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## Causal Empirics and Political Economy of Official Development Assistance and Development in Asia: The Case of Vietnam\*

Tran Van Hoa\*\*

Recent studies indicate that official development assistance (*ODA*) which started more than 50 years ago with a budget of \$2.3 trillion has not fulfilled the purpose of assisting development in developing or less developed countries. The issue is challenging as it questions the politico-economic foundation and success of support from rich and generous donor Development Assistance Committee (DAC) countries, and Korea recently, to needy ones, and the effectiveness of the substantial operations of such international organisations as the World Bank and the Asian Development Bank in their efforts to promote global growth and to reduce regional poverty and income inequality. The fragility of these findings based on current methodologies such as ‘growth regressions’ is however well-known. The paper uses a new economic and trade policy modelling approach with Kydland (2006)-data consistency properties and comprehensive macroeconomic interaction (Krueger, 2007) to provide substantive empirical findings on the causal link between *ODA* and development (or growth) in Asia for development policy debates and strategic study. The paper’s focus is on a poor, large *ODA*-receiving and major transition country in Asia, Vietnam, where Korea’s *ODA* has been increasingly played an important development part.

JEL Classification: C32, C51, C53, F12, F13, F14, F21

Keywords: international economics, development economics and policy, Official Development Assistance, transition economies, advanced econometric modelling and forecasts.

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## 1. INTRODUCTION

Numerous recent studies indicate that the *ODA* program which was launched by US President Harry S. Truman more than 50 years ago and with a budget of \$2.3 trillion (in today's dollars) has not fulfilled the purpose of assisting development in developing or less developed countries (Easterly, 2006, 2007, and publications cited therein). The finding is challenging with important implications in two aspects: First, it questions the politico-economic foundation and success of support from rich, industrial and generous donor 22-member DAC countries and Korea (which is not a DAC member) to needy ones and, currently in particular, to meet the United Nations Eight Millennium Development Goals (MDG) as adopted by 189 nations and signed by 147 of them in September 2000. Second, it questions the effectiveness of the donor countries' aid programs and of the substantial multilateral operations of such august international organisations as the World Bank (WB) and the Asian Development Bank (ADB) in their efforts to promote global development and growth, living standards, and to reduce regional poverty and income inequality (WB, 2007; ADB, 2007).

While the analysis of some of those studies is comprehensive and well researched, it is either chiefly descriptive or, in particular in the case of quantitative investigations, fragile or not robust (Levine and Renelt, 1992; Minier, 2007). It is also at the aggregate level and not sufficiently focused on a specific recipient country which may have specific *ODA* and development characteristics. More importantly, due to the state-of-the-art of macro-economics and the 'applied, applied' nature of development economics (Krueger, 2007), a standard or time-tested economic-theoretic foundation of some of these studies may not have been adopted or explicitly stated in the modelling specification. As a result, their conclusions may be argued as insufficiently substantiated to present a credible and realistic view on the *ODA* effectiveness issue. As a contribution to the debates and development policy programs and, more significantly, to the practical recommendations and implementation by national and international consultants/advisers,

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project managers, and decision-makers, the paper formally restates the issue of ODA-growth causation and introduces a new and appropriate economic and trade Kydland-data consistency modelling approach to provide substantive empirical findings on the link between ODA and development or growth in developing Asia. As a practical illustration and to be more specific for realistic policy applications, the focus in this study is on a low-income and major transition country in Asia, Vietnam, which is in its early Rostov-Schumpeter development stages, has just become the WTO's 150th member, and is a recipient over the years of large ODA grants. In 2003 for example, these grants (net) stood at \$2,072 million or 5.18% of Vietnam's GDP (well over the 1% international benchmark of neediness) in which the major contribution was 1.61% from Japan, 0.98% from the EU, and 2.26% from multilateral organisations. Korea's ODA to Vietnam in recent years has been increasingly playing an important role in Vietnam's development process. The paper's findings would be in this context useful inputs to policy-makers in Korea and Vietnam in the formulation of their important external relations.

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## 2. ISSUES IN DEVELOPMENT AND ODA

It has been suggested that development or development economics was not discussed in Adam Smith's treatise on the wealth of nations. It appeared as a separate field of study only after the World War II when the countries under the centuries- or decades-old colonial rule, heavily rural and mostly poor, gained their independence. With the help of the so-called modernising elite – politicians, bureaucrats, and other experts, these countries were assisted in achieving development and growth and improving living standards to a level similar to those in developed or colonist countries. These countries were then heavily industrial, mainly and naturally through industrialisation. With the dominance at the time of the Keynesian revolution over the free-market failures in the arrest and resolution of the Great Depression, governments

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assumed the role of decision-makers in formulating policies and programs to achieve development and growth for needy countries (Krueger, 2007). This suggestion seems plausible in the context of the early history of *ODA* but it appears to overlook the fact that, in recent times, development grants have come from former colonial countries even in Asia. The countries in context include Korea (with the exception of the crisis years, 1997-1999) and Japan over the years and even China since 2002.

Development or, equivalently for our paper's purpose, growth is a difficult field of study, conceptually and in practice. At the conceptual level, there is a large number of competing growth theories, perceived and analysed either through the production or expenditure channel of the United Nations System of National Accounts 1993 (SNA93), investment and innovation (or knowledge) sources, the wages-gross operating surplus components, the industrial relations structure, the labour-school enrolment or gender aspects, or the organisational management behaviour, to name a few. At the practical level where much economic growth research, due to either the lack of a general consensus on a singular growth causation process or the 'applied, applied' nature of growth determination analysis (Krueger, 2007), has been focusing on exploring or finding the factors or actions determining growth (Easterly, 2007) using an arbitrary preferred regression relationship or a set of arbitrary preferred growth relationships. The fragility of this type of economic research – the so-called growth regression approach – has been exposed by Levine and Renelt (1992) who used Leamer (1983) extreme-bound analysis to show that conventional growth regression results are not robust, that is, they are very susceptible to changes in the set of conditioning factors or variables in growth regressions. Second, the actual functional form of the regression equations which is, usually or as a convention, linear in the selected explanatory and independent variables, has also been advanced as a main cause of the fragility of growth regression results (Minier, 2007). Third, exclusion of the effects of structural change, domestic reforms or crises, or regional shocks such as terrorist attacks, SARS, avian flu or tsunamis and the time-varying impact of the Prescott type in growth regression equations has

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also been suggested as a source of fragility (Durlauf and Johnson, 1995; Tran Van Hoa, 2005).

In this paper, a simple, new, effective and general modelling approach is introduced to empirically study growth and its causal link to *ODA* in developing countries in general and in the focus country, Vietnam, in particular, for development policy purposes. This approach is conceptually based on the basic postulates of the cross-border flows of goods, capital and finances of international economics and trade theory, and their potential contribution to a country's growth, and avoids to a large extent, the concerns or drawbacks of the growth regressions and other development studies as discussed above. It incorporates, in addition, the Marshallian or Haavelmo simultaneous or circular causality effect among economic factors and activities, and the comprehensive interaction between the production, consumption and exchange processes of these factors and activities as affecting growth (Krueger, 2007). The approach was introduced by Tran Van Hoa (2002c) in the form of a generalised gravity theory (GGT) and has been used successfully econometrically and in the sense of Kydland (2006) in a number of studies on empirical trade-growth causality in several contemporary Asian economies (see below).

### 3. A SIMPLE *ODA*-GROWTH CAUSAL MODEL FOR DEVELOPMENT POLICY

The development of the GGT model for *ODA*-growth causal study and development policy and its special features are, as mentioned above, based on the basic postulates of conventional international economics and trade theory and previous successful applications in the sense of Kydland (2006) where prediction-reality compatibility is a crucial credibility criterion (e.g., see Tran Van Hoa, 2002a, 2002b, 2002c, 2003, 2004, 2005). The economic foundation and econometric specification and the improved features of the new GGT model of *ODA* and growth can be briefly described as follows.

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We consider, for convenience and without loss of generality, a simple model of two simultaneous (circular causality) implicit or arbitrary functions for income ( $Y$ ),  $ODA$  and trade ( $T$ ). This model comprises and extends the basic economic-theoretic postulates linking essentially growth to trade, investment,  $ODA$ , economic policy, shocks and reforms. This GGT model incorporates, in one important structural specification aspect, not only economic factors but also geographic or demographic attributes (see Frankel and Romer, 1999; Johansen, 1982) or demographic dynamics (see Kydland, 2006). Thus for simplicity

$$F1(a, Y, T, ODA) = 0, \tag{1}$$

$$F2(b, T, Y, ODA, X, W) = 0, \tag{2}$$

where  $F1$  and  $F2$  are two arbitrary functionals linking income and their theoretically plausible and empirically testable determinants. In this model,  $Y$  may be defined as GNP or, by more popular convention, GDP, or income per head of population (Easterly, 2007). Trade may be defined as exports or imports or openness (exports plus imports), and may include services and FDI.  $ODA$  is net  $ODA$  grants to a recipient country or countries in focus.  $X$  and  $W$  denote, respectively, other economic (fiscal, monetary, trade and industry policy – see Sala-i-Martin, 1991) and non-economic (e.g., size, policy reform and external shocks – see Johansen, 1982; Tran Van Hoa, 2005) variables, relevant to a country's growth or development. Importantly for our empirical study, in addition to  $T$ ,  $Y$  and  $ODA$ , data for  $X$  and  $W$  must be available and consistent with published time-series data in a standard Kuznets-type accounting framework (e.g. SNA93), or the accounting system of Stone (1988), or the recent World Bank World tables.

Using planar approximations (e.g., see Allen, 1960; Tran Van Hoa, 1992a, 2004), the 2-equation model (1)-(2) can be written in stochastic form and in terms of the rates of change for continuous economic variables (e.g.,  $Y^0$ ,  $T^0$ ,

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$ODA\%$ ,  $X\%$ ) and  $W$  of all the included econometrically exogenous and endogenous variables ( $Y$ ,  $T$ ,  $ODA$ ,  $X$  and  $W$ ) as

$$Y\% = a_1 + a_2T\% + a_3ODA\% + u_1, \quad (3)$$

$$T\% = b_1 + b_2Y\% + b_3ODA\% + b_4X\% + b_5W + u_2. \quad (4)$$

In (3)-(4),  $Y\%$  is growth or development indicator (the rate of change in GDP) and the equations are linear and interdependent in the sense of Marshall or Haavelmo,  $a$ 's and  $b$ 's are the elasticities or impact parameters, and  $u$ 's other unknown factors outside the model (Frankel and Romer, 1999) or the disturbances with standard statistical properties. In (3)-(4), circular and instantaneous causality in the sense of Granger (1969) or Engle-Granger (1987) exists or is regarded as a testable hypothesis. In their exact or non-stochastic forms (in which all disturbances are idealistically zero), these equations form the basic structure of the CGE/GTAP models of the Johansen class, in which all elasticities are usually assumed (calibrated) to be given or known *a priori* and the impact of endogenous or endogenised variables (say  $T$ ) on  $Y$  is dependent on the exogenous variables and calculated system-wise using such iterative procedures as the Gauss-Euler algorithm with a known sparse matrix of elasticities.

It can be verified that our so-called flexible (or function-free) GGT  $ODA$ -growth equation (3) in the model above is econometrically identified in the sense of mathematical consistency. An impact study of  $ODA$  (or endogenous  $T$  or exogenous  $X$  and  $W$ ) on growth can be analysed directly via its 2SLS (or reduced-form adjusted) or instrumental-variables (IV) estimation or indirectly via its reduced-form estimation in terms of all the exogenous economic and non-economic variables in the model. It is well-known in the pure theory of econometrics that the use of OLS to estimate equation (3) for example will, in this case, produce biased parameter estimates and subsequent incorrect policy prescriptions.

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An important feature of our GGT modelling approach adopted above is that, contrary to the CGE/GTAP restrictive (goods only) and so-called *confirmatory* approach (i.e., the causal functional relations are *a priori* fixed and the values of elasticities are assumed or subjectively given – see also Kydland, 2006, for a requirement of data-based calibration for credible policy analysis), our impact study is historical-data-consistent as all required elasticities are estimated from the model and from available official data and have asymptotically and statistically desirable and consistent properties (an important issue in empirical applications – see Frankel and Romer, 1999) when suitable estimation and forecasting methods (e.g., 2SLS or other IV methods) are employed. Another important feature is that, contrary to other SNA93-based or Keynesian system-wide modelling approaches, our impact study has the general flexibility in modelling specification rationale and implementation in assuming explicitly no *a priori* functional forms (e.g., linear, log, log-linear) for the equations in the model (for the relevance of this approach in preferred applied modelling, see Minier, 2007), and it can handle data on trade or budget deficits (having therefore negative values) and real rates of interest when inflation exceeds the nominal interest rate. The usual method of routine log transformations for all variables in a single or multi-equation econometric model cannot do this. It is interesting to note that, from our model's construct, the impact may be regarded as long run in the context of Engel-Granger cointegration or long run causality if all variables in the equations are integrated of degree one.

#### 4. EMPIRICAL IMPLEMENTATION OF THE MODEL AND SUBSTANTIVE FINDINGS

To implement the GGT *ODA*-growth model (equations (3)-(4)) within the trade and current account framework above where circular causality exists between  $Y$  and  $T$ , to empirically investigate the causal relationship between *ODA* and growth for our country in focus, Vietnam, and with relevant

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features since the country introduced its ‘doi moi’ or renovation policy reforms in the late 1980s, the complete model for estimation can be expanded as

$$Y\% = a_1 + a_2T\% + a_3ODA\% + a_4D\% + a_5SH + e_1, \quad (5)$$

$$T\% = p_1 + p_2YT\% + p_3ODA\% + p_4FP\% + p_5MP\% + p_6INF\% + p_7XR + p_8IP + p_9POP + p_{10}SH + e_2. \quad (6)$$

The model’s rationale can be described as follows. In equations (5)-(6), Vietnam’s growth ( $Y\%$ ) is assumed to be or to be tested as being dependent on its *ODA* (an exogenous variable dependent chiefly on external factors or donor countries’ economic conditions and politics) together with trade in goods ( $T$ ), external debts ( $D$ ), crises, shocks or policy reform ( $SH$ ). But this endogenous trade for example is also affected by economic activities (see below), trade-related policies ( $XR$ ) – see Coe and Helpman, 1993 – and external or internal shocks ( $SH$ ) – Johansen, 1982; Tran Van Hoa, 2005) in Vietnam and its trading partners. Assuming for convenience, and for lack of sufficient sampling sizes for the data, that Vietnam’s trade partners GDP ( $YT$ ) is a proxy for all variables reflecting their own economic activities, policies and shocks, then equation (6) for  $T$  in its reduced form simply assumes more specifically that Vietnam’s trade with its partners is affected by the exogenous factors such as its partners’ GDP (named  $YT$ ), *ODA* effect, fiscal policy ( $FP$ ), monetary policy ( $MP$ ), inflation pressure ( $INF$ ) – see Romer (1993), exchange rates ( $XR$ ) – see Rose (2000), industry policy ( $IP$ ) – see Otto *et al.* (2002), population ( $POP$ ) – see Frankel and Romer (1999), external debts ( $D$ ), and internal or external shocks or policy reform ( $SH$ ) – see Johansen (1982) and Tran Van Hoa (2005) – of Vietnam. Equation (6) is in fact a derived demand equation for tradable goods (or even transacted services and investment) reflecting essentially its demand (by its trading partners) and domestic and foreign-aided supply conditions in Vietnam, as postulated in standard microeconomic and international trade theory.

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서식 있음: 지정한 문자 수와 상관없이 오른쪽 들여 쓰기 하지 않음, 줄 간격: 고정 19 pt, 눈금에 맞추지 않음

삭제됨:

서식 있음: 들여 쓰기: 첫 줄: 3.5 글자

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#### 4.1. Data

Data for the estimation were obtained from the ICSEAD (2006) regional databases. Due to the unavailability of some required time-series data for the model above, especially for developing economies such as Vietnam, the variables representing *MP*, *XR*, *FDI* and *IP* are omitted. For consistency with previous studies, all economic data are in current value. External debts (*D*) which, in Vietnam like in many other countries in Asia such as Indonesia, Philippines and Thailand, indicate wholly public borrowings and loans and play a particularly important role in economic management policy during its transition period. In Vietnam, *D* peaked at \$23,270 million in 1990, but fell to \$15,817 million or 39.99% GDP in 2003. In our study, all original data are obtained as annual and then transformed to their ratios (when appropriate). The ratio variables include *ODA*, trade (*T*) in goods (exports + imports), government budget (*G*), debts (*D*) including foreign banks lending, all divided by GDP. Other non-ratio variables include population (a gravity factor proxy) and binary variables representing the occurrence of the economic, financial and other major crises, policy shift or reforms over the period 1986 to 2006. All non-binary variables are then converted to their percentage rate of changes. The use of this percentage measurement is a main feature of our policy modelling and impact approach and avoids the problem of *a priori* known functional forms (see above) and also of logarithmic transformations for negative data (such as budget (fiscal) or current account deficits). As the required GDP data for Vietnam's trading partners are difficult (if not impossible) to measure and our sampling size is limited, we have focused on a unidirectional direction of trade and trade/*ODA*-to-growth below in a 'dual' context, that is, the world's *ODA* and trade with Vietnam and their causal impact on Vietnam's growth.

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The data for Vietnam's GDP, net *ODA*, *T*, *G*, *D*, and estimated mean population (*POP*) were also retrieved from ICSEAD 2006 regional databases. Vietnam's openness is defined as  $T/GDP$ . All trade and economic data are at current prices in U.S. dollars. In addition to the usual demographic and

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economic components in our model, we also identified (due to ICSEAD and other data unavailability before 1986) 3 major crises that had affected Vietnam during our sampling period, and included them as 3 binary dummy variables with persistent effects after their occurrence (one-off effects were postulated but empirically discarded as implausible in the study). These are Vietnam's membership of the ASEAN in 1995 (C95), the Asia economic and financial crisis of 1997 (C98), and Vietnam's major enterprise and investment law reforms in the early 2000s (C01). The outbreaks of SARS in 2003, avian or bird flu early in 2004, and the December 2004 tsunami devastation have been omitted due to a lack of sufficient data. Various modelling experiments in our study also show that these crises all have an econometrically permanent or non-decayed effect (reflecting auto-regressiveness or non-stationarity) on Vietnam's growth.

#### 4.2. The Estimated Models

The *ODA-growth* model for Vietnam within the context of the GGT and Vietnam's international trade and relations with the world is based on the availability of those data and can be written fully using *mnemonic notation* for estimation and impact analysis as a structural equation (7) for  $Y\%$  and a reduced-form equation (8) for  $TY\%$  as

$$Y\% = \alpha_1 + \alpha_2 TY\% + \alpha_3 ODAY\% + \alpha_4 DY\% + \alpha_5 C95 + \alpha_6 C98 + \alpha_7 C01 + v_1, \quad (7)$$

$$TY\% = \beta_1 + \beta_2 YT\% + \beta_3 ODAY\% + \beta_4 DY\% + \beta_5 GY\% + \beta_6 IPD\% + \beta_7 POP\% + \beta_8 C95 + \beta_9 C98 + \beta_{10} C01 + v_2, \quad (8)$$

where, in percentage change,  $Y\%$  = Vietnam's growth,  $TY$ ,  $ODAY$ ,  $GY$  and  $DY$  are respectively Vietnam's total trade or openness, net *ODA*, government budget, and external debts with all being adjusted for its GDP.  $YT$  = GDP from the OECD countries (with major *ODA* grants to and trade with

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Vietnam) and representing to a large extent Vietnam's principal trading countries' income or wealth. The variables *IPD* and *POP* denote, respectively, inflationary pressure and market size (a gravity factor) in Vietnam. The  $v$ 's are the disturbances representing other unknown factors but with effects on  $Y\%$  and  $TY\%$  (see Frankel and Romer, 1999 for this rationale).

In deriving equations (5)-(6) and (7)-(8) above, we essentially assume that Vietnam's *ODA*, trade and *D* affecting its growth (or development) are testable hypotheses and this trade itself is essentially a demand equation for either imports from the world and exports from Vietnam. The distance and area characteristics of the model are omitted and proxied by population size as all of our variables are expressed in terms of time-series (distance and area may also not be appropriate even for cross-section studies with high-trade and small countries like Singapore and Brunei in ASEAN or ASEAN+3). All variables in the model are expressed as their rates of change so the units of measurement (i.e., \$billion or \$million, ratios or index numbers) for these variables are irrelevant. *SH* is a qualitative time-series variable representing internal or external shocks and policy reform having either one-off effects or temporally permanent effects (autoregressive and non-stationary) on trade and growth with discrete values.

The implications of our model above are important for studying the transmission mechanism or relationship between Vietnam's *ODA* and its growth within the conceptual framework of international trade, external debts and loans and recent developments in Vietnam and Asia. This relationship, if empirically substantiated, can provide powerful evidence on the relevance of *ODA* in particular to development and welfare enhancement premises in Vietnam and, as a result, it would lend crucial support to the viability, sustainability and promising prospects of *ODA* to the country at least in the past 20 years or so. It also provides empirical evidence to support further credible and robust development policy to assist Vietnam and its donors such as the DAC in general and Korea in particular in its economic push forward in collaboration with the global community.

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**Table 1. Impact of Net ODA on Vietnam's Growth and Development**  
**Generalised Gravity Theory Causality Modelling in Flexible**  
**Structural Equations 1986 to 2005**

Variables	OLS	OLS	2SLS	2SLS
	GDP Growth	Income/Head	GDP Growth	Income/Head
	Estimated Impact	Estimated Impact	Estimated Impact	Estimated Impact
Constant	5.935**	3.924**	5.952**	3.937**
ODA/GDP	0.010*	0.010*	0.011**	0.011**
Openness/GDP	0.032*	0.034*	0.027^	0.030*
Debt/GDP	-0.038**	-0.040**	-0.034**	-0.037**
AFTA	2.201**	2.428**	2.299**	2.502**
Asia Crisis	-3.279**	-3.074**	-3.291**	-3.083**
Reforms 2000s	2.286**	2.273**	2.238**	2.335**
$R^2$ (%)	74.81	74.40	74.62	74.07
$F$	5.94**	5.81**	5.59**	4.41**
DW	1.51	1.44	1.47	1.54

Note: \*\* significant at the 5% level, \* significant at the 10% level, ^ significant at the 15% level.  
 Source: World Bank (2005) as compiled by Australia's 2005 DX databases, OECD (2007), ICSEAD Economic and Trade Data (2006), and author's own calculations.

### 4.3. Substantive Findings

Two sets of empirical findings for the *ODA-growth* model as given in (7) and based on the hypothesis in equations (1)-(6) above for Vietnam as observed over the past 20 years or so and within the framework of international relations and trade theory are given in table 1. These estimated equations provide data-based information on the causality direction of *ODA*, together with trade intensity and debts, to Vietnam's growth or development. Due to the importance of the estimation methods used that can provide greatly different results and conclusions even for the same model, equations, and data (see further detail in Frankel and Romer, 1999) and also for the purpose of statistical efficiency comparison, two types of estimated structural

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parameters have been calculated for each equation. These are the OLS, and the 2SLS (an IV estimator). The suitability of the 2SLS over the OLS in the structural equations of our model in finite samples are well-known in the econometric literature.

From the results given in table 1, we note 5 important findings. First, while having *high success in modelling output growth* (change in GDP or in income per head of population) has been internationally accepted as difficult (see Frankel and Romer, 1999), all 4 estimated structural equations of Vietnam's growth contributed by *ODA*, total trade in goods, external debts, and shocks and reforms are statistically significant (using the *F*-test) and have a much higher modelling performance (that is,  $R^2$  reaching up to 75%) relative to other trade-growth causality models as reported in previous international studies. As  $R^2$  is an average number for the whole sample size used in estimation, it may not be able to give a detailed period-by-period success of the estimated models. It is important to note that a graph of Vietnam's observed and predicted growth fluctuations based on the 4 estimated equations above for the period (1986-2005) under study would give a better measurement of modelling success (see also Kydland, 2006, for this property of good modelling in the sense of 'computational experiments with data-based calibration' for credible policy study). The graphs for these observed growth data and our forecasts have also been plotted (see figures 1-2). The results indicate that the peaks, troughs and turning points of Vietnam's actual growth fluctuations are accurately predicted for almost all of the 19-year period under study. Second, when we look at the dynamic features of the estimated models using either plots or standard econometric diagnostic tests, all estimated equations also appear free from serious first or higher order autocorrelation-induced problems or simple Markov scheme inefficiency.

Third, *ODA*, as defined by its net value and adjusted for the country's total level of economic activities, has uniformly positive impact on Vietnam's growth and, equivalently, its development over the sample period 1986-2005. Interestingly, from an econometric perspective, this impact (for GDP growth)

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appears to be weak for the equations estimated incorrectly by the OLS, but it is statistically significant when the correct method of 2SLS is employed. Fourth, the specification of the *ODA-growth* model within the framework of international economics and trade not only aligns the model more closely to the priorities of Vietnam's recent development and opening-up policy exemplified by its 1995 ASEAN FTA membership and its 12 years of tortuous negotiations to attain the WTO membership early in 2007, but also provides important insights into the roles played by external relations, trade and debts in the economy under increasing globalisation and regional economic integration. Finally, the introduction of crises, shocks and major policy reforms into the model (which is natural if not imperative for this kind of impact study especially with recent major developments in the Asian region and which other similar impact studies – e.g., the CGE/GTAP – are unable to accommodate) provides more credible modelling outcomes and very informative evidence on the characteristics of these crises, shocks, policy reforms, and the roles they have played in or contributed to the economic performance of Vietnam in recent years.

## 5. IMPLICATIONS FOR DONORS DEVELOPMENT POLICY IN VIETNAM

While the GGT *ODA-growth* model we used for study above may be simple and illustrative in their structure and limited by data availability, it contains the main and conventional ingredients of international economics, recent advances in economic policy modelling, and on cross-border flows in goods, capital and official finances, their major determinants, and their causal relationships. It is also fairly consistent, for comparative purposes, with similar previous studies of a growth regression kind or other descriptive or quantitative approaches. The empirical findings reported in the preceding section also provide a number of new and interesting insights on the *ODA-growth* causation nexus and, in a novel way, on the effect of major sudden

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shocks and gradual policy reform on development for which very limited research has been carried out or reported. Finally, the findings are seen as providing empirical support (or rejection) of recent premises on the effectiveness of the *ODA* programs (Easterly, 2006, 2007; ADB, 2007; WB, 2007), an important priority of donor countries and international organisations. This claim is credible in the sense that the findings provide important data-based inputs and implications with historical support for informed debates and dialogues on development and co-operation policy between donor DAC countries and Korea and Vietnam (a low-income country) in particular and least developed and developing economies in Asia in general.

**5.1. Does ODA Assist in Increasing Vietnam’s Growth and Development?**

*ODA*-to-growth is an important causality topic in development economics that has attracted some of the best minds in applied macroeconomic and policy analysis and modelling in the field over the last 50 years or so, and the conclusions have been in the negative in general or not robust (see Levine and Renelt, 1992; Easterley, 2006, 2007; Krueger, 2007; Minier, 2007). Our empirical results in table 1 above show that, in the specific case of Vietnam’s growth and its *ODA* receipts and linkage over the past 19 years or so, the benefits of *ODA* to this growth have been positive but small (with an elasticity of about 0.01%) and statistically negligible (significant only at the 10% level) for OLS estimates but stronger (significant at the 5% level) for 2SLS estimates. This small impact is obtained with growth being defined either as the conventional GDP or income per head of population. However, the impact is in fact smallest among other determinants of growth such as trade and external debts specified in the model. While we have defined *ODA* as an aggregate item and ignored the potential significance of its nature (e.g., tied and untied grants) and sectoral components (e.g., social, economic) in our study, the findings as they stand are nevertheless challenging and demand serious focus for possible adjustments or changes in development policy of

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donor countries and perhaps other multilateral organisations to Vietnam in order to improve their *ODA* effectiveness. *ODA* to Vietnam has been large. In 2004 for example, this *ODA* stood at \$1,979.4 million or 4.4% of the country's GDP (WB, 2007; ICSEAD, 2006). As Korea has been a top *ODA* donor country outside the DAC to Vietnam, our findings would be useful to Korea's general *ODA* and development policy analysis and structuring or with respect to Vietnam in particular.

### 5.2. Is *ODA* Effectiveness Affected by Circular Causality in the Model?

When no simultaneity in the economic activities (e.g., between growth and trade) of the model is assumed, the model (7) may be regarded as a growth regression. It is well known in the theory of econometrics that, in this case, the OLS can be used in estimation. The OLS findings above show however that the small effect of *ODA* on Vietnam's growth (GDP and per head income) is weak in magnitude and statistically insignificant at the conventional critical level. When the assumption of circular causality is allowed however, the OLS estimates are biased and inconsistent, and the appropriate estimation method for (7) is the IV or the 2SLS (which is a subset of IV) or other advanced methodologies (see Tran Van Hoa, 1997). Under the 2SLS, the *ODA* impact on Vietnam's growth is found to be about 10% higher (0.011 versus 0.010), but it is now statistically significant at the 5% level. The finding is interesting in two aspects. First, it provides evidence to demonstrate that the negative (not-significant) effect of *ODA* as attained in growth regression studies may very well be the consequence of neglecting the intrinsically interdependent nature among economic activities or transactions of an economy in the sense of Marshall or Haavelmo in economic policy modelling. Second, policies that are based on biased and inconsistent findings or a neglect of circular causality (the Krueger argument, 2007) between key economic and trade variables are not credible for use in analysis and implementation.

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### 5.3. Does Merchandise Trade Affect Vietnam's Growth?

The trade and growth nexus is an important research topic in international trade and trade policy over 20 years or so and a national preoccupation or priority of over 150 countries (as at 2007) in the WTO and about more than 100 regional trade agreements (RTAs) in the world. The objectives of these countries and RTAs are to promote trade and subsequently growth, living standards, income inequality and poverty reduction (WTO, 2007; ASEAN, 2007). To achieve these objectives or even the trade-only expansion part of them for developing economies, substantial global financial and intellectual resources have been provided by national and multilateral organisations. Evidence on just the WTO-trade and trade-growth nexus has not been clear-cut or even supportive (Frankel and Romer, 1999; Rose, 2004). In the particular case of Vietnam which became the WTO's 150th member on 11 January 2007, and which has as its pre-eminent policy of expanding exports (and attracting FDI), the findings from our study reported above also indicate that while the impact of trade on Vietnam's growth is positive (with an impact elasticity at about 0.03%), the evidence is statistically weak (significant at only the 10% level) or even totally insignificant for both GDP and income per head, and also for (7) as a growth regression or as an econometric structural equation incorporating circular causality between trade and growth.

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### 5.4. Do RTAs, Domestic Policy Reforms and Regional Crises Affect Vietnam's Growth?

Sudden shocks, crises and gradual policy reforms have been recognised as important factors influencing financial and economic activities as suggested by Johansen (1982) for policy modelling many decades ago, or, at the practical level, through the observed damaging effects of the 1997 Asia crisis for example that destroyed 'miracle economies' and created 200 million poor people, the 2004 south-east Asia Tsunamis, domestic political turmoil, the

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avian flu and SARS outbreaks as well as ‘good’ or ‘bad’ policy reforms in recent years in Asia, to name a few. In spite of their importance and serious impact, studies of trade, growth and their causal factors with a focus on the effects of these developments, events or actions have not been carried out sufficiently or reported. This is a serious neglect with deep national, regional and global policy consequences. Is there any evidence on this? The specific case-study is the developed and strong economy of Singapore which had had high and sustainable growth since it painfully broke away from the Malaysian union in the 1960s. This economy could not absorb for example the effects of the IT bubbles bust and especially the outbreak of SARS in early 2003. The impact of SARS is: Singapore suffered 2 consecutive quarters of negative growth in 2003, an unheard-of development on the island state.

Our modelling findings in table 1 show clearly the strong effects of the 3 major structural and policy changes (1995 AFTA membership, 1997 Asia crisis, and 2000s reforms) on Vietnam’s recent growth-path and their causal direction. More specifically, its AFTA (ASEAN FTA) membership in 1995 and its accelerated economic reforms in the early 2000s reveal a positive and statistically significant (at the 5% level) impact of over 2.20 and 2.27%, respectively. On the other hand, the Asia crisis starting in Thailand on 2 July 1997 which had generated widespread contagion in the region and beyond is characterised by a negative outcome. This finding contradicts the claims often made by Vietnam and other major transition economies in Asia such as China (and often acquiesced by international organisations for politico-economic reasons) that this crisis had no effect on development and growth in their economies. The implications of our findings are that studies of economic performance in Vietnam in particular and in the Asian or other regions in general without taking into account sudden domestic, regional and global shocks, or gradual ‘good or bad’ internal policy reforms commit serious misspecification and are inappropriate and not realistic or credible (see also Frankel and Romer, 1999; Johansen, 1982). Unfortunately, there is currently no coherent literature on the role and impact of structural change

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and shocks on economic growth and development in major Asian economies (see however Tran Van Hoa, 2005). From a neo-classical modelling perspective, these role and impact are specially excluded from such currently popular modelling methodologies as the CGE/GTAP for the Johansen-class models.

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### **5.5. Impact of External Debts on Vietnam's Growth and Development**

As mentioned earlier, one of the innovative and novel features of our paper is the introduction of external debts into the GGT ODA-growth models. In many least developed and low-income countries as defined by the World Bank, these debts which may be large in their early stages of development (or even in some developed countries) can be regarded as an important part of the government's economic management policy to promote and sustain growth and development programs and economic stability (WB, 2007). It appears however that, from the results reported in table 1, the effects of these debts to Vietnam which stood at an average of 120.91% of its GDP over the period 1986-2005 are non-beneficial to the country and, in addition, statistically strong. Fortunately for Vietnam, the trend of external debts has been declining in the recent years with \$16.430 billion or 31% of its GDP in 2005.

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### **5.6. Do Our Models Emulate Their Observations Well?**

This is a question on (a) the accuracy and reliability of the GGT ODA-growth model, and (b) the validity of the instruments (control or conditioning variables) used – in a simultaneous-equation context (a point often raised in the literature, see Frankel and Romer, 1999; Easterly, 2007; Minier, 2007). Significantly, the question (a) is at the heart of economic modelling in the sense of Friedman or of quantitative aggregate economics in the sense of Kydland where the requirement that actual (observed) and modelled (predicted) data should satisfy the nearness (good-fit) criterion for credible or

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**Table 2. Reliability of ODA-Growth Models in Vietnam's Development Friedman-Kydland Criteria, 1986 to 2005**

	GDP Growth	Income per Head
Correlation Coefficient	0.86	0.86
RMSE	0.84	0.88
Mean Error	0.00	0.00
$U_m$	0.00	0.00
$U_s$	0.09	0.09
$U_c$	0.91	0.91

Note:  $U_m + U_s + U_c = 1$ . See Pindyck and Rubinfeld (1998) for further detail on these evaluation criteria. The estimates are based on TSP calculation.

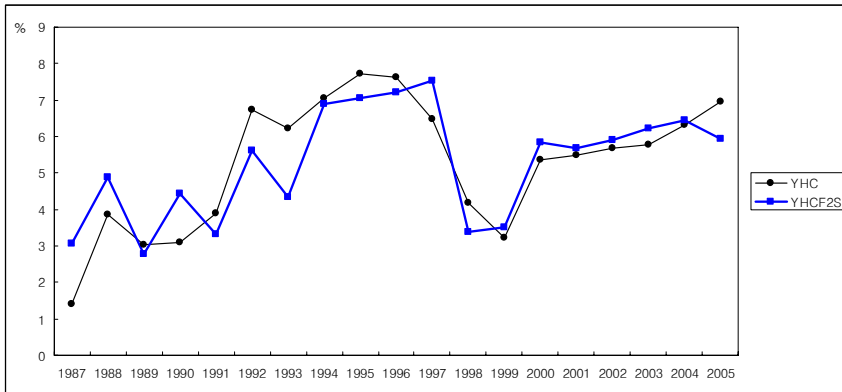
realistic applied modelling and useful practical policy formulation (see Kydland, 2006, for this justification in his Nobel Prize award speech).

The answer to (b) in this case has to be relative, as different models will have different instruments and therefore different accuracy or reliability outcomes. As a result however, the plausibility of the adopted economic-theoretic foundation of the model and their characteristics play an important role. To provide answers to the question (a) for our simultaneous-equation models of ODA-growth fluctuations above, we have calculated, using the estimates given in table 1, the predicted values for Vietnam's GDP growth and income per head for the whole period under study, 1987 to 2005. Standard evaluation criteria such as the correlation coefficient, the RMSE, and the Theil-MSE-decomposition  $U_m$  (bias),  $U_s$  (variation), and  $U_c$  (covariance) where, by definition,  $U_m + U_s + U_c = 1$  (see Pindyck and Rubinfeld, 1998), are then used to evaluate the performance of our predictions in relation to their observations. The results of the Theil evaluation are given in table 2 where the model's high accuracy (with  $U_c$  close to unity is noted).

The graphs of Vietnam's actual GDP growth and per capita income fluctuations and their 2SLS-based predictions from our ODA-growth models have also been plotted and given in figures 1 and 2.

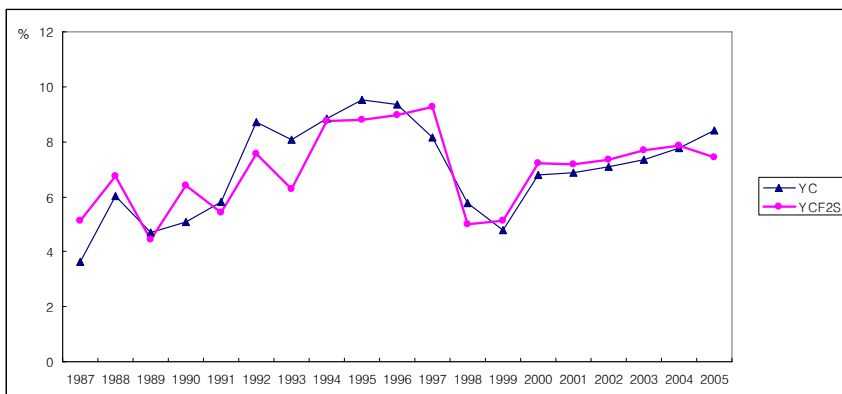
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**Figure 1 ODA-Per Head Income Modelling, Vietnam 1987-2005**



Notes: YHC=Income per head, YHCF2S=Predicted income per head, YC=GDP growth, YCF2S=Predicted GDP growth. All calculations are carried out by TSP.

**Figure 2 ODA-GDP Modelling, Vietnam 1987-2005**



Notes: YHC=Income per head, YHCF2S=Predicted income per head, YC=GDP growth, YCF2S=Predicted GDP growth. All calculations are carried out by TSP.

From these graphs, we first note that, as in the earlier studies using our new modelling flexible (that is, simultaneous-equation and function-free GGT) approach, the predictions very accurately emulate all troughs, peaks and turning points of the actual growth fluctuations. This would meet the performance criteria of Friedman and Kydland as discussed earlier for useful

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삭제됨: GGT) approach, the predictions very accurately emulate all troughs, peaks and turning points of the actual growth fluctuations. This would meet the

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policy modelling. Second, the excellent success here should also be assessed in the context of modelling the rates of changes of major economic variables or activities, a notoriously difficult task according to international researchers in this field. Third, as the predictions seem to be very good estimates of observed data for both GDP growth and income per head, our findings would enhance the robustness and reliability of our estimation of the impact of *ODA* to Vietnam and, importantly, its contribution to the country's development and growth. This would provide more credible empirical support to related recommendations on Vietnam's development and trade policy and economic relations, and its interaction with other economies in the region and beyond.

## 6. IMPLICATIONS FOR DEVELOPMENT POLICY AND POLITICAL ECONOMY

The motivation or political economy of an *ODA* or foreign aid (*FA*) program from the rich and advanced countries (DAC and Korea recently) to least developed or low-income countries is morally noble, economically important and has politically attracted attention worldwide in the last 50 years or so (Easterly, 2006, and 2007). In 2005, the *ODA/FA* amount stood at over \$60 billion. It is disappointing that the benefits of these grants have not been found significant or sufficiently robust, according to a large body of recent studies (Easterly, 2006, and 2007; Rajan and Subramanian, 2007; Minier, 2007) and by experts who were well experienced in managing or assisting appropriate development policy in international organisations, in assisting development and growth in needy economies. The case is not isolated unfortunately. The evidence on the benefits from other international organisations such as the multilateral WTO in liberalising trade and increasing growth worldwide or the IMF in managing financial crises in Asia in its recent troubled times is also not much clearer (see Rose, 2004; Tran Van Hoa, 2002d). Why is this so? What are the reasons for it? Why is there a gap between the outcomes of development policy and the political

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economy behind it? Are there effective remedies based on substantive causal empirics such as those reported in this paper to support plausible development policy for the benefits of both donor and recipient countries alike? And for Korea, an important *ODA/FA* donor country (next to Japan) in East Asia, what are the important options based on our findings and available for it to achieve effective outcomes for its *ODA/FA* to needy economies in the region?

Conceptually, Easterly (2007) believes *ODA/FA* is a mistake as we do not actually know what actions (the causes), advice or donors/recipients do lead to increasing economic development. Krueger (2007) goes further to suggest that we do not know exactly what economic development is. The non-performance or, in the words of the IMF (2007), the ineffectiveness of *ODA/FA* grants, has also been attributed to the weaknesses in their development policy in the form of ‘missing elements’ in the Washington Consensus (adjustment with growth) or the Sachs (2005) Conventional Wisdom (right investments) and the First Generation (financial structural adjustment) principles. When we take into account Krueger’s perspective on development, the matter is not much better. If the nature of development is in its ‘applied and applied’ characteristics, then more knowledge on this development can be obtained from more formal empirics like growth regressions. However, the surplus of answers (up to 145 causes or explanatory variables) from the New Growth Literature of the 1990s (Durlauf *et al.*, 2005) or from what Rodrik (2006) calls the universe of development policy, destroyed the credibility of this approach (Easterly, 2007). A component of the Second Generation development policy, namely freedom from corruption or a lack of it in *ODA/FA*-receiving countries, has also been taken up as a cause explaining why there is no evidence on a robust association between aid and growth (Rajan and Subramanian, 2007). Other possible causes for the non-performance of *ODA/FA* grants include moral hazard in these grants, the appropriate quality of *ODA/FA* foreign consultants, advisers or project managers, the mismatch of what the recipient countries want and what the donor countries dictate (Tran Van Hoa, 2002d) through

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these project managers' orientation and perception, and a lack of dynamics and macroeconomic interaction and framework in ODA/FA-growth studies, to name a few.

Methodologically, the mathematical form of the growth equations (Minier, 2007) has also been advanced as why this non-robustness or non-performance has been found.

In the present paper and as discussed in the preceding sections, a number of major economic-theoretic and econometric improvements on these areas above have been introduced into a study of ODA/FA-growth causality for possible development policy analysis. The findings from our study are interesting and useful in a number of aspects, methodologically and for more credible development policy analysis.

First, when focusing not on countries on average but more appropriately on a specific country with invariably special development characteristics, the benefits of ODA/FA are weak when the equation is treated as a growth regression. When circular causality and the basic macroeconomic interaction within the framework of international economics are introduced, the benefits are found significant even if the impact magnitude remains similar. This finding seems to support Krueger (2007) in her claim that ODA/FA-receiving countries' decision-makers take into account a host of economic conditions, including their fiscal and financial management, in their development policy. Ignoring these conditions in an ODA/FA-growth analysis would produce biased findings. Second, while most developing and ODA/FA-receiving countries including Vietnam, focus, as a national development priority, on expansion of exports or trade or openness, this focus produces a positive but weak contribution to the country's growth. This complements the findings of other studies on the gain from trade liberalisation (or a lack of it) through say a WTO membership (Rose, 2004) and its subsequent contribution to development. A refocus on sectoral manufacturing production, as some other studies have suggested, may be a better policy (Rajan and Subramanian, 2007).

Third, debts including loans or structural adjustment grants appear to have

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a strong damaging effect on growth. This is due perhaps to a moral hazard problem affecting recipient countries, and supports an earlier experience in the 1990s by international organisations (e.g., the WB and IMF) with loans to finance investment (see Easterly, 2007). Fourth, a growth study without taking into account major development shocks, generated regionally or globally, and important policy reforms adopted internally or carried out under international commitments or obligations (e.g., an AFTA or WTO membership) would be inappropriate in specification and result in implausible if not wasteful development policy with suspect outcomes affecting both donor and ODA/FA-receiving countries alike. Finally, our findings appears to satisfy remarkably well the Kydland (2006) critical realism requirement that, in this study or other similar studies using CGE/GTAP modelling or a ‘computational experiments’ data-based calibration approach, ‘predicted or modelled’ and observed growth fluctuations in the country (or countries) in-focus meet the ‘nearness’ criteria.

A development policy by DAC donor countries or Korea that makes use of the above considerations and their implications would help achieve better outcomes for the effectiveness of ODA/FA grants to needy countries in general or in the Asian region and Vietnam in particular. Other important aspects of political economy such as the country, regional and sectoral allocation of ODA/FA or the participation of non-government organisations in in-country ODA/FA management and implementation need further exploration and substantive research.

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삭제됨: ficial

삭제됨: evelopment

서식 있음: 위치: 가로: 바깥쪽, 기준: 여백, 세로: 0 글자, 기준: 단락, 텍스트 배치: 둘러싸기

서식 있음: 줄 간격: 1줄

삭제됨: ssistance and Development

서식 있음: 글꼴: 8 pt

서식 있음: 글꼴: 8 pt

서식 있음: 글꼴: 8 pt

서식 있음: 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

삭제됨: and

삭제됨: t

서식 있음: 글꼴: 기울임꼴

서식 있음: 글꼴: 기울임꼴

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서식 있음: 표준, 가운데,  
들어쓰기: 첫 줄: 0 cm,  
오른쪽: 0 cm

삭제됨:

삭제됨: i

서식 있음: 글꼴: 기움임꼴

삭제됨: (2005)

서식 있음: 글꼴: 기움임꼴

서식 있음: 글꼴: 기움임꼴

서식 있음: 글꼴: 기움임꼴

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- 삭제됨: ficial
- 삭제됨: evelopment
- 서식 있음: 위치: 가로: 바깥쪽, 기준: 여백, 세로: 0 글자, 기준: 단락, 텍스트 배치: 둘러싸기
- 서식 있음: 글꼴: 8 pt
- 삭제됨: ssistance and Development
- 서식 있음: 줄 간격: 1 줄
- 서식 있음: 글꼴: 8 pt
- 서식 있음: 글꼴: 8 pt
- 삭제됨: .
- 삭제됨: ,
- 서식 있음: 글꼴: 기울임꼴
- 삭제됨: ed.,
- 삭제됨: G. S.
- 삭제됨: Karyiu,
- 서식 있음: 글꼴: 기울임꼴
- 서식 있음: 들여쓰기: 왼쪽: 0 cm, 내어쓰기: 3 글자, 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음
- 삭제됨: 2007
- 삭제됨: )
- 삭제됨: .
- 서식 있음: 기본 단락 글꼴, 글꼴: 11 pt
- 서식 있음: 글꼴: 11 pt, 확장: 0.1 pt
- 서식 있음: 글꼴: 11 pt, 확장: 0.1 pt
- 삭제됨: \_bysu
- 서식 있음 ... [65]
- 삭제됨: bject
- 서식 있음: 글꼴: 11 pt
- 서식 있음: 글꼴: 11 pt
- 서식 있음 ... [66]

페이지 91: [1] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [2] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [3] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [4] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [5] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [6] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [7] 서식 있음 김명현 2007-05-04 PM 9:27:00

표준, 양쪽, 들여쓰기: 왼쪽: 0 cm, 내어쓰기: 2.32 글자

페이지 91: [8] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [9] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [10] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [11] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 91: [12] 서식 있음 김명현 2007-05-04 PM 9:27:00

글꼴: Times New Roman, 9 pt

페이지 96: [13] 서식 있음 user 2007-05-14 PM 2:17:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 줄 간격: 고정 19 pt, 눈금에 맞추지 않음

페이지 96: [14] 서식 있음 user 2007-05-14 PM 2:17:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 91: [15] 삭제됨 user 2007-05-23 PM 5:49:00

fficial

페이지 91: [15] 삭제됨 user 2007-05-23 PM 5:49:00

evelopment

페이지 91: [15] 삭제됨 user 2007-05-23 PM 5:49:00

ssistance and  
Development

페이지 103: [16] 삭제됨 user 2007-05-28 PM 5:15:00

페이지 103: [16] 삭제됨 user 2007-05-28 PM 5:15:00

페이지 103: [17] 서식 있음 user 2007-05-28 PM 5:15:00

들여쓰기: 첫 줄: 1.85 cm, 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [18] 서식 있음 user 2007-05-14 PM 2:17:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [19] 서식 있음 user 2007-05-14 PM 2:17:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [20] 서식 있음	user	2007-05-22 AM 8:33:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [21] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [22] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [23] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [24] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [25] 삭제됨	김명현	2007-05-21 PM 7:39:00
-		
페이지 103: [25] 삭제됨	김명현	2007-05-21 PM 7:39:00
-		
페이지 103: [25] 삭제됨	김명현	2007-05-21 PM 7:39:00
-		
페이지 103: [25] 삭제됨	김명현	2007-05-21 PM 7:39:00
-		
페이지 103: [26] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [27] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 103: [28] 삭제됨	김명현	2007-05-21 PM 7:39:00
-		
페이지 103: [28] 삭제됨	김명현	2007-05-21 PM 7:39:00



페이지 103: [28] 삭제됨	김명현	2007-05-21 PM 7:39:00
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페이지 103: [28] 삭제됨	김명현	2007-05-21 PM 7:39:00
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페이지 103: [29] 서식 있음	user	2007-05-14 PM 2:17:00
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지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [30] 서식 있음	user	2007-05-14 PM 2:17:00
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지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [31] 서식 있음	user	2007-05-14 PM 2:17:00
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지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [32] 서식 있음	user	2007-05-14 PM 2:17:00
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지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 103: [33] 서식 있음	user	2007-05-14 PM 2:17:00
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지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 105: [34] 서식 있음	user	2007-05-22 AM 8:31:00
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가운데, 들여쓰기: 왼쪽: 0 cm, 첫 줄: 0 cm, 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 줄 간격: 고정 16 pt, 눈금에 맞추지 않음

페이지 105: [35] 서식 있음	user	2007-05-22 AM 10:08:00
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글꼴: Book Antiqua, 12 pt

페이지 105: [36] 서식 있음	user	2007-05-22 AM 10:08:00
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글꼴: Book Antiqua, 12 pt

페이지 105: [37] 서식 있음	user	2007-05-22 AM 10:08:00
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글꼴: Book Antiqua, 12 pt

페이지 105: [38] 서식 있음 user 2007-05-22 AM 10:08:00

글꼴: Book Antiqua, 12 pt

페이지 105: [39] 서식 있음 user 2007-05-22 AM 10:08:00

글꼴: Book Antiqua, 12 pt

페이지 105: [40] 서식 있음 user 2007-05-22 AM 8:31:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 줄 간격: 고정 16 pt, 눈금에 맞추지 않음

페이지 91: [41] 삭제됨 user 2007-05-23 PM 5:49:00

fficial

페이지 91: [41] 삭제됨 user 2007-05-23 PM 5:49:00

evelopment

페이지 91: [41] 삭제됨 user 2007-05-23 PM 5:49:00

ssistance and

Development

페이지 111: [42] 삭제됨 김명현 2007-05-21 PM 7:44:00

realistic applied modelling and useful practical policy formulation (see Kydland, 2006, for this justification in his Nobel Prize award speech).

페이지 111: [43] 서식 있음 user 2007-05-14 PM 2:41:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 111: [44] 서식 있음 user 2007-05-14 PM 2:41:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 111: [45] 서식 있음 user 2007-05-14 PM 2:41:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 111: [46] 서식 있음 user 2007-05-14 PM 2:41:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 111: [47] 서식 있음	user	2007-05-14 PM 2:41:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 111: [48] 서식 있음	user	2007-05-14 PM 2:41:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 111: [49] 서식 있음	김명현	2007-05-21 PM 7:43:00
들여쓰기: 왼쪽: 0 cm, 내어쓰기: 5.1 글자, 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 111: [50] 서식 있음	user	2007-05-22 AM 10:19:00
글꼴: 기울임꼴		
페이지 111: [50] 서식 있음	user	2007-05-22 AM 10:19:00
글꼴: 기울임꼴		
페이지 111: [50] 서식 있음	user	2007-05-22 AM 10:19:00
글꼴: 기울임꼴		
페이지 111: [51] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 111: [52] 서식 있음	김명현	2007-05-21 PM 7:44:00
들여쓰기: 첫 줄: 0 글자		
페이지 111: [53] 서식 있음	user	2007-05-14 PM 2:17:00
지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음		
페이지 111: [54] 서식 있음	김명현	2007-05-21 PM 7:44:00
글꼴: 기울임꼴		
페이지 111: [54] 서식 있음	김명현	2007-05-21 PM 7:44:00
글꼴: 기울임꼴		

페이지 111: [54] 서식 있음 김명현 2007-05-21 PM 7:44:00

글꼴: 기울임꼴

페이지 111: [54] 서식 있음 김명현 2007-05-21 PM 7:44:00

글꼴: 기울임꼴

페이지 111: [54] 서식 있음 김명현 2007-05-21 PM 7:44:00

글꼴: 기울임꼴

페이지 111: [54] 서식 있음 김명현 2007-05-21 PM 7:44:00

글꼴: 기울임꼴

페이지 111: [54] 서식 있음 김명현 2007-05-21 PM 7:44:00

글꼴: 기울임꼴

페이지 112: [55] 서식 있음 user 2007-05-14 PM 2:40:00

들여쓰기: 왼쪽: 0 cm, 내어쓰기: 5.84 글자, 지정한 문자 수와 상관없이  
오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 112: [56] 서식 있음 user 2007-05-14 PM 2:44:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 줄 간격: 고정 18 pt,  
눈금에 맞추지 않음

페이지 112: [57] 서식 있음 user 2007-05-14 PM 2:17:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 112: [58] 서식 있음 user 2007-05-14 PM 2:40:00

들여쓰기: 왼쪽: 0 cm, 내어쓰기: 5.84 글자, 지정한 문자 수와 상관없이  
오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음

페이지 112: [59] 서식 있음 user 2007-05-14 PM 2:44:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 줄 간격: 고정 18 pt,  
눈금에 맞추지 않음

페이지 112: [60] 서식 있음 user 2007-05-22 AM 10:31:00

들여쓰기: 첫 줄: 1 글자, 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지  
않음, 단락의 첫 줄이나 마지막 줄 분리 허용, 눈금에 맞추지 않음

페이지 113: [61] 서식 있음 user 2007-05-22 AM 10:31:00

들여쓰기: 첫 줄: 0.9 cm, 지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지  
않음, 단락의 첫 줄이나 마지막 줄 분리 허용, 다음 단락과의 사이에 페이지  
나누기, 눈금에 맞추지 않음

페이지 113: [62] 서식 있음 user 2007-05-22 AM 10:31:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 단락의 첫 줄이나  
마지막 줄 분리 허용, 눈금에 맞추지 않음

페이지 113: [63] 서식 있음 user 2007-05-22 AM 10:31:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 단락의 첫 줄이나  
마지막 줄 분리 허용

페이지 115: [64] 서식 있음 user 2007-05-22 AM 10:29:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 단락의 첫 줄이나  
마지막 줄 분리 허용, 눈금에 맞추지 않음

페이지 119: [65] 서식 있음 user 2007-05-24 PM 5:15:00

기본 단락 글꼴, 글꼴: 11 pt

페이지 119: [66] 서식 있음 user 2007-05-14 PM 2:17:00

지정한 문자 수와 상관없이 오른쪽 들여쓰기 하지 않음, 눈금에 맞추지 않음