \( L \). The new theory of choice of ownership structures espoused in this paper, thus conceives of a national economy as set of interrelating systems and subsystems. Hence the method of liberalising an industry through changing ownership structures can be described in terms of a set of equations. This in turn dictates a staged approach to changing ownership structures. The optimum mix of direct and indirect public ownership, where the latter is defined by ownership by pension or mutual funds or employee share ownership plans, can be seen as dependent on simultaneous design of the regulatory model and the industry structure, as well as the stage of development of the legal infrastructure. The first two factors of \( M \) and \( C \) will both influence, and be dependent on, the stage of social development more than \( L \), which has a closer tie to the stage of economic development. This could be expressed as,

\[
\text{The Optimum Ownership Mix or } O = M \cdot C (Y_J) \cdot L (Y_J) \quad (2)
\]

The type of ownership structure, whether a PPP, PFI or a privatization, as well as the timing and valuation method is influenced by the \( E \) factor: the stage of managerial expertise, organizational structure and processes as well as by the \( P \) factor: The \( E \) factor influences and is dependent on social development while
the political system, the *P factor*, has a closer relationship with the stage of economic development. Another way of expressing this is,

$$\text{The Optimum Type of Ownership Structure or } T = E(Y_2), P(Y_1) \quad (3)$$

It is postulated that in the above model Social Development, or $Y_2$, may decrease then increase as $M, C$ and $E$ change. This is due to the initial effects of deregulation of protective measures on an industry, and the time lag before learning effects of change kick in and prudential supervision increases in strength to compensate for the reduction in protective measures. The resulting increase in social development may be at a decreasing rate as decreasing returns to scale of $M$ and $C$ are experienced, as the regulatory model and market structure may become burdensome, clogged and lead to obstacles. This requires input from factors affecting economic development. The political and legal systems must allow feedback so that as social development occurs, more reliance can be made on self-regulatory market mechanisms. Hence the regulatory model and performance of the market structure will require continual monitoring. Development of the $E$ factor will contribute to more effective prudential supervision through enhanced skill levels both within the regulator, the marketplace and the entities subject to changed ownership. Economic Development or $Y_1$ may increase at a decreasing rate as efficiencies are realized or could display a Cobb Douglas pattern \(^*\) due to the political system not adapting quickly to sectoral imbalances, particularly in the supply of human capital. Alternatively, it could be due to the failure to adjust the legal infrastructure as the quality of human capital increases, which is a sequencing problem. If economic development is uneven, this could promote political instability, which in turn affects resource allocation. This would be most evident in failure to assess and adjust social development policies according to our allocated priorities of $M, C$, and $E$. The implications of this theory, or choice matrix, are that it is vital to assess the stage of $P, E, L, M$ and $C$ before choosing the ownership structure as well as timing and valuation methods; that the design of $M$, the regulatory model governing the financial system, is a starting point which must take account of the type of existing, and desired market structure, and that if all of the factors are weak at the starting point of economic reform, a careful staged approach should be used. Only a formal deregulation and program of ownership change should be considered. As already stated, this will involve continual monitoring both by the government undertaking the change, and by external aid agencies such as the IMF and World Bank. Otherwise an entrenched elite could take the place of the state in ownership and control, without the requisite spread of the advantages of moving an economy to a full
free market basis. The interaction of the variables of $P$, $E$, $L$, $M$ and $C$ is multidimensional.

An attempt should to diagnose an economy, and prescribe ownership mechanisms as well as necessary reform of factors to promote economic and social development. A staged approach to the choice of the development of ownership structures must be the overriding principle dominating an economic reform package. Where $E$ is rated highly together with $M$, $C$, and $L$ that a full public float with reliance on the market mechanism should promote the optimum outcome. This is what we would expect of an advanced economy with a high level of managerial expertise, organizational structure, processes, regulatory and industry structures and legal development. Or if the industry by its nature is non-contestable, such as telecommunications, a privatization can work with prudential oversight of pricing and market practices. That is the $C$ factor must be improved. However where all factors are rated at mid point, a PFI is the ownership mechanism, while a PPP is appropriate where all factors receive a low rating, except for the $E$ factor of managerial expertise, organizational structure and processes, which needs to be injected by the private sector.

Indeed this is often the rationale for involvement of the private sector. PPPs can occur in an advanced economy, where due to a long history of state involvement in a particular industry such as education, the industry is one where the regulator does not have the supervisory skills or requisite powers. Also the expertise in modern market practices within the industry may be lacking and the industry may be protected from competition by legislation. Hence it appears as a pocket of state ownership and control within a free market economy. An injection of market expertise from allied industries, which have developed private sector practices, should be sought in a consortium between SOEs and private firms. Where the $E$ factor is weak, while the other factors have been improved to a moderate level, changing ownership structures is not advisable until either the $E$ factor is improved, or the other factors strengthened.

Such a staged approach requires measurement techniques to assess the state of the input factors. The taxonomy of regulatory models described elsewhere (Currie, 2000) could be used to assess the $M$ factor, while the $C$ factor could be assessed by a Porter style industry analysis. The $E$ factor could be measured by the quantitative methods to assess human capital described in Section 2, while the $P$ factor assessed by stated government goals, as well as the resources devoted to all the other factors, as revealed in the national accounts. The $L$ factor could be assessed not just by compliance with the compendium of standards, but by studies of corruption and independence of the judiciary such as
undertaken in Indonesia. The advantages of the approach outlined above are that it focuses on factors not traditionally considered. For instance privatizations have been advocated as a cure all without considering the necessity to combine privatizations with spreading ownership and control through employee share ownership plans (ESOPs), or structured remuneration packages, or discounted share issues to customers to promote economic growth and heighten consensus (Kelso and Kelso, 1991; Gauche, 1998). Even these mechanisms can only work with a medium to high level of M. C. E. L. and P. A recent IMF survey highlighted the spread of ownership as a principal contributing factor behind the recent high comparative growth rates of certain economies. In Indonesia a World Bank study of bank performance in an industry dominated by state owned entities that in a country "that would probably walk away with the prize for Asia's most desperate banking system" that the thousands of village owned microfinance institutions remained profitable continued to serve millions of poor people at a critical period when they particularly needed access to financial services.

In countries with a successful track record of economic growth, a dramatic increase in direct investment by shareholders in the stock market accompanied privatization. This was achieved not only by the issuing of employee options, but also through mandatory superannuation in Australia and the establishment of ESOPs, as well as by issuing shares at a discount to customers of a company being privatized. However, the success of such policies in those countries ignores the fact that the state of the key factors outlined above may have contributed to the success of privatizations, such as in Australia. Neoclassical models of economic development have emphasized some of these factors as ends not means, and have not considered absorptive capacities or the necessity to assess the existing capacity and structure, and then tailor transition stages (Stiglitz, 1999). Such models have also ignored the fact that government goals and economic resources can be effectively transformed only from within, failing to emphasize the need for ongoing monitoring which requires a measurement technique to assess behavioural changes. This paper presents a theoretical framework and choice matrix, which prescribes a blueprint for reform. The Russian, Chinese, Polish, and Irish experimentation with attempts to change ownership structures should be analysed in the light of this new theoretical approach to determine if it can shed light on contrasting failure and success outcomes (Dabrowski et al, 2001). This goes beyond the ambit of this paper but provides room for ongoing research.

Empirical tests should focus on determining the statistical relationship between successful and unsuccessful changes in ownership mix and type in all industries, the category of regulatory model governing the industry (M), the degree of competition (C), the legal infrastructure (L), as well as the calibre of human capital (E) (which is a proxy of managerial expertise, organizational structure and processes) and the political system (P) (measured by the allocation of resources to promote safety, stability, structure, convenience and confidence). An attempt should be made to relate P to deficit spending, direct foreign investment, private capital formation and borrowings, and foreign aid. Success therefore can be measured by the new indices of social and economic development, in particular the danger levels for debt defined in Section 2. The first hypothesis to be tested is that Social Development, or Y, may decrease then increase as M, C and E change. The second hypothesis to be tested is that Economic Development or Y, may increase at a decreasing rate as efficiencies are realized or could display a Cobb Douglas pattern as explained above. A basis for such initial research would be a classification of regulatory models in the industries in emerging nations that did and are still to undergo ownership changes, as specified by the government in conjunction with any major external; debt provider, and assessment of the state of requisite inputs in terms of C, E, L, and P. An attempt can then be made to derive a statistically significant relationship between C, E, L, P and the performance of the industry and entity at a micro level (which can be attempted using measures of profitability and productivity) and output variables which measure success of policies, such as increases in the proportion of GDP the private sector is contributing, as well as the measures for economic and social development (Y, Y) as uniquely defined in the author's theory. The key dependent variables of interest are changes in the ownership mix, structure, the timing and valuation and how they relate to the independent variables as specified in the model. Initially multiple regression analysis using time series data to derive which independent variables explain the major discrepancies in performance between industries, will need to be followed by logit and probit analysis to derive an ownership success/failure model similar to corporate failure prediction models used in banking. However instead of partitioning companies into failed and non-failed, industries undergoing ownership changes will be so partitioned.

4. A Preliminary analysis of the Indonesian Economy

State owned enterprises have played a central role in the Indonesian economy having been established by the Dutch government in the last part of the 19
century to provide essential services such as ports, print, pawnshops and transport, as well as to produce basic commodities such as drinking water, soda and salt. Upon independence in 1945 these enterprises were taken over by a government which believed public ownership of the means of production was necessary to prevent neo-colonial oppression. Article 33 of the 1945 Constitution provided the legal foundation requiring that the Indonesian economy should be organised as a collective effort, with branches of production controlled by the state, including natural resources. The Act also established new state owned enterprises such as the Central Trading Company in 1948 to export Indonesia's agricultural produce and Usindo in 1956 to export industrial goods and import raw materials. In the financial sector and manufacturing industries, including textiles, automobile assembly, bottles, paper, tyres and cement production, more new state-owned enterprises were established. By 1957-58, the government nationalised all Dutch enterprises with the military ultimately to manage and operate most of these enterprises. During the mid-1960s, further seizures were made involving first British and then all other foreign property. At the same time the government established several new state-owned enterprises to invest in industrial projects that were sponsored by the Ministry of Industry and took over numerous private businesses that had borrowed from state banks and were experiencing financial difficulties. By 1965 state-owned enterprises were by far the dominant force in the economy. However nationalisations led to a flight of foreign capital which combined with the poor performance of state-owned enterprises led to a dramatic slowdown in economic growth, balance of payments difficulties and hyperinflation. By 1960 a new law was introduced requiring state-owned enterprises to create a second board of managers, making them bureaucratic, inefficient and unwieldy. Patronage, overstaffing, high costs, and monopoly profits were attacked by the New Order government in 1965. In line with the policy demands of the IMF and other Western donors the government instructed ministries to stop subsidies to enterprises under their control, return a number of nationalised enterprises to their former owners, and grant the managers of remaining enterprises greater autonomy. In 1969 state-owned enterprises were reorganised into three categories according to activity type- perjan (dependent on government budget), perum (welfare) and persero (commercial). Reform was hampered by protracted negotiations with former owners regarding asset values, and resistance from the military. It was also interrupted by the oil boom period which witnessed unprecedented support for the government owned sector resulting in 60% government control of all domestic equity by 1980 and control of a further 9.2% of foreign equity. This period was mainly driven by the state oil company,
Pertamina, which embarked on a series of ambitious industrial projects in heavy manufacturing. However lack of trained professionals and the handing back of control to government bureaucracies led to poor performance. The collapse in oil prices resulted in policies to attract greater amounts of foreign investment and aid such as ensuring state-owned enterprises such as Pertamina paid tax on time. There was also a significant decline in government capital participation in state-owned enterprises (SOEs) so that when only seven (45 less than the number the Minister of Finance designated after 1989) were privatised, proceeds to the government were minimal (see Table 4). In October 1988 the government introduced criteria to classify SOEs as very sound, sound, less sound, or unsound depending on their profitability, liquidity and solvency.

Table 4: Privatisation of State Owned Companies in Indonesia

<table>
<thead>
<tr>
<th>Company</th>
<th>Listing Date</th>
<th>Percentage of Shares Owned by Public (at end of 1997)</th>
<th>Total Proceeds (US$ million)</th>
<th>Proceeds to Government (US $ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT Semen Gresik</td>
<td>Jul-91</td>
<td>35</td>
<td>260</td>
<td>55</td>
</tr>
<tr>
<td>PT Indosat</td>
<td>Oct-94</td>
<td>35</td>
<td>1,162</td>
<td>830</td>
</tr>
<tr>
<td>PT Tambang</td>
<td>Oct-95</td>
<td>35</td>
<td>224</td>
<td>160</td>
</tr>
<tr>
<td>PT Telkom</td>
<td>Nov-95</td>
<td>35</td>
<td>2,200</td>
<td>1,360</td>
</tr>
<tr>
<td>PT Bank Negara Indonesia</td>
<td>Nov-96</td>
<td>35</td>
<td>386</td>
<td>0</td>
</tr>
<tr>
<td>PT Aneka Tambang</td>
<td>Nov-97</td>
<td>35</td>
<td>169</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Ministry of State-Owned Enterprises

The result of policies from that period of classification 1988 till 1998 is reflected in the high classification of 31% as less than sound or unsound see Table 5.

Table 5: Soundness of State Owned Enterprises 1997-98

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Enterprises*</td>
<td>%</td>
<td>Number of Enterprises**</td>
</tr>
<tr>
<td>Sound/Very Sound</td>
<td>81</td>
<td>59.8</td>
<td>89</td>
</tr>
<tr>
<td>Less Sound</td>
<td>10</td>
<td>6.6</td>
<td>15</td>
</tr>
<tr>
<td>Unsound</td>
<td>46</td>
<td>33.6</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100</td>
<td>128</td>
</tr>
</tbody>
</table>

These policies favoured strategic industries such as aircraft manufacturing, shipbuilding, steel and arms manufacturing, machine working, explosives, telecommunications, railways, electronics. Inefficiency and corruption at SOEs in Indonesia resulted in the destruction of more than Rp12 trillion in company value in 1995 alone see Table 6.
### Table 6: State Owned Enterprises: Destruction of Value in 1995

<table>
<thead>
<tr>
<th>Sector</th>
<th>Return on Equity</th>
<th>Value Destruction (Rp billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade and Industry</td>
<td>10.1%</td>
<td>665</td>
</tr>
<tr>
<td>Finance</td>
<td>9.8%</td>
<td>1.492</td>
</tr>
<tr>
<td>Mining and Energy</td>
<td>5.6%</td>
<td>3.514</td>
</tr>
<tr>
<td>BPIS</td>
<td>1.7%</td>
<td>1.422</td>
</tr>
<tr>
<td>Transportation</td>
<td>4.1%</td>
<td>2.108</td>
</tr>
<tr>
<td>Public Works</td>
<td>18.5%</td>
<td>30</td>
</tr>
<tr>
<td>Post, Tourism and Telecoms</td>
<td>14.3%</td>
<td>554</td>
</tr>
<tr>
<td>Pertamina</td>
<td></td>
<td>2.300</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>573</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>12.558</td>
</tr>
</tbody>
</table>

Abeng (2004, p.32) attributes the poor performance to all of the factors formalised in the new theory of economic reform, government intervention, lack of expertise, lack of competition, the regulatory model and lack of an appropriate legal infrastructure. Due to the fact that in Indonesia all industries were characterised by some degree of state ownership and control, this study will initially concentrate on the banking sector as one undergoing ownership change, and one in which a majority of assets were controlled by SOEs as described in Table 7. Another reason for this concentration is that a recent and expanding literature establishes the importance of financial development for economic growth. Measures of the size of the banking sector and the size and liquidity of the stock market are highly correlated with subsequent GDP per capita growth. Moreover, emerging evidence suggests that both the level of banking sector development and stock market development exert a causal impact on economic growth. Recent financial crises in South East Asia and Latin America further underline the importance of a well-functioning financial sector for the whole economy. Beck, Demirgüç-Kunt, and Levine, (1999), introduce a new database that for the first time allows financial analysts and researchers a comprehensive assessment of the development, structure and performance of the financial sector. This database provides statistics on the size, activity and efficiency of various financial intermediaries and markets across a broad spectrum of countries and through time. The database will thus enable financial analysts and researchers to compare the level of financial development and the structure of the financial sector of a specific country with that of other countries in the region or countries with a similar GDP per capita level. It allows comparisons of financial systems for a given year and over time. Previously, financial analysts and researchers have relied on a few indicators of the banking sector and the stock market, using data from the IMF's International Financial Statistics and the IFC's Emerging Market Database. This new database draws on a wider array of sources and constructs indicators of the
size, activity and efficiency of a much broader set of financial institutions and markets. Specifically, this database uses bank-specific data to construct indicators of the market structure and efficiency of commercial banks. Furthermore, this is the first systematic compilation of data on the split of public vs. private ownership in the banking sector. This database is the first attempt to define and construct indicators of the size and activity of nonbank financial intermediaries, such as insurance companies, pension funds, and nondeposit money banks. Finally, this database is the first to include indicators of the size of primary equity markets and primary and secondary bond markets. This results in a unique set of indicators that capture the development and structure of the financial sector across countries and over time along many different dimensions. The proposed tests will incorporate this data for the banking sector in Indonesia plus the other proxy indices suggested above for other inputs into the model.

<table>
<thead>
<tr>
<th>March, 1999</th>
<th>Number</th>
<th>Staff</th>
<th>Market Share %</th>
<th>Negative Net worth (Rp bil.)</th>
<th>Share in total negative net worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original State-Owned Banks</td>
<td>7</td>
<td>94</td>
<td>50</td>
<td>216</td>
<td>66</td>
</tr>
<tr>
<td>Private Banks Taken Over by the State</td>
<td>12</td>
<td>41</td>
<td>22</td>
<td>80</td>
<td>24</td>
</tr>
<tr>
<td>Regional Development Banks</td>
<td>23</td>
<td>13</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Banking Sector</td>
<td>42</td>
<td>147</td>
<td>75</td>
<td>297</td>
<td>91</td>
</tr>
</tbody>
</table>


5. Conclusion: Significant and Novel Elements of the Proposed Research Paradigm

This paper has canvassed some of the essential ingredients in the resolution of the debate as to how best to promote economic development and measure it, paying particular attention to the role of debt in an economy in terms of precipitating crises. What is new in this paper is a theoretical framework to analyse and measure readiness of an economy for reform, and hence prescribe an optimum staged approach. Analysis of past successes and failures, empirical validation of the input factors of the model, and their relationship to desired outcomes, may lead to other approaches to economic reform through changing ownership structures. For instance, continued government involvement by requiring a percentage of future profits or gain upon resale when economic and political opinion considers privatization a fire sale solution, has not been attempted. Neither have mechanisms to ensure employees (and customers) share in the benefits conferred by a privatized entity. A summary of significant and novel elements of the theory and the empirical tests with new indices of
economic and social development as proposed reveals substantial advantages. Conducting empirical tests of a new theory of economic reform can provide much needed guidance to policy makers. Quantification of new indices of economic and social development highlights the role of debt but also social factors, while testing the effect of changes in regulatory models in an emerging nation. Quantifying failure or success in changing ownership structure, developing an early warning system of economic reform failure in terms of debt levels, and validating an optimum staged approach to economic reform, is likely to provide development strategies that adjust policies regarding ownership structures to the underlying fundamental differences between economies.

End Notes

1 School of Finance and Economics, University of Technology, Sydney, Kuring-gai campus, PO Box 222, Lindfield, NSW 2070 Australia Tel: +61-2-95145450; Fax: +61-2-95145515 Mobile: +61 2412 261 568. E-mail address: Carolyn.currie@uts.edu.au.

2 Result of merger in 1999 of four separate state owned banks with 25% of the market share of the financial system.


5 Prior to the Asian crisis in 1997 no studies queried or assessed the role of regulatory models governing the most important layer of the financial system, the banking sector. By 2005 there is still a paucity of literature focusing on classifying regulatory models in Asian financial systems. For a review of the debate see Currie (2000).


Other warning points may be when gross external debt reaches 160% of exports, with 200% being a major danger point; or when the servicing costs of gross debt reaches 15% of exports of goods and services, with 20% being regarded as a major danger point; or when the current account deficit reaches 20% of exports with 30% as a major danger point these targets are based on an Australian study 1861-1988 (Moore, 1989).


The most comprehensive review of the third sector in Indonesia has been collected by the Asian Philanthropy Organization www.asianphilanthropy.org/countries/indonesia.


Cited in footnote 6.


Automatic teller machines, internet banking or electronic commerce are examples of governments providing an environment where the financial system achieves a goal of provision of convenient products and services.

The purpose of attempting to capture these factors and variables in mathematical form is to inspire future research. The IMF provides this data
through the IFS online data series http://ifs.apdi.net/imf/ifsBrowser.aspx


Cobb Douglas cycles display patterns of over then under supply, that is, overshooting then undershooting market signals. This is due to time lags in production responding to price signals. In terms of an economy, this could be evidenced by a rapid increase in economic growth followed by contractions with eventual return to a moderate state of economic growth.


Speakers argue that ownership, not the number of conditions, is the key to success of an IMF program. IMF Survey, Volume. 30, Issue 16, (August 13, 2001).


This history based on Abeng, (2004), Chapter 1.

Figures do not include state banks, PLN or those enterprises in which the government has a minority interest. The lower number of enterprises for 1998 is explained by the creation of a holding company for the strategic industry companies, PT Pakarya Industri. Source: Ministry for State-Owned Enterprises

Value destruction is defined here as (actual ROE - standard ROE) x equity. The standard ROE in Indonesia is considered to be 22% for private enterprises but only 20% for state-owned enterprises because of their social/developmental/public service role. Source: Abeng (2004), op.cit. Tables 2.1 and 2.2.

For an overview over this literature see Levine (1997).

See King and Levine (1993a,b) and Levine and Zervos (1998) for correlation and Levine, Loayza and Beck (1999), Beck, Levine and Loayza (1999), Neusser and Kugler (1998) and Rousseau and Wachtel (1998) for evidence on causality. Also, Demirgüç-Kunt and Maksimovic (1998) show that firms in countries with an active stock market and large banking sector grow faster than predicted by individual firm characteristics.
References


Stiglitz, J., Must Financial Crises Be This Frequent and This Painful?, McKay Lecture, Pittsburgh, Pennsylvania, (September 23, 1998a).


