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CONTENTS

FIVE RECENT PARADOXES AND ANOMALIES OF ECONOMICS

*V.R. Panchamukhi**

This paper presents five major paradoxes and anomalies that characterise recent economic phenomena in the world, viz. (i) the paradox of growth and stability, (ii) the immiserizing effects of structural adjustment, (iii) the paradox of growing unemployment in a framework of full employment goals, (iv) the growth of market imperfections while pursuing a strategy of creating perfectly competitive markets, and (v) the paradox of the World Trade Organization trading system. The paper argues that despite the fact that anomalies and paradoxes have in the past been fertile ground for research the five paradoxes discussed here have not so far received the attention of analysts and of policy makers that they deserve.

The New Palgrave Dictionary of Economics (1988) classifies paradoxes into three categories. Rhetorical paradoxes; fact of life paradoxes, such as the failure of aggregation rules; and the main group, theoretical paradoxes and empirical anomalies. Adam Smith's *diamonds and water paradox* is a typical example of a rhetorical paradox. *The paradox of thrift, Mandeville's paradoxes* about private vices leading to public virtues, and *Arrow's impossibility theorem* are given as examples of fact of life paradoxes. The possibility of *capital reversal or reswitching, Giffen's paradox, preference reversal paradox, St. Petersburg paradox, the Allais paradox, the Gibson paradox and the Leontief paradox* are examples of the third category of paradoxes. We have also many paradoxes in capital theories and also the paradox of voting in the theory of choices. World economic events of the past two or three decades signify a sharp departure from those that have occurred in the decades of the 1950s and the1960s. In particular, the quick sequence of crises that have been taking place since the 1970s have triggered off many paradoxes and anomalies that have great analytical and policy significance.

This paper has identified the following five paradoxes or anomalies for detailed discussion: one, the paradox of growth and stability. Two, the paradox of immiserization from structural adjustment. Three, the paradox of growing

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unemployment in a framework of full employment goals. Four, the growth of market imperfections while pursuing a strategy of creating perfectly competitive markets and five, the paradox of the World Trade Organization (WTO) trading system.

The words paradoxes or anomalies have been used only to describe the contradictions that exist in each of the above situations. They may be either real paradoxes, apparent paradoxes or illusory paradoxes, but in any case they provide some fertile avenues for analysis.

I. PARADOX OF GROWTH AND STABILITY

The recent literature on growth and stability raises essentially three types of issues. The first one is concerned with the thesis that stability is a necessary though not a sufficient precondition for achieving high growth. The second issue is concerned with the thesis that the stabilisation policies adopted for realising high growth have themselves generated the crisis of growth and stability. The third issue is the question as to whether sustainable low growth with stability is better than unsustainable high growth with large instabilities.

An interesting study by Ricardo Hausmann and Michael Gavin (1995) brings out clearly as to how volatility has adversely affected growth in Latin America. Table 1 reproduces some of the results of this interesting study. It brings out that Latin America was more volatile in the period 1970-92 than the industrial countries and also most other regions of the developing world.

The volatility is measured by the standard deviation of the select variables over the period 1970-92 for each country and country estimates are aggregated for the region by the 1992 population level of the individual countries. The volatility index of real GDP growth for the Latin American region was 4.7 as against the level of 2.2 for the industrial countries, 3.04 for the East Asian countries and 3.4 for the South Asian countries. The volatility indices of real Gross Domestic Product (GDP) growth for the African region are greater than those of the Latin American region. The volatility index of the annual inflation rate was 463.5 for the Latin American region as against 3.9 for industrial countries and 6.2 for East Asian countries. Volatility index numbers for monetary growth, fiscal deficit as a proportion of GDP and public consumption as a proportion of GDP were all higher for the Latin American countries than those for the other regions. The indicators of external shocks, such as terms of trade and international capital flows as a percentage of GDP, are also found to be highly volatile.

By using the conventional growth regression worked out by Hausmann and Gavin shows that the Latin American region has lost 3 percentage points of growth as a result of volatility and other factors. The study also brings out the inverse relationship between macroeconomic volatility on the one hand and the investment rate and reduction of income inequalities on the other.

Table 1. Indices of volatility in Latin America and other regions

	Latin America and the Caribbean	*Industrial countries*	*East Asia*	*South Asia*	*Other East Asia and Pacific*	*Sub-Saharan Africa*	*Middle East and North Africa*
Macroeconomic outcomes							
Standard deviation of:							
Real GDP growth	4.7	2.2	3.0	3.4	4.1	5.3	7.9
Private consumption growth	5.6	2.1	4.1	5.4	4.0	10.3	8.2
Domestic investment growth	16.1	8.3	16.4	11.0	15.3	28.7	20.3
Change in real exchange rate	13.4	4.8	6.2	n.a.	8.9	19.4	5.5
Annual inflation rate	463.5	3.9	6.2	7.9	10.8	88.7	7.0
Policy							
Standard deviation of:							
Fiscal deficit (per cent of GDP)	4.7	2.4	2.4	4.2	3.5	4.5	8.5
Public consumption (per cent of GDP)	2.5	1.6	1.1	2.1	4.1	3.7	5.5
Narrow money (per cent of GDP)	5.5	2.4	1.9	1.4	1.0	3.8	3.1
Monetary growth	211.11	5.6	13.6	7.4	13.3	93.7	13.1
External shocks							
Standard deviation of:							
Terms of trade (growth rate)	5.1	8.9	8.0	7.9	11.4	22.1	25.6
External capital flows (per cent of GDP)	2.8	1.7	1.5	1.1	3.9	4.4	6.1

Source: Hausmann, Ricardo and Michael Gavin, 1996. *"Securing stability and growth in a shock-prone region: the policy challenge for Latin America"*; in *Securing Stability and Growth in Latin America – Policy Issues and Prospects for Shock-Prone Economies*, Paris, France, Organisation for Economic Co-operation and Development, *Ricardo Hausmann and Helmut Reisen*, eds.

Note: *Standard deviations are computed over the 1970-92 period. All statistics are weighted by 1992 population.*

Table 2 gives information about the number of recessions, average length of recession and average depth of recession for the different regions for the period 1970-92. A recession is defined as a year in which real GDP declines. Regional figures are population weighted averages of the individual country estimates. The length of the recession is measured by the consecutive number of years for which decline in real GDP has occurred. The average depth of recession is measured by the cumulative decline in real GDP. This study indicates that for the Latin American region, the number of recessions were on an average 2.7 as against 2.1 for industrial countries and 0.7 for the East Asian miracle economies. The average length of recession

Table 2. Recessions in Latin America and other regions (1970-92)

	Number of recessions	*Average length of recession (years)*	*Average depth of recession (per cent)*
Industrial countries	2.1	1.3	-2.0
Latin America	2.7	1.9	-8.0
East Asia	0.7	1.0	-1.6
South Asia	1.8	1.2	-3.5
Other East Asia and Pacific	3.7	1.5	-8.7
Sub-Saharan Africa	3.9	1.5	-6.0
Middle East and North Africa	3.2	1.7	-11.7
Other	2.0	2.2	-18.3

Source: Hausmann, Ricardo and Gavin, Michael, 1996. *"Securing stability and growth in a shock-prone region: the policy challenge for Latin America"*; in *Securing Stability and Growth in Latin America – Policy Issues and Prospects for Shock-Prone Economies*, Paris, France, Organisation for Economic Co-operation and Development, *Ricardo Hausmann and Helmut Reisen*, eds.

Note: *A recession is defined as a year in which real GDP declines. Regional figures are population-weighted average of individual country experience.*

was 1.9 years for the Latin American region as against 1.3 for the industrial countries and 1.0 for the East Asian miracle countries. Average length of recession of the Latin American region is one of the highest among the different regions compared in the table. The average depth of the recession as a per cent of GDP was -8 per cent for the Latin American region as against -2 per cent for the industrial countries and -1.6 per cent for the East Asian miracle countries. The average depth of recession is greater than in the Latin American region only in the case of the Middle East and north America.

Table 3 presents the results of an exercise done by Hausmann and Gavin to examine the impact on the predicted growth rate due to differences between the values of the explanatory variables of the Latin American region and those of the industrial economies. The table brings out that the growth in per capita GDP was 1 percentage point lower in Latin America than in industrial economies. The Latin American growth gap was around 3 percentage points during the period in question and this was attributable to the differences in the various volatility factors and structural features like school enrolment ratio, domestic investment etc., between Latin America and the industrial economies.

Table 3. How has volatility affected growth in Latin America?

Determinants of growth	*Impact on predicted growth rate*
Difference in average growth rates minus predicted neoclassical "catch-up"	-1.96
Latin American "growth gap"	-2.88
Differences attributable to:	
Initial school enrolments	-0.92
Domestic investment	-0.44
Volatility	-1.06
Other factors considered	0.04
Unexplained	-0.49
Impact of:	
Terms of trade volatility	-0.41
Real exchange rate volatility	-0.23
Monetary policy volatility	-0.29
Fiscal policy volatility	-0.14
Total	**-1.06**

Source: Hausmann, Ricardo and Gavin, Michael, 1996. *"Securing stability and growth in a shock-prone region: the policy challenge for Latin America"*; in *Securing Stability and Growth in Latin America – Policy Issues and Prospects for Shock-Prone Economies*, Paris, France, Organisation for Economic Co-operation and Development, *Ricardo Hausmann and Helmut Reisen*, eds.

Notes: *In each case, numerical estimates give the predicted increase in the growth rate that would have resulted if the indicated determinant of growth had taken the value observed in the industrial economies, rather than the one that was actually observed in the region.*

* *Includes effects of volatility in the term of trade, the real exchange rate, monetary and fiscal policy.*

Table 4 brings out the differences in the index of income inequalities between the Latin American region and the industrial countries. This table brings out that income inequality in the Latin American region was much higher than that of the industrial countries and initial difference in the income inequality was further aggravated due to the volatility of real GDP. The initial inequality levels contributed significantly to the differences in the income inequality to the extent of 51 per cent while the volatility of real GDP contributed nearly 23 per cent of the difference in the income inequality of the Latin American region and the industrial countries. The income inequality was measured by the ratio of income received by the richest 20 per cent of the population to the income received by the poorest 40 per cent. The initial period was some year between 1959-1974 for the different countries depending upon the availability of data. The income inequality of the later period refers to the period 1975 to 1989. By using the sample of 56 countries data the relationship

Table 4. Income inequality and macroeconomic volatility

	Index of inequality	*Percentage of difference*
Income inequality		
Latin America	6.284	
Industrial countries	2.270	
Difference	4.014	100.0
Impact of:		
Initial income inequality	2.047	51.0
Growth in per capita income	0.067	1.7
Average inflation	0.029	0.7
Volatility of real GDP	0.912	22.7
Unexplained	0.959	23.9

Source: Hausmann, Ricardo and Gavin, Michael, 1996. *"Securing stability and growth in a shock-prone region: the policy challenge for Latin America"*; in *Securing Stability and Growth in Latin America – Policy Issues and Prospects for Shock-Prone Economies*, Paris, France, Organisation for Economic Co-operation and Development, *Ricardo Hausmann and Helmut Reisen*, eds.

between income inequality of the later period and the other structural variables was examined. The study brings out that macroeconomic volatility has a strong impact on poverty rates and that reducing macroeconomic volatility to industrial country levels greatly contributed to the reduction of poverty levels.

Table 5 reports the results of the studies based upon cross-country analysis of the volatility of real GDP and the volatilities of other select macroeconomic variables and also indices of some political instabilities. The study has taken the standard deviation of GDP growth from 1970-92 as the dependent variable and the independent variables are monetary policy volatility, fiscal policy volatility, terms of trade volatility, capital flow volatility, index of political instability, indices of financial depth, and the exchange rate regime. The study brings out that external shocks have a significant role to play in inducing GDP volatility. It is observed that roughly 28 per cent of the cross-country variation in GDP volatility is explained by external shocks such as volatility in terms of trade and in capital flows.

It should be noted that the factor of volatility has again raised its ugly head in creating the recent crisis situations in the East Asian region, and that it is this economic phenomenon, that has not received adequate analytical and policy attention.

Another interesting quantitative analysis of the effect of volatility on growth is to be found in Michael Bleaney and David Fielding (1999). The interface between the exchange rate regime, on the one hand, and the inflation and the output volatility, on the other, has received some attention of the researchers. The study comes to the conclusion that there is a certain trade-off between the choice of exchange rate regime,

Table 5. What explains the volatility of real GDP? Evidence from cross-country comparisons

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
Monetary policy volatility	.00594		.00545	.00130	.00147
	(2.5)		(2.8)	(0.6)	(0.8)
Fiscal policy volatility	.1258		.0776	.0245	
	(3.0)		(0.9)	(0.3)	
Terms of trade volatility		.1086	.1197	.0594	.0667
		(4.2)	(4.2)	(2.2)	(3.0)
Capital flow volatility		.1764	.1502	.1052	.1112
		(2.5)	(2.2)	(1.7)	(1.9)
Number of revolutions and coups				.0129	.0132
				(1.7)	(1.7)
Financial depth				-.0091	-.00915
				(-2.4)	(-2.5)
Pegged exchange rate				.0170	.0164
				(3.1)	(3.3)
Number of observations	128	111	107	93	94
Adjusted R^2	0.1164	0.2768	0.3426	0.4489	0.4648

Source: Hausmann, Ricardo and Gavin, Michael, 1996. *"Securing stability and growth in a shock-prone region: the policy challenge for Latin America"*; in *Securing Stability and Growth in Latin America – Policy Issues and Prospects for Shock-Prone Economies*, Paris, France, Organisation for Economic Co-operation and Development, *Ricardo Hausmann and Helmut Reisen*, eds.

Note: *Numbers in parentheses are t-statistics Study calculations as described in the text. Dependent variable is the standard deviation of GDP growth from 1970-92 (gdpst).*

inflation reduction and the stability of output (and inflation). The cross-country regression analysis of mean inflation, output volatility and inflation volatility, based upon the data for 80 developing countries over the period 1980-89 brings out this result, which has great policy relevance. It shows that the countries which had adopted a pegged exchange rate regime have experienced lower inflation rates and significantly greater inflation variance and output variance than the typical floating rate country.

Table 6 gives the result of cross-country regression analysis of output volatility. The regression results also show that the external shock in the form of terms of trade volatility has had a statistically significant effect on output volatility. It is interesting to note that a 1 per cent change in the terms of trade volatility would increase the volatility in real output growth by 10 percentage points. The results of this study throw up many important policy questions. How should the developing countries adopt a harmonious blend of exchange rate regimes and monetary policies which would result in low inflation and also less volatile output growth and inflation rates.

Table 6. Cross-country regression analysis of output volatility (dependent variable: standard deviation of real output growth 1980-89 (in logs))

Variable	*Co-efficient*
Constant	0.0766 (3.25)
Pegged exchange rate dummy (DPEG)	0.00438 (0.87)
Single currency peg dummy (DPEGSC)	0.00212 (2.65)
CFA dummy (DCFA)	0.01903 (2.65)
Middle East dummy (ME)	-0.0074 (-1.70)
Sub-Saharan Africa dummy (SSA)	-0.0006 (0.14)
Western hemisphere dummy (AM)	-0.0152 (3.39)
Asia-Pacific dummy (AP)	0.0015 (0.34)
Standard deviation of terms of trade (SDTOT)	0.1003 (3.91)
Agriculture share (AGR)	-0.00723 (-3.96)
Country size (INC)	-0.00247 (-2.33)
Number of observations	80
R-squared	0.484

Source: Bleaney, Michael and David Fielding, 1999. *Exchange Rate Regimes, Inflation and Output Volatility in Developing Countries*, Centre for Research in Economic Development and International Trade (CREDIT), University of Nottingham, CREDIT Research Paper No. 99/4.

Notes: *Figures in parentheses are t-statistics using White's heteroscedasticity correction. Variables are defined as follows. DPEG = 1 for all pegged-rate countries, = 0 for floating-rate countries. DPEGSC = 1 for all currencies pegged to a single currency, = 0 otherwise. DCFA = 1 for CFA countries, = 0 otherwise. Area dummies = 1 for region indicated, = 0 otherwise. Figures in parentheses are uncorrected t-statistics. SDTOT = standard deviation of the change in the log of the terms of trade. AGR = mean log share of agriculture value added in GDP. INC = mean log of GDP.*

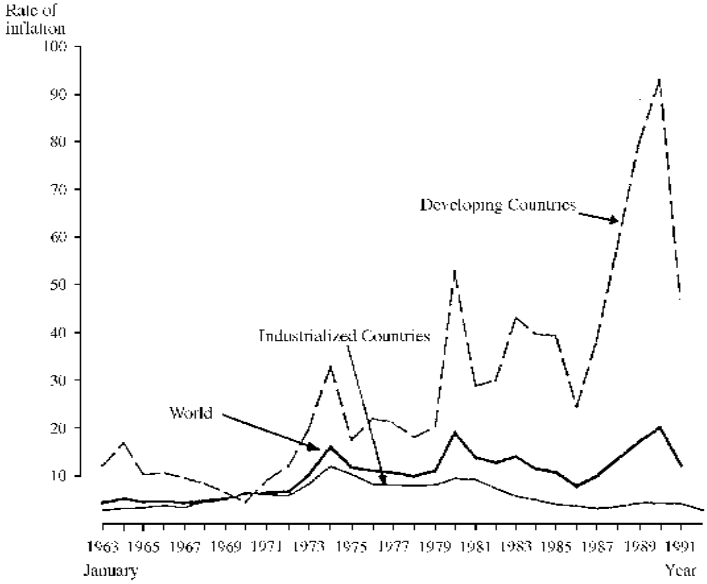
The profiles of inflation and the exchange rate would indicate the nature of the interface between growth and stability. Chart 1 provides an insight into the profiles of inflation in the developing world, industrialised countries and the world as a whole. It is disturbing to find that inflation, as measured by the average percentage change in GDP deflators, has been on a rising trend since 1973 in the developing countries. The average rate of inflation in the 1973-91 period is much higher than that in the pre-1973 period. It may be noted that inflation in the industrialised countries and also in the world as a whole both in the pre-1973 period and also in the post-1973 period has been stable at relatively lower levels than what can be observed in the developing countries. The increasing trend of inflation in the developed world clearly reflects that instabilities have been greater in the developing world.

Chart 2 gives the nature of exchange rate volatility in the pre-1973 and post-1973 periods. Exchange rate volatility has been measured by the monthly percentage change in the deutschmark-US dollar exchange rate. One observes that there is a big leap in the exchange rate volatility in the early 1970s and this magnitude of volatility has persisted in the 1980s and 1990s. This increased volatility of exchange rates has generated instabilities in the world economic environment which have in turn adversely effected the prospects of stability in the developing countries.

Exchange rate volatility has baffled researchers since the collapse of the Bretton Woods system. Received theories of exchange rate determination, such as purchasing power parity, are not able to explain exchange rate behaviour. In an interesting study on exchange rate volatility, Dr Manohar Rao (1993) has brought out that non-linear dynamic systems theory, also known as chaos theory, can explain exchange rate volatilities. Dr Manohar Rao’s model has the limitation of not bringing into its framework the capital account of the balance of payments in analysing the dynamics of the exchange rates. However, as claimed by Dr Rao, the model based on chaos theory throws some light on excessive exchange rate volatilities thereby giving some clues for the prediction of future exchange rates. Incidentally, Dr Rao refers to an inherent paradox of recent economic phenomena. He writes:

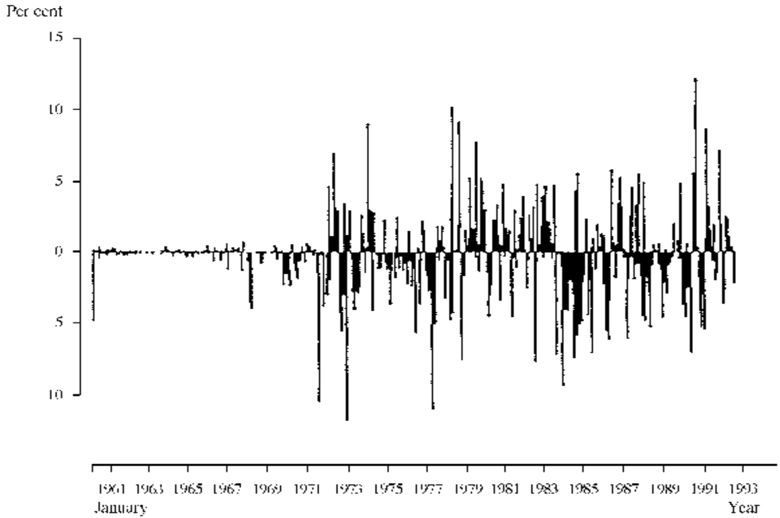
> “Economics also contains the following paradox. In microeconomics, all economic variables are seen to be generated by the rational decisions of maximising agents, thereby implying that all microeconomic variables can be assumed to be completely deterministic. However, in macroeconomics, most of these aggregated variables are frequently viewed as being random. The problem is to reconcile the fact that the same variables are deterministic and random at the same time – a paradox which may be explained if the economic system is chaotic.”

Chart 1. Is inflation under control?
(average annual per cent change in GDP deflators)



Source: IMF International Financial Statistics

Chart 2. The leap in exchange rate volatility in the early 1970s
(monthly per cent change in deutschmark/US dollar exchange rate)



Source: *Chase Manhattan Bank*

Dr Rao has rightly raised an important puzzle as to how one should understand the volatility phenomenon and deal with the problem of relevant policy choice open to a policy maker who is often handicapped by inadequate supply of information.

The world has seen a series of crisis situations over the past three decades. The collapse of the par-value system in the early 1970s, emergence of oil price crisis, Latin American debt crisis, Mexican crisis of 1994 and the recent East and South-East Asian currency and financial crisis, have again brought to the focus of attention the catastrophe which the volatilities can cause. In a perceptive analysis of the currency instabilities and financial instabilities experienced in the recent past, Frederic S. Mishkin (1999) provides a good analytical account of the sequence of instabilities and their interlinkages which caused significant impacts on the growth profile of the crisis ridden countries. This study brings out that the currency and financial crisis would occur even when the so-called macroeconomic fundamentals, as pronounced by the World Bank and IMF mandarins, are sound. The analysis brings out that volatile short term capital flows and a weak domestic banking system, could be responsible for the emergence of a currency crisis which would then grow into a financial crisis, and then to an economic and social crisis.

II. IMMISERIZING EFFECTS OF STRUCTURAL ADJUSTMENT

The word “immiserization” is well-known to trade theorists, ever since Professor Jagdish Bhagwati propounded the immiserization hypothesis. It is felt that the profile of structural adjustment, – both national and international – of recent vintage, has some form of immiserization built into it. Consider that there are three countries: A, B and C with different wage rate levels and different growth rates of wages. Country A has the highest growth rate of wages followed by country B and then country C. When the wage rate of country A reaches a particular level, country A loses its comparative advantage in product X – say textiles, leather goods or engineering goods – in favour of country B and then country B starts producing the product X and exporting it to country A and country C. Country A “vacates” product X and moves to some other product Z, where it has acquired some new technology-induced comparative advantage and tries to make up for the loss of comparative advantage in product X. This is often referred to as the flying geese model of restructuring. Country A would be better off if the induction of product Z in the basket of comparative advantage more than compensates the loss of comparative advantage realized in product A. Suppose the period of losing comparative advantage gradually in product X by country A is T_{ALX} and the period of gaining the compensatory comparative advantage in product Z is T_{AGZ}. If T_{AGZ} - T_{ALX} then country A has no specific problems caused by this structural adjustment. Of course, the stipulation is that the T_{AGZ} - T_{ALX} would only be satisfied when country A has a good institutional framework, sound banking system, dynamic R&D activity and a responsive government policy system. It is also required that country A should be in a position to set in place effective safety nets, facilities for the redeployment of labour and implementing other social security schemes for the period of transition for moving from industry X to industry Z.

The fact that country B moves to produce X and gains comparative advantage is largely prompted by the initial conditions available in country B of a relatively low wage rate and the availability of skilled manpower and other infrastructural facilities required to produce X. In a globalized and liberalized framework, the wage rates in country B start rising. The pace of this rise would depend upon the degree of globalization that country B has implemented. When the wage rates in country B also reach a certain level, it would also lose its comparative advantage in product X in favour of country C. Suppose the time taken by country B for losing its comparative advantage is T_{BLX}. Country B has to vacate the industry X and gain a new compensatory comparative advantage in some other activity, say R. Let the time taken by country B to gain this new comparative advantage, be T_{BGR}. Once again, the preconditions for the compensatory structural adjustment from X to R, are more or less as before, namely, effective R&D activities, a responsive policy regime and good infrastructural and banking system. Further, country B has to set in place effective safety nets, a proper social security system and training facilities for redeployment of labour etc. Let us assume that country B is not as well-equipped as country A to fulfill these preconditions for the internal structural adjustment from industry X to industry R. Let us also assume that country B has implemented its globalization and liberalization programmes at a much faster pace than what country A had done earlier and this has resulted in making T_{BLX} – the time taken for the loss of comparative advantage, very short. In view of all these factors, $T_{BLX} < T_{BGR}$. This means that country B has lost its comparative advantage in product X and at the time, when this has happened, it has not yet gained comparative advantage in product R.

The national and international structural adjustment processes in a free market environment are advocated for facilitating the movement towards higher efficiency and higher growth. However, those who advocate these processes themselves do not recognize the importance of the various preconditions for the processes of compensatory structural adjustment, required to facilitate the realization of the objectives of structural adjustment. The period $T_{BGR} - T_{BLX}$ is the period of immiserization. Why should we use the word immiserization? The induction of globalization and free market environment brings about the international and national restructuring of production. The expected result of this process of restructuring is that there would be increase in efficiency and growth. But this process of structural adjustment itself leads to a period viz. $T_{BGR} - T_{BLX}$ when there is lower efficiency and lower growth with the country concerned being worse off. This thesis of immiserization requires careful detailed analysis. Let us explore some empirical evidence about its validity.

We have worked out revealed comparative advantage indices for a large number of products at three digit SITC for the periods 1980-85, 1985-90, and 1990-94 for seven developing countries namely, Hong Kong, China; India; Indonesia; the Republic of Korea; Malaysia; Singapore; and Thailand. We have also worked out the rates of change in the wage rate in these different periods, for the different products. Based upon the pooled data of time series and cross section of countries, industries have been classified by the different categories of changes in the revealed comparative advantage (RCA) index and changes in the wage rates. Three broad categories of changes are defined as low, medium, and high, and the range considered for these categories is presented in table 7.

Table 7. Relationship between changes in RCA index and wage over period of time

	LW	*MW*	*HW*
LR	11 (Text-5, Apparels-2, I&S-1, Leather-1, IndChem-1, OthChem-1)	23 (Text-2, Apparels-4, I&S-3 Nelec-, Elec-1, Trans-3 Lea-, Footwr-3, Ichem22, OChem-1)	45 (Text-6, Apparels-6, I&S-4, Nelec-4, Elec-6, Trans-2, Lea-5, Footwr-3, Ichem-4, Ochem-5)
MR	2 (I&S-1, Elec-1)	4 (Non-elec-3, Footwr-1)	3 (Apparels-1, Ochem-2)
HR	9 (Text-1, Nelec-1, I&S-1, Trans-, Lea-1, IndChem-1, OthChem-1)	24 (I&S-2, Nelec-5, Trans-3, Lea-4, Footwr-4, IndChem-4, OthChem-2)	27 (Text-2, Apparels-3, I&S-3, Nelec-1, Elec-2, Trans-4, Lea-3, Footwr-4, Ichem-3, Ochem-2)

Notes: *Analysis based on time series and cross-country pooled data for the periods 1980-85, 1985-90, 1990-94 and for seven developing countries (Hong Kong China, India, Indonesia, Republic of Korea, Malaysia, Singapore, Thailand).*

LR = Low increase in RCA indices *LW = Low increase in wage rate*
MR = Medium level of increase in RCA indices *MW = Medium increase in wage rate*
HR = High increase in RCA indices *HW = High increase in wage rate*

Low growth indicates negative to 1 per cent
Medium growth indicates above 1 per cent to 5 per cent
High growth indicates 5 per cent and above.

It is observed that there are 45 cases of shifts in which high growth rate of wages is accompanied by low increase in the rates of revealed comparative advantage and similarly there are 23 cases of medium growth rate of wages combined with low rates of change in the revealed comparative advantage. This means, there are 68 out of 148 cases, or 46 per cent of the cases, where there is a strong positive association between a large increase in the wage rate and low increase in the revealed comparative advantage. Hence, this seems to confirm the hypothesis that in the early phase of structural change, rapid increase in wage rates tends to adversely affect the sustainability of comparative advantage.

Using the criteria presented by UNIDO, industries have been classified as low technology, medium technology, high technology and the rest. The profile of growth in the revealed comparative advantage and that in the wage rate are presented in table 8 for the periods 1980-85, 1985-90, and 1990-94 for seven countries which have participated in the process of global restructuring in different periods over the past two to three decades. Of course, it is very difficult to draw categorical inferences about the cause and effect relationship between wage growth and shifts in RCA. However, some broad indications of the direction could be interesting. For India, extensive globalization and effective restructuring have begun in recent years. It is interesting to note that for low technology industries, for which India can claim to have some revealed comparative advantage, there has been very high wage growth in 1985-90 and this has implied loss in the revealed comparative advantage level. Though there seems to be some gain in the RCA for medium technology industries during 1985-90, the period 1990-94 seems to have experienced persistent growth rate in wage rates and a sharp fall in the RCA. This inverse relationship between wage growth and RCA has also been seen in the case of high technology industries. Thus, for India, the hypothesis of immiserization implicit in rapid integration with the world economy seems to be holding good in the sense that India has been losing its comparative advantage in the low technology industries due to wage rate increases and at the same time it has not been gaining any significant comparative advantage in the other industrial categories. This inverse relationship seems to be valid also for Indonesia between 1985-90 and 1990-94 for the low and medium technology industries.

It is necessary to reiterate at this stage that the thesis of immiserization implied in global restructuring of production is a subject which deserves very careful analysis by researchers and practitioners in a quantitative framework so that suitable institutional changes and policy guidelines could be derived for avoiding the adverse effects of rapid globalization and structural changes on the patterns of comparative advantage.

Table 8. Growth in revealed comparative advantage and wage rate across industries in selected developing countries between 1980 and 1994 (per cent)

Countries	*Industry Specification*		*Periods*		
			1980-85	*1985-90*	*1990-94*
Hong Kong, China	Low technology	RCA growth	70.2	-16.3	-8.8
		Wage growth	24.3	9.9	–
	Medium technology	RCA growth	115.4	45.2	9.5
		Wage growth	27.9	12.8	–
	High technology	RCA growth	317.8	-5.4	25.2
		Wage growth	7.3	18.4	–
India	Low technology	RCA growth	8.8	-9.2	0.0
		Wage growth	7.4	30.5	6.3
	Medium technology	RCA growth	-43.1	145.9	10.9
		Wage growth	20.0	17.3	22.1
	High technology	RCA growth	-30.0	-19.4	-2.1
		Wage growth	11.4	18.3	11.1
Indonesia	Low technology	RCA growth	-69.6	347.0	-5.1
		Wage growth	31.4	7.0	21.2
	Medium technology	RCA growth	-77.0	155.7	-10.3
		Wage growth	11.5	10.2	28.7
	High technology	RCA growth	-94.2	51.3	250.8
		Wage growth	4.9	11.3	31.5
Republic of Korea	Low technology	RCA growth	-14.9	-6.1	-24.5
		Wage growth	10.1	–	–
	Medium technology	RCA growth	-0.4	39.9	89.0
		Wage growth	16.9	–	–
	High technology	RCA growth	9.1	42.6	46.3
		Wage growth	6.5	–	–
Malaysia	Low technology	RCA growth	-8.4	-15.3	-29.1
		Wage growth	13.0	5.3	5.9
	Medium technology	RCA growth	41.0	-24.9	39.1
		Wage growth	12.2	7.0	14.6
	High technology	RCA growth	-6.4	-15.2	-10.5
		Wage growth	2.1	1.4	4.0
Singapore	Low technology	RCA growth	-5.3	-20.3	-37.5
		Wage growth	8.5	2.6	–
	Medium technology	RCA growth	98.2	-13.5	-18.9
		Wage growth	9.8	9.5	–
	High technology	RCA growth	-3.3	-8.3	13.4
		Wage growth	4.4	–	–
Thailand	Low technology	RCA growth	-20.6	-31.3	-21.6
		Wage growth	–	9.9	12.5
	Medium technology	RCA growth	27.7	-20.9	44.3
		Wage Growth	–	14.8	8.9
	High technology	RCA growth	-47.4	6.2	43.4
		Wage growth	–	38.3	5.6

Source: UNCTAD, *Year Book of International Trade Statistics*, vol. 1, various years and UNIDO, *Industrial Statistics Year Book*, various issues.

Notes:
- *Low technology consists of textile and manufactures, apparels, leather etc., footwear, iron and steel*
- *Medium technology consists of chemicals*
- *High technology consists of machinery and transport equipment*

III. PARADOX OF GROWING UNEMPLOYMENT IN A FRAMEWORK OF FULL EMPLOYMENT GOALS

Today, both the developed and developing countries are caught in the paradox of growing unemployment while pursuing full employment models of development. The very process of structural adjustment and relocation of industries across the globe brings out this conflict between full employment goals and the experience of growing unemployment. In recent years, the strategies of globalization and liberalization and the strategies giving increasing importance to the market have resulted in bringing into sharp focus the contradictions between full employment goals and the ground realities of rising unemployment. It is possible to term this contradiction between expectations and reality as a paradox or an anomaly and it is an issue which deserves to be carefully examined.

The World Employment Report of 1996-97 provides information on the annual growth rate of labour force and the annual growth rate of employment for the developed countries for the periods 1960-73 and 1974-95. The employment growth in the United States in the latter period was 1.8 per cent as against 2 per cent in the former period. In the EU12 also the employment growth in the period 1974-95 was marginally lower than that in the period 1960-73. In Japan, it was 0.9 per cent in 1974-95, as against 1.3 per cent in 1960-73. Similarly, growth rates of employment for the respective periods were 0.2 per cent and 0.7 per cent for France and 0.01 per cent and 0.6 for Belgium, 1.6 per cent and 2.4 per cent for Australia, and 0.1 per cent and 0.3 per cent for the United Kingdom of Great Britain and Northern Ireland. The employment growth rates for the periods 1974-95 have been in most cases lower than the growth rate of the labour force, raising the question as to whether employment has been given the importance it deserves in the development process. Apart from the facts of the case, there has also been public expression about the increasing unemployment rates in many of the developed countries in the 1980s. Reflections of this phenomenon have induced some analysts to describe the growth profile of the 1980s and 1990s as the profiles of jobless growth and many issues have been raised about the possible causes for the phenomenon. It is argued that imports of goods produced with cheap labour in the developing countries and the phenomenon of rapid labour-displacing type of technological change have been the causal factors for the continued loss of jobs in these countries. The apprehension that cheap imports from the developing countries have caused these losses of jobs has increased the neo-protectionist tendencies in the developed world and has also resulted in the adoption of many non-tariff barriers and restrictive policies aimed at curbing the flow of imports.

The ILO Convention No. 122 has categorically stated that full employment should mean full productive and freely chosen employment and not simply full employment in the statistical sense. Taken in this manner, the present unemployment rates would be underestimates of the true unemployment rates in these economies. It is also observed that the periods of the 1970s and 1980s have experienced an increase in wage inequalities and this is attributed to the liberalized flow of international trade and increase in imports from the developing countries having relatively cheaper labour. Many studies have also brought out that the technological changes, that have simultaneously occurred in the developed countries, have also been responsible for the job losses. These periods have also seen a slowing down of growth and investment per worker in equipment and also a relatively slower acceleration in productivity growth in the skill-intensive industries.

The main message of this fear of jobless growth in the world is that the strategies of development and the policies of liberalization and globalization as part of the reforms package will have to be chosen very carefully in the developing countries. In particular, South Asia with the large population size and highly alarming unemployment and poverty situation cannot ignore the messages and lessons drawn from these past experiences.

IV. PARADOX OF MARKET IMPERFECTIONS

Most of the models and the policy prescriptions, both at the national level and at the international level, are based upon the assumption of perfectly competitive markets. Multilateral organizations like the erstwhile General Agreement on Trade and Tariffs (GATT) and the present World Trade Organisation (WTO), have the avowed objective of bringing about a free and competitive world trading environment. All the agreements of WTO and the policies adopted as part of the reform process are also aimed at introducing a perfectly competitive market. The proposed multilateral agreement on investment has also built into it the thesis of competitive environment for the freer flow of capital. Many of the tools of analysis such as, total factor productivity, domestic resource cost, benefit cost analysis, are all based upon the assumption of a perfectly competitive market. However, the ground reality is in contrast to the expectations that these models and strategies are generating. There are three reasons for asserting that market imperfections have increased in recent years. These are: a) intensification of non-tariff measures; b) growing transnationalization of production, including the adoption of non-competitive policies and increasing mergers and acquisitions, and c) increasing asymmetry of information.

Intensification of non-tariff measures

While the various rounds of tariff negotiations conducted earlier under the auspices of the GATT, including the latest Uruguay Round of trade negotiations, were aimed at liberalizing the trading environment by gradual elimination of tariffs as barriers to trade, the world has seen a consistent expansion of non-tariff measures and imposition of various trade restrictive impediments. Table 10 gives a profile of the various non-tariff measures now in practice, particularly in the policy basket of the

Table 9. Labour force growth, GDP growth and employment growth (industrialized countries)

	Labour force average annual growth rate		*GDP growth*		*Employment growth*	
	1960-73	*1974-95*	*1960-73*	*1974-95*	*1960-73*	*1974-95*
United States	1.9	1.8	4.3	2.5	2.0	1.8
EC 12[1]	0.3	0.6	4.8	2.2	0.3	0.2
Former EFTA[2]	0.6	0.7	4.5	1.9	0.5	0.3
Japan	1.3	1.0	9.4	3.2	1.3	0.9
Canada	3.1	2.0	5.4	2.9	3.3	1.9
France	0.8	0.7	5.4	2.2	0.7	0.2
Germany[3]	0.3	1.6	4.4	2.6	0.3	1.2
United Kingdom	0.3	0.4	3.2	1.8	0.3	0.1
Italy	-0.3	0.5	5.3	2.4	-0.4	0.3
Spain	0.8	0.8	7.3	2.4	0.8	-0.3
Portugal	0.1	1.3	6.9	2.6	0.02	1.1
Greece	-0.8	1.2	7.7	2.1	-0.5	0.8
Belgium	0.5	0.5	4.9	2.0	0.6	0.01
Netherlands	1.0	1.1	4.8	2.2	0.9	0.9
Ireland	0.1	1.1	4.4	4.1	0.09	0.6
Denmark	0.9	0.6	4.2	1.9	0.9	0.3
Switzerland	1.4	0.9	4.5	1.1	1.5	0.1
Austria	-0.2	0.6	4.7	2.4	-0.3	0.6
Sweden	0.6	0.4	4.1	1.5	0.5	0.1
Finland	0.3	0.5	4.9	2.1	0.2	-0.2
Norway	0.7	1.1	4.3	3.4	0.7	1.0
Iceland	2.2	1.8	5.5	3.1	2.2	1.6
Australia	2.5	1.9	5.0	3.0	2.4	1.6
New Zealand	2.2	1.3	3.6	1.5	2.2	0.9

Source: *OECD Economic Outlook*, June 1996, and reference supplement; ILO calculations.

Notes: [1] *EC 12 y excludes the Lander of the former German Democratic Republic.*

[2] *Former EFTA includes Austria, Finland, Norway, Sweden and Switzerland.*

[3] *Up to 1990 data refer to West Germany; thereafter, they refer to the whole of Germany.*

Table 10. List of NTBs imposed by select developed countries

Australia:

Tariff quota (code 101)
Antidumping duty (code 102)
Antidumping price undertakings (code 103)
Countervailing duty (code 104)
Price control measures (n.e.s.) (code 105)
License for sensitive products (code 106)
Prohibition for sensitive products (code 107)
Technical standards (code 108)
Labelling requirements (code 109)

EU:

Tariff quota (code 101)
Seasonal tariff rates (code 102)
Variable changes n.e.s. (code 103)
Antidumping investigations (code 104)
Antidumping duties (code 105)
Automatic licensing measures (code 106)
Import monitoring (code 107)
Retrospective surveillance (code 108)
Non-automatic licence (code 109)
Prior authorization (CITES) (code 110)
Quotas (code 111)
Bilateral quota (code 112)
Quota in relation to Montreal Protocol (code 113)
Prohibition for environmental protocol (code 114)
Import monopoly (code 115)
Product characteristics requirements (code 116)

Japan:

Tariff quota (code 101)
Seasonal tariff rates (code 102)
Variable changes n.e.s. (code 103)
Antidumping duties (code 104)
Automatic licensing (105)
Non-automatic licence (code 106)
Authorization (code 107)
Authorization for wildlife protection (code 110)
Authorization ensure national security (code 111)
Authorization for political reasons (code 112)
Global quota (code 113)
Quota for sensitive products (code 114)
State monopoly of imports (code 122)
Sole importing agency (code 123)
Technical requirements (code 124)

Table 10. *(continued)*

Japan: *(continued)*
Product characteristics requirements to protect human health (code 125)
Product characteristics requirement to protect environment (code 127)
Product characteristics requirement to protect wildlife (code 128)
Marking requirements to protect environment (code 132)
Lableing requirement for human health protection (code 133)
Testing, inspection and quarantine requirements (code 134)
Technical measures n.e.s. (code 136)
United States:
Tariff quota (code 101)
Seasonal tariff low rates (code 102)
Seasonal tariff high rates (code 103)
Import monitoring (code 104)

Source: UNCTAD, Trade Analysis and Information System.
For Analysis see Rajesh Mehta and S.K. Mohanty (1999), *WTO and Industrial Tariffs – An Empirical Analysis for India*, New Delhi, Research and Information System for the Non-Aligned and Other Developing Countries.

developed countries. We find that Australia adopts nine types of Non-Tariff Barriers (NTBs), the EU has in practice 16 types of NTBs, Japan has 22 types of NTBs, while the United States is shown to be adopting four types of NTBs. Of course, in the United States the import monitoring practice covers a large number of undefined NTBs. It is also known that many policy measures such as 301, Super 301, anti-dumping measures, health related barriers are also adopted by the United States. The induction of such NTBs obviously creates problems for effective market access for the goods of the developing countries and this would, in turn, generate distortions in the free play of market forces. It should be noted that there is now increasing pressure by the developed countries for introducing many new considerations such as, labour standards, social clauses, environment standards, human rights, etc. in policies concerned with trade flows. It is legitimately feared that all these new measures would increase market imperfections and thereby disturb the operation of the free play of the natural forces of comparative advantage.

Transnationalization of production and non-competitive policies

Further, the growing transnationalization of production and the varieties of mergers and acquisitions that are taking place in the corporate world have all contributed to the accentuation of market imperfections. UNCTADs World Investment Reports have been describing how the size and distribution of international production by the transnational corporations (TNCs) and hence their role in the world economy have been increasing by leaps and bounds. The relevant excerpts from the World Investment Report 1998 clearly bring out this point: “The size and distribution of international production by TNCs – and hence their role in the world economy – can be gauged from estimates of the worldwide FDI stock, assets, sales, gross product and exports of these firms. Indeed, all major indicators related to FDI and TNC activities showed higher rates of growth in 1997 (as in 1996) than did GDP and exports, compensating for the decline in growth during 1991-1995 that reflected the recession of the early 1990s. More specifically, world FDI stock, which constitutes the capital base for TNC operations, rose by over 10 per cent in 1997, to reach an estimated $3.5 trillion. It is held by a minimum of 53,000 TNCs – large and small. The regional distribution of outward FDI stock is heavily skewed towards developed countries, reflecting the fact that, in the past, most FDI originated and stayed in developed countries, though there are some noticeable recent increases in the stock of developing countries.”

Furthermore, it is striking that the cross-border mergers and acquisitions account for the bulk of FDI inflows and their share in total FDI inflows rose from 49 per cent in 1996 to 58 per cent in 1997 representing the highest share in 1990s. These cross-border mergers and acquisitions have the obvious effect of creating global monopolies and hence strategic economic power centres.

Transnationalization of production has also implied expansion of intra-industry and intra-firm trade defying all received norms of trade behaviour. The fact that the multinationals can now determine their prices as part of their global corporate strategy – not necessarily influenced by the short-run supply-demand considerations – has added strength to the thesis that international prices are not themselves free from the effects of market distortions. This is a matter of serious analytical concern, because in many studies analysing the nature of distortions in the domestic markets international prices are taken as benchmark prices free from market distortions. This approach would be of doubtful validity when one finds that international prices are also loaded with many distortion effects. Further, it is now widely recognized that many events such as mergers and acquisitions, and intra-firm trade imply an anti-competitive environment and that there is need for a competition policy to discipline the actions of the multinationals.

Asymmetry of information

Yet another factor contributing to market imperfections is the asymmetry of information access at the disposal of the different players in economic space. It is ironical to note that the world information order is highly iniquitous despite the explosive expansion of information technologies and the communication infrastructure. This asymmetry is caused by the high speed at which the new technologies generate and disseminate information due to the massive expansion in the volume of information on the one hand and, on the other, the continued sluggishness and incapabilities that persist in large sections of the global society in particular in the developing world to acquire new technologies, access information, sift the relevant from the irrelevant and draw inferences for decision-making from the analysis of the relevant information. This mismatch between the growth and supply of information and the capability to utilize information has been increasing in intensity and scope with a rapid pace. This asymmetry in the information order has significantly affected the capability of many players in the economic space to take advantage of the emerging opportunities for trade and production. Further, it has adversely affected the productivity of those corporate entities which are not keeping pace with the speed of information flows and it has also changed the character of the labour markets by generating a demand for a new variety of skilled labour. In short, the iniquitous information order has significantly damaged the established patterns of comparative advantage in trade and technology transfers. For facilitating the optimum use of resources at the global level, the market imperfections caused by the iniquitous information order need to be corrected.

V. PARADOX OF THE WTO TRADING SYSTEM

As we all know, the Uruguay Round of trade negotiations spanned over a long period of seven years ultimately culminated in the establishment of the WTO in 1995 as one of the most powerful supranational bodies. The Uruguay Round has had many unique distinctions in comparison with the earlier rounds. It brought into the arena of trade liberalization many new sectors, such as agriculture, textiles, trade-related intellectual property rights, and services. Its focus on the gradual elimination of tariff and non-tariff barriers to trade has been one of the core aspects of the negotiation process. Thus, liberalization of market access and, in general, effective market access, has been the much cherished objective of the new trading system.

Has the Uruguay Round achieved this objective? Is the WTO well disposed to bring about a free and fair trading order? A detailed empirical analysis of the experiences in regard to the implementation of the various WTO agreements and the market access commitments brings out many revealing and disturbing facts on the divergence between expectations and the ground realities. Some of these new insights on the emerging world trading system are presented here.

Gap between the expected growth and the actual growth of world trade

It was hoped that world trade would register an expansion of more than 20 per cent as a result of the liberalization process introduced by the new world trade order under WTO. The growth rate experienced during 1996-1998 does not raise any confidence that a major expansion in world trade would soon be realized. It is worth noting that the rate of growth in the volume of merchandise exports slowed down to 3.5 per cent in 1998 from the level of over 10 per cent in 1997. The projections for the year 1999 suggest some recovery, provided recovery in Asia is realized.

Table 11 brings out that 1997 experienced somewhat larger growth in world exports and imports and also regional exports and imports after a moderate performance in the year 1996 immediately after the launching of the WTO. However, this boom in world trade activity was short-lived, partly because it was not matched by world output. The sluggishness of world output during 1996 to 1998 is brought out in table 12. This brings out that even though world exports in 1997 increased by 10.5 per cent, the growth rate of world output was stagnant at 3.3 per cent. In fact, there has been deceleration in world output in 1998 thus causing an upset in the growth of trade flows. The growth rate of output in Japan was 1.4 per cent in 1997 compared to 5 per cent in 1996. The increase in the growth rate of output in the United States and EU in 1997 compared to 1996 was very marginal. The developing countries output growth has also slowed down in 1997 being 5.4 per cent compared to 5.8 per cent in 1996. Thanks to the sudden crisis in the Asian region the growth rate of output in 1998 has come down to 1.8 per cent in developing countries and become

Table 11. Growth in world exports and imports

	Average	*Exports*			*Average*	*Imports*		
	1990-95	*1996*	*1997*	*1998*	*1990-95*	*1996*	*1997*	*1998*
World	6.0	5.5	10.5	3.5	6.5	6.0	9.5	4.0
North America*	7.0	6.0	11.0	3.0	7.0	5.5	13.0	11.0
Latin America	8.0	11.0	11.0	6.5	12.0	8.5	22.0	9.5
Western Europe	5.5	5.5	9.5	4.5	4.5	5.5	7.5	7.5
European Union(15)	5.5	5.5	9.5	5.0	4.5	5.0	7.0	7.5
Transition economies	5.0	6.5	12.5	10.0	2.5	16.0	17.0	10.0
Asia	7.5	5.0	13.0	1.0	10.5	6.0	6.0	-9.0
Japan	1.5	1.0	12.0	-1.5	6.5	5.5	1.5	-6.0
East Asian six**	11.5	7.5	11.5	2.0	12.0	4.5	6.5	-16.0

* Canada and the United States.

** Taiwan Province of China, Hong Kong, China, Malaysia; the Republic of Korea; Singapore and Thailand.

Note: Separate volume data are not available for Africa and the Middle East, although estimates for these regions have been made in order to calculate.

Table 12. World output, 1990-98
(percentage change over previous year)

Region/Country	*1990-95*	*1996*	*1997*	*1998*
World	1.9	3.3	3.3	2.0
Industrialized countries of which:	1.7	2.9	2.9	2.2
United States	2.3	3.4	3.9	3.9
Japan	1.4	5.0	1.4	-2.8
European Union of which:	1.3	1.6	2.5	2.7
Euro area	1.4	1.4	2.3	2.8
Germany	1.7	0.8	1.8	2.3
France	1.1	1.1	2.0	3.2
Italy	1.1	0.9	1.5	1.4
United Kingdom	1.2	2.6	3.5	2.1
Transition Economies	-8.2	-1.5	1.4	-1.3
Developing countries of which:	4.9	5.8	5.4	1.8
Latin America	3.3	3.6	5.4	2.1
China	12.4	9.6	8.8	7.8
Other countries	5.1	6.4	5.0	-0.3
Memo Item:				
Developing countries, excluding China	4.0	5.2	4.8	0.8

Source: UNCTAD secretariat calculations, based on data in 1990 dollars.
a) Annual average; b) Estimated

-2.8 per cent for Japan in 1998. In other words the expected growth profile of output and trade as a result of the new trading regime under WTO have not been realized at all thus far.

It is also worth noting that the period 1996-98 has experienced significant deterioration in the terms of trade of many developing countries. Table 13 brings out the magnitude of the deterioration for a number of the developing countries in Asia and Latin America during 1996-1998. The terms of trade of the Republic of Korea have declined by 12.4 per cent in 1996 and 11.3 per cent in 1997. Those of Indonesia and Malaysia have also declined for 1996 and there has not been any significant change in them in 1997 and 1998. The terms of trade of Singapore, Indonesia, Malaysia, Brazil and Mexico have all declined in 1996 and there has not been any significant change in 1997 and 1998. The terms of trade of India have declined by 5.3 per cent in 1997 but there has been a marginal improvement in 1997 and an increase of 3.2 per cent in 1998. Philippines and Nicaragua also experienced a significant decline in the terms of trade in 1996.

Table 13. Terms of trade of selected developing Asian and Latin American economies, 1997 and 1998 (percentage change over previous year)

Economy	*1996*	*1997*	*1998*
Hong Kong, China	0.9	-0.8	1.5
Republic of Korea	-12.4	-11.3	0.2
Singapore	-0.8	0.4	0.9
Taiwan Province of China	2.0	3.9	-0.6
Indonesia	-0.7	-0.5	0.0
Malaysia	-0.7	1.1	1.7
Philippines	-3.5	-0.4	4.5
Thailand	1.1	-1.6	5.2
India	-5.3	0.7	3.2
China	3.6	2.9	2.1
Argentina	8.8	1.0	-4.5
Brazil	-1.8	5.8	0.0
Chile	-17.0	5.8	-10.5
Colombia	0.8	7.3	-6.2
Mexico	-0.9	-1.5	-2.8
Nicaragua	-7.6	7.7	6.3
Venezuela	18.6	-2.0	-22.7

Source: UNCTAD, *Trade and Development Report*, 1999.

The analysis suggests out that the growth dynamism in output and trade and also fairer distribution of the benefits from trade expected in the new world trading system have not been realized in the manner anticipated and projected during the Uruguay Round of trade negotiations.

Even though part of the collapse in world trade growth is attributable to the unexpected Asian crisis, there is no evidence as yet that trade liberalization envisaged under the WTO regime would bring about any radical expansion in world trade in general and in the export trade of the developing countries in particular. This phenomenon combined with sluggish recovery in Europe and in Japan could continue to dampen the world trading environment for some considerable time.

Asymmetry in implementation

While the developing countries have been implementing their WTO commitments in an effective manner, the developed countries have not been showing the same kind of enthusiasm in honouring their commitments. Agricultural subsidies in the EU have either not been reduced in their explicit form or are being substituted by varieties of implicit instruments. A number of green box measures such as, decoupled income support, R&D expenditure on agriculture, and also the continued huge investment in the agriculture infrastructure adopted in the developed countries have frustrated the expected advantages of market access in the developed countries for the products of the developing countries.

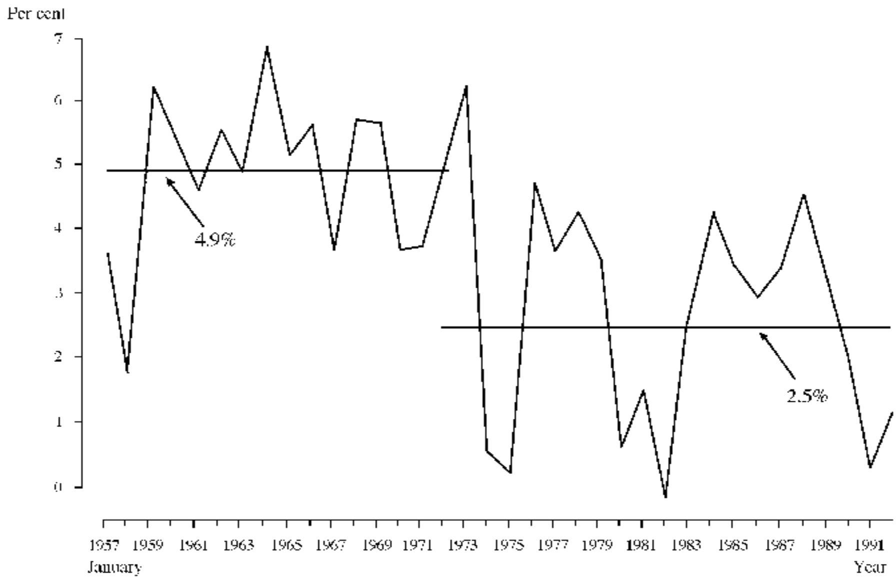
Existence of high peak tariffs

Trade liberalization and market access commitments by the developing countries have been much greater than those made by the developed countries. A critical analysis of market access offers brings out that the developed countries have maintained high tariff rate peak and also specific duties whose *ad volerm* equivalence is very high for many products of export interest to the developing countries. By this definition, one finds that 881 tariff lines at the six digit level are subject to peak tariffs in the case of the EU, while the number of items with peak tariffs is 751 for Japan and 986 for the United States. One finds that the peak tariffs in the case of footwear and leather apparels are as high as 160 per cent in the case of Japan and 42 per cent in USA. It is interesting to note that China has been maintaining very high tariff rate peaks on its imports from the rest of the world. Table 14 brings out this anomaly in a striking manner. Thus, even though the average tariff rates of the developed countries come out to be very small, the tariff rates faced by the products of export interest of the developing countries remain quite high. These hidden asymmetries in market access result in making the developing countries open up their markets to the products of the developed countries to a much greater extent than what they have received on a reciprocal basis as market access in the developed countries. This could mean that the adverse balance of trade situation faced by the developing countries would be further worsened thereby generating ripple effects on the pace of development and speed of employment generation.

Trade not an engine of growth

Much of the literature on trade that originated in the 1970s and the 1980s had advocated, on the basis of both analytical and empirical studies, that trade is, in general, an engine of growth and that, in particular, the developed countries play the role of propelling this growth by offering market access and by transferring resources and technology to the developing world. It is true that this paradigm of trade, growth and technology transfer seems to have worked well for more than two decades in the post-world war period until 1973 when the first oil price shock shook the world economy. It was also the beginning of the collapse of the Bretton Woods system and the emergence of a highly volatile exchange rate regime. Chart 3 shows that the average growth rate of GDP of the G-7 countries for the period 1960-73 was around 4.9 per cent, while it was around 2.5 per cent in the period from 1973-1993. Chart 4 brings out that this slowing down of the G-7 countries is expected to persist even

Chart 3. The drop in G-7 country growth rates (average annual per cent change in GNP)



Source: IMF International Financial Statistics.

Chart 4. Persistent differences in long-term growth rates (average annual per cent growth in GNP)

	1974-1990	*1991-1993*	*1974-1993*	*Forcast 1994-2003*
The G-7 countries	3.2	1.2	2.9	2.7
All non-industrial countries	3.4	0.9	3.0	4.8
Sub-Saharan Africa	2.1	1.7	2.0	3.9
Middle East and North Africa	0.9	3.0	1.2	3.8
Europe and Central Asia	3.1	-9.8	1.1	2.7
South Asia	5.0	3.5	4.8	5.3
East Asia	7.3	8.3	7.5	7.6
Latin America and the Caribbean	2.5	3.2	2.6	3.4

Source: Global Economic Prospects and the Developing Countries, *(Washington DC, The World Bank, 1997).*

Table 14. Peak tariff* of different countries: a summary result for 1998

Country	*Number of lines** with peak tariff*	
	TR • 12	*statistical formula TR • M + SD*
Australia	881[1] (12-587)	253
EU	861[2] (12-86.1)	1 456
Japan	751[3] (12-800)	106
United States of America	986[4] (12-58.8)	884
India[5]	4 064 (15-180)	2
Republic of Korea[6]	21 (17-821)	15
Malaysia[7]	74 (12-829)	10

Source: Mehta, Rajesh and S.K. Mohanty (1999), *WTO and Industrial Tariffs – An Empirical Analysis for India*, Research and Information System for the Non-Aligned and Other Developing Countries, New Delhi, India.

Notes:
1 includes 16 commodities with specific duties.
2 includes 23 commodities with specific duties.
3 includes 84 commodities with specific duties.
4 includes 260 commodities with specific duties.
5 for the year 1999
6 for the year 1996
7 for the year 1997
* HS 25-97
** National lines

during the period 1994-2003 while the growth prospects of the non-industrial countries are expected to be better than those of the developed countries.

It is observed that the share of the developed countries in the total exports of the developing countries has been declining in recent years. The East Asian economies were expected to be alternative engines of growth in the late 1980s and the early 1990s. However, their sudden collapse in the late 1990s has belied this expectation. While export orientation is, by and large, accepted as a useful strategy for the improvement of efficiency and of growth prospects in the developing world, it is feared that in the absence of dynamic partners to absorb the increasing volumes of trade, the limited size of markets may result in what is now being called the "fallacy of composition" in the literature on trade. If the developing countries clamour for an expansion of their market penetration for the same or similar goods in the limited market space, they may end up in competing with each other and may force some sort of fall in export prices and hence deterioration in their terms of trade. In order to keep the volume of trade expanding, the exporting countries will have to undertake very rapid shifts in the commodity composition and in the geographical pattern of their trade. This would also imply significant changes in the technological basis of the production and in the marketing activities and hence in the overall structure of employment. This subtle aspect of the emerging trading system without the emergence of new engines of growth could imply the frustration of the well-established linkages between trade, technology, development and employment.

VI. SUMMING UP

This paper has presented some situations of what may be called paradoxes or anomalies of recent vintage. The purpose in this illustrative tour of recent economic phenomena is to bring out that there is increasing contradiction between the expectations derived from the received models and strategies and the ground realities of economic phenomena. A critical appraisal of economic history reveals that whenever such contradictions between expectations and realities are recognized by thinking minds, there is a creation of new models, theories and policy prescriptions. We have also learnt from economic history that paradoxes and anomalies have been fertile ground for intensive quantitative research and new perceptive analysis. However, it is paradoxical to find that the recent phenomena of anomalies and paradoxes do not seem to have stimulated much analytical work and quantitative studies aimed at examining the issues involved in them and for deriving suitable policy guidelines. We hope that the issues raised in this paper would inspire both theoreticians and practitioners to reflect afresh upon the development paradigm and development strategies that are currently being pursued in different countries of the world.

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CORRUPTION: CAUSES, CONSEQUENCES AND CURES

*U Myint**

The paper stresses the need to keep the issue of corruption squarely in view in the development agenda. It discusses the causes and consequences of corruption, especially in the context of a least developed country with considerable regulation and central direction. Lack of transparency, accountability and consistency, as well as institutional weaknesses such as in the legislative and judicial systems, provide fertile ground for growth of rent seeking activities in such a country. In addition to the rise of an underground economy and the high social costs associated with corruption, its adverse consequences on income distribution, consumption patterns, investment, the government budget and on economic reforms are highlighted in the paper. The paper also touches upon the supply side of bribery and its international dimensions and presents some thoughts on how to address the corruption issue and to try and bring it under control.

There is a growing worldwide concern over corruption at the present time. Several factors are responsible for this.

First, a consensus has now been reached that corruption is universal. It exists in all countries, both developed and developing, in the public and private sectors, as well as in non-profit and charitable organizations.

Second, allegations and charges of corruption now play a more central role in politics than at any other time. Governments have fallen, careers of world renowned public figures ruined, and reputations of well-respected organizations and business firms badly tarnished on account of it. The international mass media feeds on it and scandals and improper conduct, especially of those in high places, are looked upon as extremely newsworthy, and to be investigated with zeal and vigour. The rising trend in the use of corruption as a tool to discredit political opponents, the media's preoccupation with it as a highly marketable commodity, and the general public's fascination with seeing prominent personalities in embarrassing situations have brought

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scandalous and corrupt behaviour, a common human frailty, into the limelight of international attention.

Third – and the main issue taken up in this paper – is that corruption can be a major obstacle in the process of economic development and in modernizing a country. Many now feel that it should receive priority attention in a country's development agenda.

This greater recognition that corruption can have a serious adverse impact on development has been a cause for concern among developing countries. In a recent survey of 150 high level officials from 60 third world countries, the respondents ranked public sector corruption as the most severe obstacle confronting their development process (Gray and Kaufmann 1998). Countries in the Asia and Pacific region are also very worried about this problem and they are in substantial agreement that corruption is a major constraint that is hindering their economic, political and social development, and hence view it as a problem requiring urgent attention at the highest level.

Increasing public interest and concern over corruption have resulted in a large amount of scholarly research on the subject. Admittedly, there are still wide gaps in the current state of information and knowledge on the matter and much more remains to be done. Nevertheless, theoretical and empirical research that has been conducted thus far has yielded fresh insights into the problem. We now have a clearer understanding of the underlying causes of corruption, its consequences, and ideas and approaches on possible measures to combat it. At the same time, a better perspective has been obtained on the reasons why corruption persists in so many countries, and why it is difficult to deal with, although people throughout the world view it with disfavour.

This paper presents some ideas and issues that have emerged from the current discussion and ongoing debate on the corruption question in the region and around the world. It considers the causes, consequences and international dimensions of corruption, which seem to have generated a lot of public attention in many countries. Thoughts and suggestions on possible remedial measures have also been included as it would not be a fruitful exercise to only discuss issues and problems, without coming forward with some solutions as well. The aim of the paper is to create greater awareness of the subject and to highlight the desirability to keep it in view in thinking about development issues, especially in the context of a least developed country.

I. DEFINITION AND CONCEPTS

Definition

In this paper, corruption is defined as the use of public office for private gain, or in other words, use of official position, rank or status by an office bearer for his own personal benefit. Following from this definition, examples of corrupt behaviour would include: (a) bribery, (b) extortion, (c) fraud, (d) embezzlement, (e) nepotism, (f) cronyism, (g) appropriation of public assets and property for private use, and (h) influence peddling.

In this list of corrupt behaviour, activities such as fraud and embezzlement can be undertaken by an official alone and without involvement of a second party. While others such as bribery, extortion and influence peddling involve two parties – the giver and taker in a corrupt deal.

The two party type of corruption can arise under a variety of circumstances. Often mentioned are concerned with the following:

(i) Government contracts: bribes can influence who gets the contract, the terms of the contract, as well as terms of subcontracts when the project is implemented.

(ii) Government benefits: bribes can influence the allocation of monetary benefits such as credit subsidies and favoured prices and exchange rates where price controls and multiple exchange rates exist. Bribes can also be important in obtaining licenses and permits to engage in lucrative economic activities such as importing certain goods in high demand and in short supply. Moreover, bribes can be employed to acquire in-kind benefits such as access to privileged schools, subsidized medical care, subsidized housing and real estate, and attractive ownership stakes in enterprises that are being privatized.

(iii) Government revenue: bribes can be used to reduce the amount of taxes, fees, dues, custom duties, and electricity and other public utility charges collected from business firms and private individuals.

(iv) Time savings and regulatory avoidance: bribes can speed up the granting of permission, licenses and permits to carry out activities that are perfectly legal. This is the so-called "grease money" to turn the wheels of bureaucracy more smoothly, speedily and hopefully in the right direction. It is also not difficult to think of a really awful situation where rules and regulations, and the way they are applied, are so complex and burdensome that the only way left to get things done is to pay money to avoid them.

(v) Influencing outcomes of legal and regulatory processes: bribes can be used to provide incentives to regulatory authorities to refrain from taking action, and to look the other way, when private parties engage in activities that are in violation of existing laws, rules and regulations such as those relating to controlling pollution, preventing health hazards, or promoting public safety as in the case of building codes and traffic regulations. Similarly, bribes can be given to favour one party over another in court cases or in other legal and regulatory proceedings.

Economic rent

The concept of economic rent (or monopoly profit) occupies a central place in the literature on the subject of corruption. Economic rent arises when a person has something unique or special in his possession. This something special can be a luxury condominium in a posh neighbourhood, a plot of land in the central business district of the city, a natural resource like an oil well, or even some pleasing personal traits such as beauty and charm. A person who owns such a special asset can charge a more than normal price for its use and earn economic rent or monopoly profit. To illustrate, suppose there is a young lady who has breathtakingly good looks, a charming personality, and exceptional acting, singing and dancing skills. Due to these special personal assets, she becomes a superstar and a heartthrob of teenagers all over the country and thus commands a princely sum for her appearances. But what exactly is her economic rent? To determine this, it is necessary to know the next best thing she can do to earn a living if she is not a superstar. Suppose she has a law degree so the next best occupation she can take up is to become a lawyer. Then the difference between her income as a superstar and the earnings she can obtain from her next best occupation (as a lawyer), is her economic rent for having an unusually pretty face, charm, and superb singing, dancing and acting talents – a winning combination which no other young lady in the country can match.

A similar line of reasoning can be applied to a minor bureaucrat working in the business license issuing office of a government ministry. Suppose this bureaucrat has the responsibility of typing, stamping the official seal, getting the appropriate signatures and delivering the authorization letter that grants permission to business enterprises to engage in a certain line of economic activity. Business executives are anxious to have the letter typed expeditiously and correctly, and have it properly stamped, signed, sealed and delivered and are willing to pay a price for this special service. Hence the bureaucrat who has a monopoly of typing, stamping and processing the letter can use his official position to acquire economic rent from his clients. A useful approach to find out the amount of his economic rent is to think of what he can earn if he is fired from the licensing office. If the next best thing he can do when he loses his government job is to become a taxi driver then the difference between his earnings at his new job and his intake as a public official is his economic rent.

In the light of the discussion above, the economic profession often refers to bribery, fraud, graft, and other shady deals involving misuse of public office as "rent seeking activities."

Rules, regulations and their transparency and consistency

The conduct of economic and business affairs, like engaging in a sporting event such as a football match, requires observance of certain "rules of the game" for activities to proceed in an orderly fashion. Rules and regulations are required to maintain a sense of fair play; to prevent disastrous conflicts; keep greed, predatory and other unsavoury human instincts in check; minimize socially undesirable consequences; and generally to ensure that players and referees abide by certain accepted standards of moral conduct and good behaviour. Naturally, for rules to be properly observed, they must be transparent, that is, must be set out clearly and made known in advance to all concerned, so that they can be understood and obeyed by participants in the game. The game cannot proceed in an orderly way if players are uncertain about what constitutes a foul for which they will be penalized, or the referee is not sure when to blow the whistle. Aside from being clear, rules must also be applied in an impartial manner with respect to all players and must be consistent and not be subject to frequent and arbitrary changes. Obviously, the game will become unplayable and players will pack up and leave, if rules keep changing as the game proceeds and the referee keeps blowing his whistle whenever he feels like it.

Discretionary powers

Discretionary powers represent another key concept in discussing corruption. They arise because it is not possible to devise rules and regulations that are watertight and foolproof and will take care of all contingencies that can crop up in trying to control or direct an economic activity. Hence, some flexibility and discretionary powers will have to be given to administrators in interpreting and implementing rules. Even in a football match, the referee is granted discretionary powers and has considerable freedom to exercise his good judgment in reaching decisions such as in awarding a penalty kick or showing a yellow or a red card to an offending player. These decisions could prove decisive in determining the final outcome of the game.

To elaborate on the above point a little further, consider a case involving customs administration. A general rule, let us assume, has been established to levy a duty of 50 per cent on all consumer electronic goods entering the country. In order to implement this rule, customs officials must also be provided with some guidance on how to value such goods for customs purposes. One foolproof way to take care of this problem is to prepare a book that lists the prices of all consumer electronic goods that could possibly be imported into the country. But there are literally thousands of consumer electronic goods and each item comes in a large variety of brands, makes, models, characteristics, technical specifications and prices. With rapid technological advance in this industry, many older models are being discontinued due to obsolescence, while new models and entirely new products are coming on the market every day. In this dynamic context and intense competition that characterizes the market for these products, price changes occur frequently. Prices of some computer products, for example, are known to have nose-dived to unheard of low levels within a short period of a few months. Hence, to prepare a book that takes account of all these contingencies, and that provides a comprehensive, accurate, and up-to-date list of prices of consumer electronic goods would be a formidable task. The book would run into several thousand pages and there is a good chance that it would be out of date once it comes out in print. The costs in terms of time, effort and money to prepare such a book could exceed the customs revenue that may be realized from the imported goods.

In addition to the customs valuation issue, there is the tricky question of deciding the customs category to which a particular imported good belongs. For example, an audio cassette player can be regarded as a "luxury consumer electronic product" when it is used for listening to popular songs in the living room of a well-to-do family. But the same cassette player can be looked upon as an "educational tool" when used by a student in the language lab of a foreign language institute. Likewise, it can also be considered as a "device to propagate religion and to uplift the spiritual well-being and moral standards of the people" when used to broadcast the teachings of a revered monk at a religious gathering. In short, regardless of how ingenious we are in designing rules and regulations, there must always be some room for personal judgment and freedom to exercise a measure of discretion on the part of officials administering and implementing the rules; or else if everything has to be done "by the book", general paralysis will set in and the whole administrative machinery will come to a grinding halt.

Accountability

Finally, a few remarks about accountability are necessary as it occupies an important place in considering the corruption question. Accountability has to do with the fact that for proper observance of rules and regulations, those administering the rules must be held responsible and accountable for their actions. For example, it is normal practice in most countries to request assistance from parents to help finance desirable projects in their children's school. Usually such projects are well publicized, and their objectives, benefits, work plan and estimated costs are explained in detail to parents. Periodic progress reports are provided when the project is under implementation. And then when it is completed, a final report is prepared highlighting how the project's objectives have been achieved and where full disclosure is also made and properly audited accounts are presented with respect to total contributions received and costs incurred. Under these circumstances, school authorities can be held accountable for their actions. When something appears questionable, improper, or inaccurate in the information and accounts presented, the authorities can be called upon to provide an explanation to clarify the matter and to take corrective action and make amends, as necessary. Those in charge are obliged to respond to such queries so that doubts are cleared, and remedial or disciplinary actions are taken to the satisfaction of all concerned.

On the other hand, a family can be asked to make a large financial contribution as a condition for enrolment of a child in the kindergarten. Parents are told the contribution is for upgrading facilities in the school and to improve the welfare of students, teachers, and administrative and general services staff. But if no receipt is issued for the payment made and no financial statements or information are provided on how the money is utilized, then there is no accountability.

II. CAUSES, INCIDENCE AND FORMS

Corruption equation

Drawing upon the concepts described above, a corruption equation can be set out as follows (Klitgaard 1998):

$$C = R + D - A$$

In the above equation, C stands for corruption, R for economic rent, D for discretionary powers, and A for accountability. The equation states that the more opportunities for economic rent (R) exist in a country, the larger will be the corruption. Similarly, the greater the discretionary powers (D) granted to administrators, the greater will be the corruption. However, the more administrators are held accountable (A) for their actions, the less will be the corruption, and hence a minus sign in front of A.[1]

Stated differently, the equation tells us that a fertile ground for growth of a thoroughly corrupt system will emerge in a country if it satisfies the following three conditions:

(i) It has a large number of laws, rules, regulations, and administrative orders to restrict business and economic activities and thereby creates huge opportunities for generating economic rent, and especially if these restrictive measures are complex and opaque and applied in a selective, secretive, inconsistent and non-transparent way;

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1 Mathematically speaking, we can say C varies directly with R and D, and inversely with A.

(ii) Administrators are granted large discretionary powers with respect to interpreting rules, are given a lot of freedom to decide on how rules are to be applied, to whom and in what manner they are to be applied, are vested with powers to amend, alter, and rescind the rules, and even to supplement the rules by invoking new restrictive administrative measures and procedures; and

(iii) There are no effective mechanisms and institutional arrangements in the country to hold administrators accountable for their actions.

Levels

Although corruption can occur at a variety of levels, attention has usually been directed at only two – namely, the high and the low – and these are believed to reinforce each other.

High level corruption refers to misconduct at the top and by leading politicians. Since these people are generally well-off and have a lot of privileges associated with their high office, their corrupt behaviour is not attributable to low pay and out of necessity to meet the living expenses of their families. Instead, greed is considered a main motivating factor. But there are other compulsions. To remain in office, for example, can also be an overriding motivating force. With election campaigns becoming expensive, corruption related to campaign financing is a big political issue in some countries. The need to dispense favours among political allies, colleagues and subordinates to keep them happy, cooperative and loyal is another factor. Moreover, in some societies there are traditions and customs whereby elected officials are expected to make substantive contributions to the welfare of the people in constituencies that elect them. For instance, in some countries a politician is required by tradition to present an expensive gift at a wedding involving a supporter in his electoral district. When such a community has a large number of wedding receptions, birthday parties, anniversaries, celebrations, rituals, festivals, and fund raising ceremonies for all sorts of worthy causes, the financial burden of these festivities can fall heavily on elected officials. And the higher up you are in the pecking order, the larger is the contribution you are expected to make by custom and long held traditions of the land. Hence, there are economic, political, social and cultural imperatives that motivate higher level bureaucrats to engage in rent seeking activities.

At the other end, low level corruption – such as the underhand payment that has to be made to a clerk to expedite the issue of a driving license – has its own set of problems. In this case the general perception is that civil servants with insufficient salaries to meet the living expenses of their families are driven by necessity to engage in corrupt practices. Raising their pay, it is argued, will mean less need to depend on illegal activities to earn a living while they have more to lose if they get caught. This sounds reasonable and there are cases where countries that pay their civil servants well, tend to have less public sector corruption than in those where pay scales are low. But there is no hard evidence to suggest that low level public employees are less greedy than their superiors. The line between “need driven” and “greed driven” corruption is hard to draw and it is difficult to determine where one ends and the other begins. Thus, there are those who believe that increasing pay without other complementary measures is not likely to have a significant impact on reducing corruption. On the contrary, the cost to the government budget of paying employees more, may be much larger than the benefit that may result from reduced corruption. Moreover, when no serious efforts are made to control inflationary pressures in a country, shopkeepers will take an increase in civil servant salaries as a sign for them to raise prices. Higher pay leading to higher prices and higher costs of living mean there is no increase in the “real” wage of government employees and no improvement in their welfare. But raising civil servants’ pay, by causing a general increase in prices, will lead to a deterioration of economic conditions for everybody. This illustrates the point that there is a need to control inflation, restore macroeconomic stability, address the underlying causes for destabilizing speculative behaviour, and to build confidence in the economy for the success of any reform measure.

Aside from encouraging corruption, low pay has other detrimental effects on the attitudes and performance of public employees. It contributes to reducing incentives, low morale, increased inefficiency, moonlighting and absenteeism and loss of self respect and dignity. As a result, some of these employees become nasty, rude and indifferent in their dealings with the general public. They can be exasperating and create a lot of nuisance value to ordinary citizens. Under these circumstances, it is also hard to recruit and retain good workers as they will seek employment or leave to take up more challenging and higher paying jobs in the private sector or abroad. Hence, rather than considering the matter only from the corruption point of view, a more wide-ranging civil service reform programme, including adjusting salaries to cover the living expenses of an average family when inflationary expectations have been brought under control, would need to be given careful and serious attention where such conditions prevail in a country.

Incidence

Incidence of corruption varies among societies, and it can be rare, widespread or systemic. When it is rare, it is relatively easy to detect, isolate and punish and to prevent the disease from becoming widespread. When corruption becomes widespread, it is more difficult to control and to deal with. But the worst scenario is when it becomes systemic. When systemic corruption takes hold of a country, the institutions, rules and peoples’ behaviour and attitudes become adapted to the corrupt way of doing things, and corruption becomes a way of life. Systemic corruption is very difficult to overcome and it can have a devastating effect on the economy.

Well-organized and chaotic

Another useful distinction that is often made is between well-organized and chaotic corruption (Mauro 1998). Under a well-organized system of corruption, business executives have a good idea of whom they have to bribe and how much to offer them, and they feel reasonably sure of obtaining the favour for which the payment is made. This takes a lot of hassle and uncertainty out of corruption which is a big plus factor. Moreover, under a well-organized system, bribe-receivers take a longer run view of the situation and think of cuts they can get from profitable deals and a continual stream of income that can be realized when entrepreneurs and business firms they have been associated with become prosperous and well-established with the passage of time. They, therefore, have an interest not to unduly harm the goose that may be laying golden eggs in the future.

In sharp contrast, under chaotic corruption, there is a lot of confusion and no one is exactly sure how much to pay and to whom payment is to be made. So in this confused state of affairs, business people end up paying bribes to a lot of officials without assurance that they will not be asked to pay additional bribes to more officials further down the line. With unclear delineation of authority and responsibility, the outcome of the bribe, and whether the sought after favour will be delivered, is also uncertain. Moreover, there is little coordination among numerous bribe-takers with regard to bribe levels, and one corrupt official has no idea what the other corrupt official is charging. Consequently, there is a tendency to overcharge and demands may be made that are felt excessive and unreasonable by the business community. When that happens, the goose will become disoriented and dispirited, and may not bother to make the required effort to lay eggs.

III. SUPPLY SIDE AND INTERNATIONAL DIMENSIONS

Supply side question

Up to now, our discussion of corruption has dwelt on officials misusing their public office for their own private benefit. This considers the problem from the receiving end, or demand side of the transaction. It does not present a balanced view of the matter. Looking at the problem only from the demand side gives an impression as if those on the supply side, the ones who give bribes, are innocent victims who are forced by corrupt officials to make payoffs to go about their own legitimate business. In reality this is usually not the case. Since both parties (giver and taker) in a bribery deal can gain from the transaction, they often conspire to defraud the public. In fact, a bribery deal can easily be initiated from the supply side, and big local business firms, and large multinational corporations from industrialized countries in particular, can make proposals which officials in poor countries will find hard to resist.

To give an illustrative example, suppose the health ministry of a small developing country has received a grant of a million dollars from a donor agency as emergency food aid for the country's children who are badly undernourished due to dislocations resulting from a recent flare-up of ethnic violence. A European foodstuff supplying company conspires with the health minister of this country to supply milk powder whose date for safe use has expired and which therefore can be purchased at a cheap price. The food supplier makes a handsome profit from the deal and transfers an agreed sum from the proceeds into the foreign bank account of the minister. The supplier and the minister benefit. The children suffer because consumption of the tainted milk powder not only has little nutritious value but it also upsets their stomachs and adds to their misery.

Hence, there is growing realization in the industrialized world that to help poor countries fight corruption, it is not sufficient to view the matter only from the demand side and to be advising them to launch campaigns against corrupt officials and systems in their countries. For a more realistic and balanced approach to the problem, industrialized countries must also direct attention to the supply side, to bribe givers, who often turn out to be business firms with headquarters in their own backyard.

International dimensions

But why should advanced countries be concerned about corruption in poor countries? One good reason is that with the ending of the cold war, there is less need for major donors to be distributing aid based on political considerations. As a result, other considerations such as whether aid is properly used and whether it is benefiting the people for whom it is intended (such as the poor) are gaining prominence. A perception among donors is that the effectiveness of aid has been much reduced due to corruption. Aid giving countries, as well as the IMF and World Bank, are therefore devoting increased attention to this matter in dispensing aid.

Aside from aid effectiveness, greater integration of world financial markets and advanced technology have made it possible to transfer millions of dollars from one country to another by a mere click of a computer mouse button. Consequently, corruption has gone international and high-tech. Like terrorism, the drug menace, AIDS, and environmental degradation, it is one of those problems that has no respect for national boundaries. As such, the need for an international response to it has become evident (Klitgaard 1998).

Initiatives to counter global corruption

The increased acceptance of the international dimensions of the corruption issue has prompted industrialized countries to take some initiatives to address the problem, and especially to make life tougher for bribe giving business firms in their own countries. These initiatives fall into four broad categories and are briefly described below (Vogl 1998).

First, activities carried out by the press and public prosecutors in the leading industrial countries to investigate and expose bribery have created greater public awareness of the problem and have led to the adoption of remedial measures. Domestic scandals are the main target of these investigations but they easily spill over into misdeeds done overseas. A good example is the experience of the United States in the 1970s. The Watergate affair and the international corporate scandals exposed by the country's Securities and Exchange Commission and the Senate's Subcommittee on Multinational Corporations provided the stimulus for the passage of its Foreign Corrupt Practices Act in 1978. The Act makes the payment of foreign bribes by United States firms a crime.

Second, the above example set by the United States has now received wider acceptance in the developed world. In December 1997, the 29 member governments of the Organization for Economic Cooperation and Development (OECD) signed the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. It called upon these governments to enact legislation to criminalize foreign bribery. In addition to these official initiatives, there have been some moves from the private sector as well. Recently, the International Chamber of Commerce adopted new antibribery standards. It will also be useful to mention that many multinational corporations have been paying bribes around the globe for decades and changing corporate habits, like in any large bureaucracy, is not easy. But it is encouraging to note that executives of the world's largest multinational companies are becoming increasingly sensitive to the corruption question and they have been giving support to the initiatives for reforms taken in this sphere. Moreover, of no less significance are the activities of the Transparency International, an NGO acting as a watchdog on international corruption. It started operations in the early 1990s and now has 70 national chapters around the world. It is expected to play a useful role in monitoring implementation of the OECD anti-bribery convention when it comes into force.

Third, there is a need to counter international money laundering, which is regarded as a handmaiden of global corruption. Bribery is so much more appealing, profitable and safe if an official in a poor country can rely upon the expertise and good offices of the world's top multinational corporation to help him take the necessary evasive action and deposit his share of the loot in a discreet foreign bank account. The devious ways in which money is laundered worldwide make most leading international banks unwitting, though not entirely innocent, participants in the game. The magnitude of this business is large. In a speech given in February 1998, Mr Michel Camdessus, IMF's Managing Director, said: "estimates of the present scale of money laundering transactions are almost beyond imagination – 2 to 5 per cent of global GNP" (Vogl op. cit). The World Bank estimates world GNP to be

$29,926 billion in 1997 (World Bank 1998). Two to five per cent of this comes roughly to around $600 billion to $1,500 billion. Since the total GNP of low income countries in the same year is estimated at $722 billion[2], the share going to officials from poor countries is likely to form only a tiny percentage of the huge sums involved in global money laundering transactions. As in the case of world trade, investment and finance, the developed countries are probably each others' best customers in the international money laundering business. Consequently, new and innovative regulatory initiatives have been taken in many of these countries to strengthen detection of money laundering and to improve supervision of financial institutions to limit the scope of this activity. But time and again, corruption has been able to stay one step ahead of the best regulatory measure that can be devised to control it, and the fight is turning out to be an uphill battle.

Finally, direct measures in trade and public procurement are also seen as necessary to combat global corruption. The World Trade Organization (WTO) is sensitive to this issue as corruption is unfair, does not provide a "level playing field" for participants in the game, and causes distortions in the world trading system. The WTO, under pressure from leading industrial nations, is expected to take up the matter in a big way when the OECD antibribery convention comes into force and governments have formally adopted policies penalizing business firms paying bribes in other countries.

IV. ECONOMIC CONSEQUENCES

Grand corruption

When one considers the economic consequences of corruption, the adverse impact of grand corruption comes readily to mind. Corruption on a grand scale associated with some dictators and their cronies can involve embezzlement of huge sums of public funds, and the mismanagement, wastage, inequity, and social decay that come along with it, can be disastrous for an economy. There are familiar tales of fortunes in gold, gems and jewelry stashed away in secret hiding places by corrupt officials and hundreds of millions of dollars spent in acquiring real estate abroad and in depositing into their foreign bank accounts. The devastating impact of misconduct on such a massive scale, especially for poor countries that are facing perennial and severe foreign exchange shortages, is obvious and requires no further comment. But corruption does not have to be on a grand scale to inflict serious damage. There are other adverse effects that can be just as damaging for a poor country. These deserve a closer look and are taken up below.

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[2] The World Bank designates a country with a per capita income of $785 or less in 1997, as a "low income country".

Rise of the underground economy

Underground economic activities exist in all countries. They are of two types. First, there are those that are illegal such as engaging in the drug trade or the smuggling business. The second consists of those activities that are legal but are not officially recorded to evade taxes or for some other reason. Corruption gives rise to both these types of activities and contributes directly to the rise of the underground economy.

Although underground economic activities exist in all countries, they become pervasive where corruption is widespread. When a large portion of an economy goes underground, official macroeconomic data which mostly cover only the formal sector, become unreliable to assess economic performance or to provide a basis for policy making and analysis. Official foreign trade statistics, for example, no longer reflect a country's true volume, or value, of exports and imports because of large illegal and unrecorded movements of goods and services across the border in a thriving smuggling business. Similarly, the official exchange rate becomes symbolic and generally meaningless when foreign exchange dealings are mostly transacted in the parallel market and at the unofficial exchange rate which bears no relation to the official rate. The inflation rate, based on the consumer price index (CPI), also becomes suspect as the consumer basket of goods and services which is used to calculate CPI, may not adequately cover items that consumers have to purchase in the unofficial market at exorbitant prices. Likewise, the official interest rate – a continuing source of dismay, frustration and headache for the formal banking community – may not reflect the true cost of capital and may diverge considerably from the more realistic interest rate at which a large volume of financial transactions takes place in the informal credit market.[3] Similar problems arise with respect to other key macroeconomic indicators. Under these circumstances, proper economic accounting and macroeconomic management become difficult. In the absence of reliable data, transparent policies, and proper macroeconomic management, there is not much hope for economic development, modernization, or emergence of a well functioning market economy.

Income distribution

Under a corrupt system, the privileged and the well-connected enjoy economic rent. Economic rent, by definition, represents abnormal or monopoly profits and can bestow large benefits. As such, there is a tendency for wealth to be concentrated in the hands of a tiny minority of the population. Income distribution, therefore, becomes

[3] This is not to deny the fact that interest rates in any informal credit market tend to be high, due to the unorganized nature of the market, lack of adequate information, lack of collateral, high transaction costs associated with servicing a large number of small loans, high risk premiums, and other market imperfections.

highly uneven. In addition, the burden of corruption falls more heavily on the poor as they cannot afford to pay the required bribes to send their children to a decent school, to obtain proper health care, or to have adequate access to government provided services such as domestic water supply, electricity, sanitation and community waste disposal facilities. An undesirable situation can arise as in some countries where through illegal connections to the water mains, the water sprinkler system in a golf course operates most of the day to keep the grass green on the fairways, while villagers living across the street do not have sufficient water for their daily household needs. At night, through payment of bribes, the driving range of the golf course is ablaze with floodlights, while children in the nearby village have to do their homework by candlelight in support of the government's energy conservation effort.

Consumption pattern

Closely associated with an unequal income distribution and concentration of wealth in the hands of a few, there emerges a distorted consumption pattern aimed at meeting the lifestyle of the new and extremely rich urban elite. This involves import of a large variety of luxury goods from abroad – flashy cars, lavish home furnishings, state-of-the-art consumer durables and electronic products, fashion clothing, exotic perfumes, expensive foodstuffs, fine wines and spirits, and fancy goods of all kinds that can be found in supermarkets and department stores of any prosperous Asian city in the heyday of the region's economic boom. Most of these goods are, of course, beyond the reach of ordinary citizens in the cities and in the countryside. Conspicuous consumption with expensive cars cruising along dirt roads, and conspicuous construction with luxury apartment buildings rising amidst poverty and squalor, bring home the point that affluence is not widely shared in these countries.

Impact on investment

Corruption's adverse impact on private investment, both domestic and foreign, is considered to be particularly harmful for a developing economy. Bribes may have to be given before any investment takes place and upon entering into negotiations for the establishment of an enterprise. More payments usually follow in the process of setting up the business. Procurement of leases for land and buildings; permission to engage in activities such as production, transport, storage, marketing, distribution, import and export; obtaining connections for water, gas, electricity, and telephone; having access to telex, fax and e-mail facilities and so on; can involve payment of substantial bribes at various stages and may require the services of agents with specialized expertise on how to get around complex rules and procedures to acquire these things. Unfortunately, these agents and middlemen, instead of being part of the solution can often become a part of the problem. Their services do not come cheaply and they add to the cost and complexity of doing business under a corrupt regime. Then, when the enterprise is finally established and up and running, corrupt officials may demand cuts from the firm's earnings. Moreover, in order to establish and maintain good public relations, and for continued viability of the enterprise as a business concern, entrepreneurs may have to contribute to all sorts of charities and worthy causes that are unrelated to their line of work.

Bribe payments constitute a form of tax on enterprises. But they represent a pernicious type of tax as bribery deals have to be struck in a surreptitious way and bribe-givers cannot always be certain that bribe-takers will live up to their part of the bargain. It is also a regressive form of tax. Its burden falls more heavily on small businesses in trade and service sectors as these small entrepreneurs normally do not enjoy political patronage. Hence, corruption not only raises the initial costs of investment but by substantially increasing risks and uncertainty for a venture, can significantly reduce the incentive to invest.

For a poor country, talented local business people, managers, entrepreneurs, and industrialists represent a scarce and valuable resource. Their talents should not be wasted in rent seeking activities. They should be doing productive work. For them to invest and engage in productive work will require not only political stability but economic stability as well as a measure of predictability and honesty on the part of the government.[4] Surveys have also revealed that business people have to spend a lot of management time in discussions, negotiations and waiting for appointments with bureaucrats and public officials in corrupt regimes than in countries where there is less corruption (Gray and Kaufmann op. cit).

As for foreign direct investment (FDI), the benefits it can bring to a developing country are well known. FDI helps augment the much needed capital resources in a poor country. What is more important, it can also bring technology, knowhow and managerial and marketing skills that improve a country's international competitiveness, help develop valuable market outlets abroad, and strengthen foreign contacts and broaden the outlook of its business community. Moreover, foreign investment can increase employment opportunities, assist in improving labour skills, and can produce useful goods and services for the domestic market. It can also be crucial in building modern infrastructural facilities, establishing reliable energy generating and distributing systems, setting up high technology communication networks, providing efficient transport links with the rest of the world and in developing capital markets and business and financial services which are essential for a country to become a modern, developed nation. In short, FDI can play an important role in assisting a country to modernize and to more fully develop its productive potential.

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4 Economic stability involves two things. First, there must be internal stability by keeping the domestic inflation rate low and the budget deficit at a prudent level. Second, there must be external stability by keeping the exchange rate relatively stable and maintaining balance in the balance of payments.

The above advantages of FDI will be forthcoming to a country only if it provides a conducive climate for foreign investment. FDI will not come in a big way where policies are unclear and inconsistent, relevant and reliable economic information and data to plan and make sound business decisions are hard to come by, and the courses of action and measures the government is likely to pursue on the major issues facing the economy are difficult to fathom and to predict. Long term investment decisions cannot be taken under such conditions. Both the quantity as well as quality of foreign capital inflows into the country will therefore be adversely affected. The type of investment that foreigners would be willing to undertake in this uncertain economic climate would mostly consist of activities to exploit the country's natural resources or to engage in quick yielding ventures that have little beneficial spread effects and backward and forward linkages with the domestic economy. Investments in setting up facilities to assemble, package and label imported parts and components for export represent a good example. These activities bring little in the way of local value added, or in imparting skills and technology to help a poor country in its industrialization effort.

At a more fundamental level, corruption makes it difficult for a low income country to establish and maintain domestic and internationally acceptable "rules of the game" which are necessary for orderly and proper conduct of investment and business activities. This deficiency is believed to be an important reason why the least developed countries in the world are poor. It is also believed to be a reason why some of them will remain that way (Klitgaard op. cit).

Effect on the government budget

Corruption can have undesirable consequences on both the revenue and expenditure sides of the government budget. The consequences on the revenue side are more familiar. Paying bribes to reduce taxes, fees, dues, custom duties and public utility charges such as for water and electricity, are common in many countries. Bribes are also used to make illegal water, electricity, gas and telephone connections to have access to these facilities without paying for the services obtained. All these result in serious losses of revenue for the government. Fraud, embezzlement and misappropriation of public funds add to the losses.

The consequences on the expenditure side are more insidious. Corruption adversely affects the composition of government expenditure. This is because large benefits can be realized from corrupt deals on expenditure items that are expensive, whose costs are not readily apparent, and which are considered to serve some high national priority concern so that they have to be undertaken in a discreet and secretive way. Purchase of jet fighter aircraft, for example, ideally meets these requirements. This item is costly, it is not something that one can buy in a supermarket and find out its price, and it is required to safeguard national security – a high national objective which no one wants to compromise or to appear unpatriotic by questioning its usefulness. Moreover, acquisition of fighter jets is politically sensitive and hence the deal has to be handled with considerable discretion. Large and expensive projects whose costs are hard to determine but with huge potential for kickbacks and economic rent are also good candidates for corrupt deals and hence for inclusion in the national budget. On the other hand, not much money can be made by spending on teachers' salaries, in buying school textbooks, or on projects on rural preventive health care or training programmes to meet a shortage of a vital labour skill in industry. Corrupt regimes therefore tend to devote a large share of their national budget expenditures on acquiring sophisticated military hardware and on large projects, and less on education and health, and on other priority needs that would contribute towards overcoming critical bottlenecks in the economy and help ease hardships that most ordinary people face in their daily lives.

Social costs

In any society, there are laws and regulations to serve social objectives and to protect the public interest, such as building codes, environmental controls, traffic laws and prudential banking regulations. Violating these laws for economic gain through corrupt means can cause serious social harm. There are many instances of this throughout the Asia and Pacific region.

For example, there have been numerous cases where soil erosion, resulting from illegal logging, has led to whole villages being washed down hill sides in flash floods or buried in mud slides, taking a heavy toll in lives. Violating building codes through the connivance of corrupt officials and building contractors has resulted in collapse of apartment buildings, department stores and hotels in some countries. Failure to observe proper fire prevention and safety regulations has caused supermarkets, hotels and discos, filled with shoppers and customers to go up in flames. Overloaded ferries and passenger ships have sunk in seas and rivers all over the region. Paying bribes to operate un-roadworthy and poorly maintained public vehicles have led to accidents on the highways and buses plunging down ravines and gorges due to mechanical failure are common in many countries.

There has also been growing concern over corruption in large infrastructure projects such as dams and bridges. A huge project, estimated to cost over $7 billion is a source of particular worry (*Asiaweek*, 9 April 1999). Shoddy workmanship, use of substandard materials and disregard for proper design and engineering specifications, due mainly to corruption, have caused bridges to collapse and dams to burst, resulting in heavy loss of life and property.

Obscure insider trading practices and financial scams that can result from poorly supervised financial systems also have serious economic and social consequences. People have lost their life savings and fortunes in financial scams.

This has led to massive street demonstrations and civil unrest in several east European countries. Lack of transparency, shady deals and corrupt practices have also been a contributing factor to the financial and macroeconomic crisis that has swept across East and South-East Asia.

Price controls, subsidized goods and black markets

It is a common practice in many developing countries to institute price controls and to provide essential goods and services at subsidized prices to consumers. The official price for a key food item, such as rice, is fixed by paying a low administratively set price to farmers, while gasoline, electricity and charges for public transport and other essential items are provided at low subsidized prices. These mostly benefit city dwellers as they are the main consumers of these subsidized goods and services. The urban bias in the provision of subsidized food and other necessities stems from the political reality that city dwellers, especially the large masses at the lower end of the income scale, are more politically conscious, better organized and are easier to be instigated into civil unrest than the rural poor. It is usually discontent in the cities that ignites social and political upheavals in a country.

Fixing prices at artificially low levels lead to demand exceeding supply for the subsidized goods so that the all too familiar shortages, rationing, corruption and black markets result. Several undesirable consequences follow.

First, there is a loss of potential government revenue. For example, when those that have access to subsidized gasoline, such as government officials and car owners, sell it on the black market at several times the official price, they make large profits. These profits could be expropriated as revenue by the government, if there is no subsidy, no price distortion, and gasoline is valued at its true opportunity cost, that is, charged by the government at its market clearing price.

Second, setting low farm prices on rice and other agricultural products, to provide cheap food for city dwellers, means farmers are subsidizing the people in the cities. Likewise, low prices set on gasoline and energy contribute to deficits in the government budget. When these deficits are met out of the general budget, is tantamount to the rest of the country, and especially the rural sector, subsidizing the consumption of these goods and services by the urban sector.

Third, fixing low prices on rice and agricultural products, in the wake of sharp increases in the prices of other domestically produced and imported goods (such as fertilizers), turns the terms of trade against farmers. This adversely affects their incentive to produce and hence agricultural output.

Fourth, low prices set on energy result in huge losses for the government enterprises engaged in this area. Consequently, they do not have the resources to invest in new facilities, to buy spare parts or to properly maintain existing machinery and equipment that are falling into disrepair. Some machines and transmission lines that are still in use may have outlived their useful economic life. The outcome is frequent breakdowns, unreliable and poor service, and general inability to meet requirements in terms both of generating capacity and in the quality of energy produced.

Finally, under-pricing energy has other detrimental effects. Cheap energy leads to its uneconomic and wasteful use. Moreover, when energy prices are kept at a level much below cost for decades, there is little incentive for its users to adopt energy efficient technologies and methods of production. So they are not sufficiently prepared for the large price adjustment that inevitably comes when low prices are no longer sustainable due to an internal or an external shock. The result is disruption in production, more corruption as bribery will be resorted to in order to avoid payment of the higher charges, and increased inflationary pressures as higher energy costs will be passed on to consumers by raising prices.

Thus, price controls, subsidies and the corruption and black markets they generate, can lead to undesirable social and economic consequences. This also illustrates the point that dismantling controls, getting rid of subsidies, preventing price distortions, and “getting prices right” in general, form a key element in economic reforms and for the establishment of a properly functioning market economy.

Impact on economic reforms

Unfortunately, corruption places severe constraints on a country’s capacity to undertake economic reforms. This is because reforms require greater transparency, accountability, free and fair competition, deregulation, and reliance on market forces and private initiative, as well as limiting discretionary powers, special privileges, and price distortions – all of which will reduce opportunities for economic rent on which corruption thrives. The rich and the powerful, the main gainers of a corrupt system, will therefore oppose reforms.

V. REMEDIAL MEASURES

Corruption and poor countries

Although corruption exists in all countries it is more widespread in low income countries. This is not because people in poor countries are more corruptible than their counterparts in rich countries. It is simply because conditions in poor countries are more conducive for the growth of corruption. Bribery and graft are crimes of calculation and not of passion. Hence, when benefits are large, chances of getting caught are small, and penalties when caught are light, then many people will succumb.

Low income countries usually have highly regulated economies that give rise to large monopoly rents. Accountability in these countries is generally weak. Political competition and civil liberties are often restricted. Laws and principles of ethics in government are poorly developed and legal institutions charged with enforcing them are ill-prepared to address this complex task. Watchdog organizations that provide information on which detection and enforcement for anti-bribery action is based, such as investigators, accountants, the press, and other civil society organizations, are not well developed and are sometimes suppressed. On the other hand, the discretionary powers of administrators are large, with poorly defined, ever-changing and poorly disseminated rules and regulations making the situation worse. Given these formidable constraints, what can be done to redress the situation?

Pessimistic view

Those with a pessimistic outlook will say "nothing much" and the matter is not worth the bother. Since the top leaders, key politicians and those in power, in collusion with leading international firms and prominent local business people are involved, and are reaping huge benefits from the system, chances of bringing about change appear remote. The pessimists point out that even in a country like Britain, it has taken over a hundred years to bring corruption under control (Gray and Kaufmann op. cit.). They also note the lack of substantive progress in anti-corruption drives that are underway in many Asian countries. One country, for example, has launched a major campaign for nearly a decade, but results achieved have fallen far short of expectations. The top leaders in this country have come out strongly against corruption in their public statements on many occasions, considering it a matter of the highest national priority and concern. It is also reported that 35,084 cases of official graft and embezzlement were investigated in the country in 1998, out of which action was taken in 26,834 cases (Asiaweek, 9 April 1999). In addition, several prominent figures from the party, government, and the business community were arrested and persecuted. But the problem remains far from being resolved, and the country's leaders would be the first to admit this. Thus, the Prime Minister has designated fighting corruption as one of the four overriding national objectives in the country's development agenda for the coming years.

While campaigns against corruption have not met with much success, there have been worrisome developments on this front that make the situation appear more hopeless. In many countries, corruption has now reached new heights where rules and regulations are increasingly looked upon by public officials as a means to augment their low salaries. New rules are invoked and existing rules changed solely to generate income for themselves. Bribery and extortion have become institutionalized and take forms such as open requests for contributions and forced sale to the general public of unwanted and unnecessary articles at high markup prices as a means to raise revenue.

A basic difficulty with systemic corruption is that when the majority of people operate under such a system, individuals have no incentive to try to change it or to refrain from taking part in it even if everyone would be better off if there were no corruption. So people become resigned and try to make the best of a bad situation and to get on with their lives. Why bother changing something that can't be changed? Why bang your head against a wall? Why entertain a buffalo with harp music? Nothing lasts forever anyway, and so on, are the type of attitudes that prevail in such a society.

Optimistic view

But not everybody agrees that endemic corruption is in the nature of things and the unenviable lot of low income countries. These more optimistic people point out that there are developing countries in the world, such as Botswana and Chile that, at present, have less bribery than many industrialized countries. They note that developing economies like Hong Kong, China and Singapore have been able to transform themselves from being very corrupt to relatively clean within a reasonably short period of time. They also point to serious efforts at market reforms and development of democratic institutions that are taking place in many developing countries which everybody knows would reduce opportunities for economic rent and, thus, benefits to be derived from corruption. They are encouraged by many top leaders in the Asia and Pacific region that openly discuss corruption in their countries, freely admit that it is imposing a severe strain on the social and moral fabric of their communities, that it is destroying their institutions, and hence recognize it as a critical problem that must be urgently addressed. Finally, the optimists also point out that campaigns against poverty, hunger, disease and injustice have been going on for decades and the fact that they have yet to yield satisfactory results in many parts of the world, does not mean that such efforts should cease. The fight against corruption, they say, should be viewed in the same light. No one claims it can be eliminated. But they believe it can and should be checked and brought under control so that the bad effects are minimized.

Remedial measures

Some ideas and suggestions that have been put forward by the members of the optimistic camp to fight corruption are as follows:

(i) Leadership: For proper house cleaning and repairs, it is a good idea to begin by fixing the roof. Hence, many authors, including Professor Syed Hussein Alatas of Malaysia, a noted authority on corruption, are of the view that the leadership in a country has a key role to play in combating corruption (Alatas 1999). It is an Asian tradition to hold leaders and those in authority in high regard and esteem. Hence the top leadership must set a good example with respect to honesty, integrity and capacity for hard work. Since fighting corruption will involve taking difficult decisions, the leadership must also display firmness, political will and commitment to carry out the required reforms. But honest and dedicated leaders are a necessary, but not a sufficient, condition to counter corruption. Several other conditions need to be satisfied.

(ii) Credibility: Credibility is one of them. For success, the offenders both on the demand and supply side of a corrupt deal must be convinced that the government is serious about fighting corruption. One suggestion towards this end is to "fry some big fish", that is to publicly try and punish some well-known corrupt people in the country. Some highly publicized trials and convictions of important officials and businessmen on charges of corruption have taken place in several Asian countries. However, since allegations of corruption are often used to discredit political opponents, the suggestion is further made that the fish that is fried should preferably be from your own pond.

(iii) Involving people: A publicity campaign to create greater awareness on the adverse effects of corruption and a clear and unequivocal official pronouncement on the desirability to bring it under control would be helpful. Ordinary citizens have a lot of first hand experience with corruption, they are a good source of information and their help and cooperation should be solicited for the successful launch of an anti-corruption drive. Once people are convinced that a sincere and genuine effort to combat corruption is underway, they will respond and extend their full cooperation in resolving the problem. Just a little opening up and providing opportunities for them to express their views on the matter will bring forth an outpouring of information, ideas and suggestions that will be beyond anyone's imagination.

(iv) Responsible press: A responsible press to gather, analyse, organize, present and disseminate information is considered vital to create greater public awareness and to provide the momentum for undertaking reforms to overcome corruption. Secretiveness has been a key factor that has enabled public officials and politicians to get away with corruption. A responsible and an investigative press has played an important role in many countries, both developed and developing, in exposing misconduct as well as in serving as a watchdog to limit corruption and preventing it from getting out of hand. The press has not always acted in a responsible manner, and like everything else in this world, it is not perfect. Nevertheless, its power to limit misconduct and improper behaviour should not be underestimated.

(v) Oversight bodies: Views on the effectiveness of anti-corruption oversight or watchdog bodies are mixed. There are instances where they have proved useful. For example, the Independent Commission Against Corruption in Hong Kong, China, and similar institutions in Botswana, Chile, Malaysia and Singapore are regarded as having done a good job. However, in surveys and interviews of public officials and members of civil society organizations, most respondents do not have a high opinion of them. The prevailing view is that for such bodies to be effective, they have to be created in a political atmosphere where leaders are honest, civil servants are insulated from political interference, and better incentives are provided to discourage corruption. Otherwise, the oversight bodies will be rendered useless or worse, misused for political gain (Gray and Kaufmann op. cit.). An unwelcome situation can then arise and the country may have to appoint a watchdog to watch over the watchdog body.

(vi) Improving institutions: This is a very large area and only brief mention can be made of the relevant issues. It involves such things as improving the legal framework; smoother, less time-consuming and less burdensome ways to conduct business in the functioning of law courts and in the administration of justice; promoting efficiency of the police force; strengthening the auditor general's office; and appointment of a responsible inspector general empowered to investigate and prosecute corruption.

VI. CONCLUSION

A useful conclusion that has emerged from the current discussion and ongoing debate on the corruption issue is that corruption is a symptom of deep-seated and fundamental economic, political and institutional weaknesses and shortcomings in a country. To be effective, measures against corruption must therefore address these underlying causes and not the symptoms. Emphasis must thus be placed on preventing corruption by tackling the root causes that give rise to it through undertaking economic, political and institutional reforms. Anti-corruption enforcement measures such as oversight bodies, a strengthened police force and more efficient law courts will not be effective in the absence of a serious effort to address the fundamental causes.

Another observation that may be useful to bear in mind is that corruption is most prevalent where there are other forms of institutional weaknesses, such as political instability, bureaucratic red tape, and weak legislative and judicial systems. The important point is that corruption and such institutional weaknesses are linked together and that they feed upon each other. For example, red tape makes corruption possible and corrupt officials may increase the extent of red tape so that they can get more bribes. So, getting rid of corruption helps a country to overcome other institutional weaknesses, just as reducing other institutional weaknesses helps to curb corruption.

The main conclusion to be drawn is that undertaking reforms (both economic and political) by reducing institutional weaknesses offers the best hope to overcome corruption. Corruption will not disappear because of reforms. But reforms will bring it under control and minimize its adverse consequences so that the country can proceed with its efforts to become a modern, developed nation with a good chance of attaining that goal.

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TAX REFORM IN INDIA: ACHIEVEMENTS AND CHALLENGES

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There have been major changes in tax systems in several countries over the last two decades for a variety of reasons. The objective of this paper is to analyse the evolution of the tax system in India since the early 1990s. The paper describes and assesses the introduction of new forms of direct and indirect taxes, their revenue and equity implications and the successes achieved in their implementation. The paper concludes that after eight years of reform improving the tax system remains a major challenge in India.

There have been major changes in tax systems of countries with a wide variety of economic systems and levels of development during the last two decades. The motivation for these reforms has varied from one country to another and the thrust of reforms has differed from time to time depending on the development strategy and philosophy of the times. In many developing countries, the immediate reason for tax reforms, has been the need to enhance revenues to meet impending fiscal crises. As Bird (1993) states, "…fiscal crisis has been proven to be the mother of tax reform". Such reforms, however, are often ad hoc and are done to meet immediate exigencies of revenue. In most cases, such reforms are not in the nature of systemic improvements to enhance the long run productivity of the tax system.

One of the most important reasons for recent tax reforms in many developing and transitional economies has been to evolve a tax system to meet the requirements of international competition (Rao 1992). The transition from a predominantly centrally planned development strategy to market based resource allocation has changed the perspective of the role of the state in development. The transition from a public sector based, heavy industry dominated, import substituting industrialization strategy to one of allocating resources according to market signals has necessitated systemic changes in the tax system. In an export-led open economy, the tax system should not only raise the necessary revenues to provide the social and physical infrastructure but also minimize distortions. Thus, the tax system has to adjust to the requirements of a market economy to ensure international competitiveness.

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As in other countries, the systemic reforms in the tax system in India in the 1990s were the product of crisis but the reforms were calibrated on the basis of detailed analysis. The objective of this paper is to analyse the evolution of the India tax system with special reference to the systemic reforms in the design and implementation of the structure and operation of the taxes in Indian federal polity. In section I, the evolution of tax system reforms, alternative paradigms employed in reform exercises in different countries and the best practice approaches to reform are described to provide a framework for analysing the Indian tax reform experience. Section II describes the Indian tax system and the reform initiatives undertaken until the comprehensive tax reform exercise was taken up in 1991. The salient features of comprehensive tax reform since 1991 and its impact on revenues are analysed in section III. The last section brings out the major shortcomings still persisting in the tax system and lists the challenges faced by the government in developing a co-ordinated tax system in the Indian federal polity.

I. PARADIGMS OF TAX REFORM

The philosophy of tax reform has undergone significant changes over the years in keeping with the changing perception of the role of the state. With the change in the development strategy in favour of market determined resource allocation, the traditional approach of raising revenues to finance a large public sector without much regard to economic effects has been given up. The recent approaches to reform lay emphasis on minimizing distortions in tax policy to keep the economy competitive. Minimizing distortions implies reducing the marginal rates of both direct and indirect taxes. This also calls for reducing differentiation in tax rates to reduce unintended distortions in relative prices. To achieve this, the approach suggests broadening of the tax bases. Thus, over the years, emphasis has shifted from vertical equity in which both direct and indirect taxes are subject to high marginal rates with minute differentiation in rates, to horizontal equity in which, the taxes are broad-based, simple and transparent, and subject to low and less differentiated rates. Equity in general, is taken to mean improving the living conditions of the poor. This has to be achieved mainly through expenditure policy and human resource development rather than reducing the incomes of the rich as was envisaged in the 1950s and 1960s.

Conventional wisdom on tax reforms provides us with at least three different model of tax reform. The optimal tax (OT) model (Ahmad and Stern 1991) is satisfactory in terms of its theoretical soundness, but has been found to be impractical in its applications. Besides the trade-off between efficiency and equity in tax policy, the information and administrative costs of designing an optimal tax model have been found to be prohibitive and, therefore, as a practical guide to tax policy this has not been useful.

The Harberger tax model (HT) like the OT model is well grounded in theory. It, however, draws much more on practical experience. According to this, while efficiency (and distribution weights) is clearly desirable in the design of tax policy, administrative capability is equally, if not more, important. The principal concern, according to this approach, is not to design a system that will be optimal, but emphasise the system that will minimize tax-induced distortions and at the same time be administratively feasible and politically acceptable. In fact, Harberger suggests that tax reformers should pay less attention to the economic methodology and more to best practice experiences. The basic HT reform package for developing countries that are price takers in the international market consists of, *inter alia*, a uniform tariff and a broad-based VAT (value-added tax).

The third is the supply-side tax model (SST). This model emphasises the need to reduce the role of the state. Reduction in the volume of public expenditures has to be achieved by cutting the tax rates, particularly the direct tax rates to minimize disincentives on work, saving and investment. The proponents of this model emphasise the need to broaden the base with minimal exemptions and preferences and to have low marginal tax rates. Again emphasis is on minimizing distortions in relative prices and, therefore, the approach emphasises less rate differentiation.

The recent reform approaches combine elements of all three models sketched above. This incorporates both theory and past reform experiences and takes into account administrative, political and information constraints in designing and implementing reforms. The thrust of this approach is to enhance the revenue productivity of the tax system while minimizing relative price distortions. The best practice approach has attempted to make the tax systems comprehensive, simple and transparent. As mentioned earlier, the general pattern of these reforms has been to broaden the base of taxes, reduce the tax rates and lower the rate differentiation both in direct and indirect taxes. A broader base requires lower rates to be levied to generate a given amount of revenues. Lower marginal rates not only reduce disincentives to work, save and invest, but also help to improve tax compliance. More importantly, broadening the tax base helps to ensure horizontal equity, is desirable from the political economy point of view as it reduces the influence of special interest groups on tax policy, and reduces administrative costs.

In the case of indirect taxation, the reform agenda includes the levy of a broad-based VAT with minimal exemptions and supplemented by a few luxury excises. As regards import duties, quantitative restrictions should be replaced by tariffs, export taxes eliminated, and dispersion in tariffs should be minimized. Personal income tax too is to be levied on all but a small number of persons with income levels less than twice the per capita income of the country. Much of the direct taxes should be collected by withholding, but for the "hard-to-tax" groups, presumptive taxation is to be applied. Emphasis on horizontal equity also implies emphasis on strengthening administration and enforcement of the tax and the development of proper information systems and automation.

II. INDIA's TAX SYSTEM PRIOR TO COMPREHENSIVE REFORMS 1991

The trends in tax revenues presented in table 1 present three distinct phases. In the first, right from the 1970s to mid-1980s, there has been a steady increase in the tax-GDP ratio in keeping with the buoyant economic conditions and acceleration in the growth rate of the economy. The tax ratio, which was about 11 per cent in 1970-71, increased steadily to 14.6 per cent in 1980-81 (table 1). The ratio continued to increase steadily during the early 1980s (chart 1). In addition to the economy attaining a higher growth path, the buoyancy in tax revenues was fuelled by the progressive substitution of quantitative restrictions with tariffs following initial attempts at economic liberalization in the 1980s. The economic recession following the severe drought of 1987 resulted in stagnation in revenues in the second phase until 1992-93. Following the economic crisis of 1991 and the subsequent reforms in the tax system, particularly reduction in tariffs, actually caused a decline in the tax ratio. Overall, it is seen that the tax ratio which reached the peak of about 17 per cent in 1987-88, declined thereafter to 13.9 per cent in 1993-94 and gradually recovered to 14.6 per cent in 1997-98. Overall, the level of tax revenues, although reasonable as compared to the average tax level in developing countries, is clearly inadequate from the viewpoint of resource requirements of the economy.

In terms of composition of tax revenue, there has been a steady decline in the share of direct taxes from 21 per cent in 1970-71 to about 14 per cent in 1990-91. After the introduction of tax reforms in 1992, the revenue from direct taxes has

Table 1. Level and composition of taxes in India (per cent)

Tax	*1970-71*	*1980-81*	*1990-91*	*1995-96*	*1996-97*	*1997-98*
Direct taxes of which:	21.3	16.4	14.0	20.4	20.5	23.6
Corporation tax	7.8	6.6	6.1	9.4	9.3	9.4
Personal Income tax	10.0	7.6	6.1	8.9	9.1	12.6
Agricultural taxes	2.8	1.0	0.9	0.8	0.6	0.6
Others	0.7	1.2	0.9	1.3	1.5	1.0
Indirect taxes of which:	78.7	83.6	86.0	79.6	79.5	76.4
Customs	11.0	17.2	23.5	20.4	21.4	18.0
Union excise duties	37.0	32.8	27.9	22.9	22.5	20.9
Sales tax	16.6	20.3	20.8	20.4	21.1	21.2
State excise duties	4.1	4.2	5.7	4.9	4.5	5.0
Others	10.0	9.1	8.1	10.9	10.0	11.3
Total tax revenue	100.0	100.0	100.0	100.0	100.0	100.0
Tax-GDP percentage	11.0	14.6	16.4	14.4	14.2	14.6

Source: Public Finance Statistics (various issues); Government of India, New Delhi.

Chart 1. Trends in direct and indirect taxes

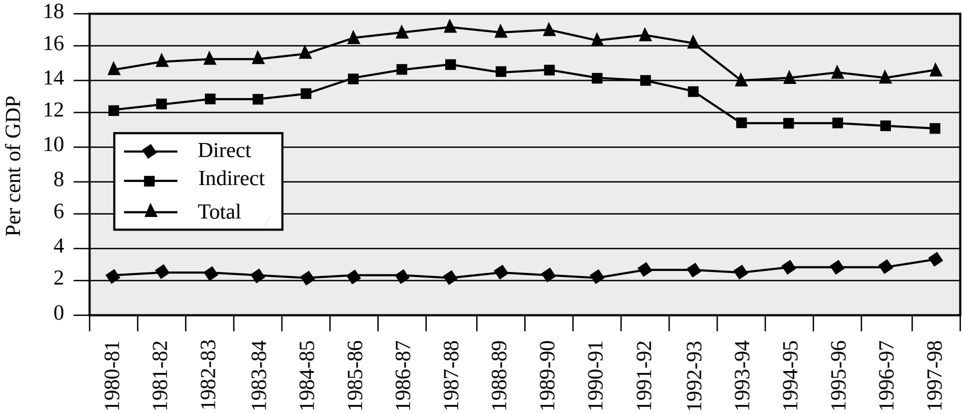
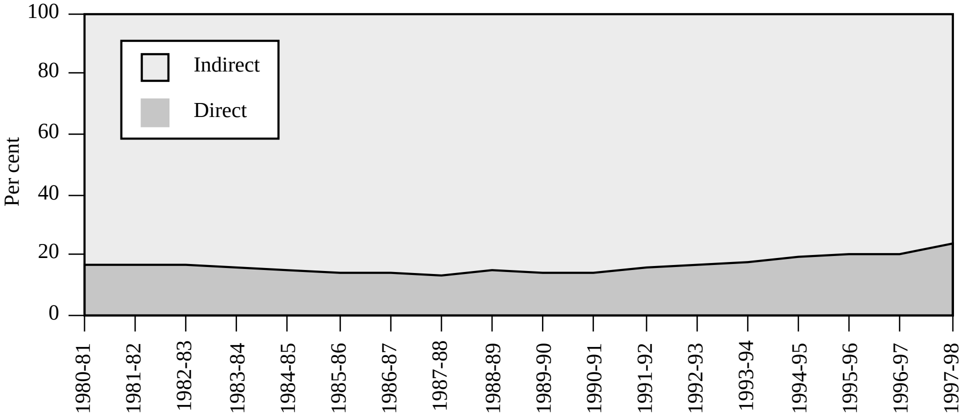


Chart 2. The shares of direct and indirect taxes



grown faster than revenue from other taxes as well as GDP and consequently, the share of direct taxes increased by almost ten percentage points to 24 per cent on 1997-98. An increase was seen in both corporate income and individual income taxes though, taxes on agricultural land and incomes have continued to decline. In fact, although the agricultural sector contributes over 30 per cent of GDP, its contribution to tax revenues is just about half a per cent.

The fastest growth of revenues was in respect of customs during the period from 1970 until 1992-93, when import duties were significantly reduced. Some observers attribute this lopsided development of the tax system to the perverse incentives arising from the constitutional arrangement of devolving revenue from personal income tax and union excise duties to states (see Burgess and Stern 1993 and Joshi and Little 1996). It is also seen that even after reforms were initiated in 1992-93, although the share of revenue from import duties has declined due to reduction in tariffs, the decline in the share of revenue from union excise duties has been much faster.

In the Indian federal polity, both central and state governments exercise revenue powers and the latter raise about 37 per cent of total revenues. The Seventh Schedule to the Constitution specifies revenue sources of the centre and the states respectively in the union and state lists[1]. The major tax powers of the central government consist of taxes on non-agricultural income and wealth, corporate profits, excise duties except those on alcohol and customs duties. The states, on the other hand, can levy taxes on agricultural land, incomes and wealth, excises on alcohol, sales taxes, taxes on motor vehicles and goods and passengers, stamp duties and registration fees. The 72nd and 73rd Constitutional amendments also specify some tax sources to urban and rural local governments. The two important taxes assigned to the local bodies are property taxes and taxes on the entry of goods into a local area for consumption, use or sale. Information on local tax collections consolidated for all urban and rural local governments is not available. However, available information shows that local governments have very little revenue raising powers and much of the expenditures of the local governments are met from devolution of revenues from the state governments.

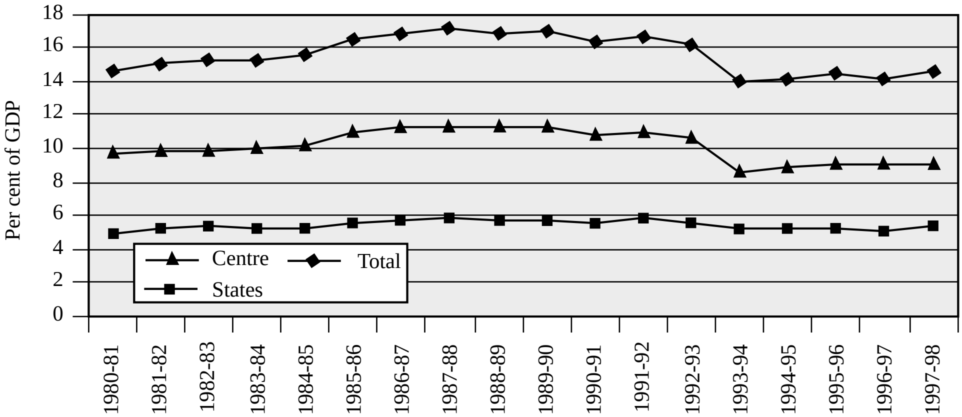
Analysis shows that, revenue trends of both the centre and the states follow a similar pattern (chart 3). However, decline in the ratio of tax revenue to GDP in the case of the central government has been much faster than that of the states. This is understandable, as the central government had to reduce tariffs as a part of the structural adjustment programme. On the other hand, there have been hardly any worthwhile reforms at the state level and yet, the tax ratio has shown a decline, albeit marginal.

Tax reform attempts until 1990

There have been a number of attempts at improving the tax system since independence. The principal objective of these attempts has been to enhance revenue productivity to finance large development plans. Although the various tax reform committees considered economic efficiency as one of the objectives, the recommendations do not bear much testimony to this aspect. The recommendations were in keeping with the philosophy of the times. Further, even when the committees did recommend certain measures on efficiency considerations, this was not acted upon if it involved loss of revenues.

[1] There is a concurrent list in the schedule as well. However, the tax powers are not assigned in the concurrent list as the Constitution follows the principle of separation.

Chart 3. Trends in tax revenue – centre and states



The first comprehensive attempt at reforming the tax system was by the Tax Reform Committee in 1953. This provided the backdrop for the generation of resources for the Second Five Year Plan (1956-60), and was required to fulfil a variety of objectives such as raising the level of savings and investment, effecting resource transfer from the private to the public sector and achieving a desired state of redistribution.

Since then, there have been a number of attempts, most of them partial, to remedy various aspects of the tax system. The expenditure tax levied on the recommendation of the Kaldor Committee in 1957-58 had to be withdrawn after three years as it did not generate the expected revenues. The attempt to achieve the desired state of redistribution caused the policy makers to design the income tax system with confiscatory marginal rates. The consequent moral hazard problems led the Direct Taxes Enquiry Committee in 1971 to recommend a significant reduction in marginal tax rates. On the indirect taxes side, a major simplification exercise was attempted by the Indirect Taxes Enquiry Committee in 1972. At the state and local level, there were a number of tax reform committees in different states that went into the issue of rationalization and simplification of the tax system. The motivation for almost all these committees was to raise more revenues to finance ever-increasing public consumption and investment requirements.

As mentioned earlier, although the effect of the rationalization has been to reduce the marginal tax rates, the prevailing philosophy still dictated keeping the rates very high. It may be noted that in the early 1970s the marginal tax rate including the surcharge was as high as 93.5 per cent. Combined with the highest marginal wealth tax rate of 8 per cent tax on wealth, the tax system produced enormous incentives for evasion and avoidance of the tax. On the recommendation of the Direct Taxes Enquiry

Committee, the marginal tax rate was brought down to 77 per cent in 1974-75 and further to 66 per cent in 1976. Similarly, the highest wealth tax rate was reduced to 2.5 per cent. On the indirect taxes front, the most important reform before 1991 was the conversion of the union excise duties into a modified value added tax (MODVAT) in 1986. The MODVAT was introduced in a limited manner on a few commodities and the coverage was gradually extended over the years. It was an income type VAT applicable only to a few manufactured goods. Also, there was an attempt to substitute *ad valorem* taxes to specific levies though quite a few commodities are subject to specific tax even today. There were attempts to simplify and rationalize the structures, but these cannot be considered comprehensive.

III. IMPACT OF TAX REFORMS SINCE 1991

Report of the Tax Reform Committee (TRC)

Tax reform since 1991 was initiated as a part of the structural reform process, following the economic crisis of 1991. In keeping with the best practice approaches, the TRC adopted an approach of combining economic principles with conventional wisdom in recommending comprehensive tax system reforms (see Bird 1989). There are three parts in the report. In the first interim report, the Committee set out the guiding principles of tax reform and applied them to important taxes namely, taxes on income and wealth, tariffs and taxes on domestic consumption. The first part of the final report was concerned mainly with the much-neglected aspect of reforms in administration and enforcement of both direct and indirect taxes. The second part of the report dealt with restructuring the tariff structure. In keeping with the structural adjustment of the economy, the basic principles taken in the recommendations were to broaden the base, lower marginal tax rates, reduce rate differentiation, and undertake measures to make the administration and enforcement of the tax system more effective. The reforms were to be calibrated to bring about revenue neutrality in the short term and to enhance revenue productivity of the tax system in the medium and long term. The overall thrust of the TRC was to (i) decrease the share of trade taxes in total tax revenue; (ii) increase the share of domestic consumption taxes by transforming the domestic excises into VAT and (iii) increase the relative contribution of direct taxes.

The important proposals put forward by the TRC included reduction in the rates of all major taxes, viz. customs, individual and corporate income taxes and excises to reasonable levels, maintain progressivity but not such as to induce evasion. The TRC recommended a number of measures to broaden the base of all taxes by minimizing exemptions and concessions, drastic simplification of laws and procedures, building a proper information system and computerization of tax returns, and a thorough revamping and modernization of the administrative and enforcement machinery. It also recommended that the taxes on domestic production should be fully converted into a value added tax, and this should be extended to the wholesale level in agreement with the states, with additional revenues beyond the post-manufacturing stage passed on to the state governments.

In the case of customs, the TRC recommendations were the weakest. The TRC recommended tariff rates of 5, 10, 15, 20, 25, 30 and 50 to be achieved by 1997-98. The tariff rate was to vary directly with the stage of processing of commodities, and among final consumer goods, with the income elasticity of demand (higher rates on luxuries). Excessive rate differentiation (seven rates) and according varying degrees of protection depending on the stage of processing has been severely criticized by Joshi and Little (1996, p. 74) when they state, "….this is a totally unprincipled principle, for it has no foundation in economic principles". In addition to continued complexity, the proposed tariff structure creates very high differences in effective rates and provides a higher degree of protection to inessential commodities.

The TRC recommendation also falls much short of developing a co-ordinated domestic trade tax system in the country. This, in a sense, is understandable, as it had no mandate to go into the state level taxes. However, the Committee was aware of the serious problems of avoidance and evasion in respect of sales taxes levied by the states predominantly at the manufacturing stage. Therefore, it did recommend the extension of the central VAT to the wholesale stage with the revenues from the extended levy assigned to the states.

Implementation of reforms since 1991

The government accepted the recommendations of the TRC and has implemented them in phases. Although it did not entirely follow the recommendations and is yet to implement many of the measures to strengthen the administration and enforcement machinery, most of the recommendations have been implemented. It must also be noted that the pace and content of reforms have not been exactly true to TRC recommendations.

As regards the personal income taxes, the most drastic and visible changes have been seen in the reduction in personal and corporate income tax rates. In the case of personal income taxes, besides exemption, the number of tax rates have been reduced to three and the tax rates were drastically reduced to 10, 20 and 30 per cent. At the same time, the exemption limit was raised in stages to Rs 50,000. Combined with the standard deduction, a salaried taxpayer up to an income of Rs 75,000 need not pay any tax. In addition, saving incentives were given by exempting investment in small savings and provident funds up to a specified limit. Attempts have also been made to bring in the self-employed income earners into the tax net. Every individual living in large cities covered under any of the specified conditions (ownership of house, cars, membership of a club, ownership of credit card, foreign travel) is necessarily required to file a tax return. Empirical evidence shows that this drastic reduction in the marginal tax rates has improved the compliance index significantly[2]. Thus, revenues from personal and corporate income taxes have shown appreciable increases after the reforms were initiated in spite of the fact that the rates of tax have been reduced significantly. Voluntary disclosure scheme to allow a one time amnesty to tax defaulters by paying the necessary tax was introduced in 1997-98.

In the case of corporate income taxes, the rates were progressively reduced on both domestic and foreign companies to 35 per cent and 48 per cent respectively. The dividend tax at the individual income tax level has been abolished. However, very little has been done in terms of broadening the base of corporation tax. In fact, besides depreciation allowances and exemptions for exporters, generous tax holidays and preferences are given for investment in various activities (housing, medical equipment, tourism, infrastructure, oil refining, free trade zones, software development, telecommunication, sports etc.). Consequently, the tax base has not grown in proportion to the growth of corporate profits. As many corporate entities took generous advantage of all these tax preferences, there were a number of "zero-tax" companies. To ensure minimum tax payments by them, a Minimum Alternative Tax (MAT) was introduced in 1997-98.

In the case of tariffs, there has been a drastic reduction in both the average and peak tariff rates. In 1990-91, the unweighted average nominal tariff was 125 per cent and peak rate was 355 per cent. These were progressively reduced over the years. The peak rate of import duty in 1997-98 was 40 per cent and the average rate of tariff is just about 25 per cent. It is proposed to reduce the tariffs further to the levels prevailing in the South-East Asian countries in the next five years. In terms of rate differentiation, the number of tax rates continues to remain high. While in the initial years, there was an attempt to reduce the rate differentiation, in more recent years, the variations have, in fact, increased. Again, the pattern of tariffs with the rates varying with the stage of processing has resulted in very high incentives given to the assembly of consumer durables and luxury items of consumption.

There has been a considerable simplification and rationalization of union excise duties as well. Besides reduction in the number of rates, the tax has been progressively converted from a specific into *ad valorem* levy in respect of the majority of commodities. The facility of providing credit on input taxes under the MODVAT too has been progressively extended to a larger number of commodities. As of now almost 80 per cent of the goods covered under excise duties are provided with the

[2] Compliance index is defined by Dasgupta and Mookherjee (1998, pp. 73-74) as the fraction of taxes that are liable that is actually paid. To get the taxes liable, the authors assume that the tax base is a constant proportion of non-agricultural GDP. This is weighted with the average effective tax rate to take into account exemptions and deductions. The ratio of actual tax revenue collections to this estimated base gives the tax compliance index.

MODVAT facility. The base of the tax was broadened by removing the exemptions and levying excise duty at the lowest rate (8 per cent). There has also been a simplification of the tax on the small-scale sector. As the government realized that there was considerable misuse, availability of MODVAT credit was reduced to 95 per cent instead of 100 per cent.

Another important change that has been brought about since 1991 is the introduction of a selective tax on services. The constitution does not assign this tax base specifically either to the centre or the states. However, the central government by invoking residuary powers has introduced a tax on services since 1994-95. Beginning with three services (telephones, non-life insurance and stock brokerage), the base of the tax has been broadened to cover a large number of services such as transporters, car rentals, air travel agents, architects, interior designers, management consultants, chartered accountants, cost accountants, company secretaries, credit rating agencies, market research agencies, underwriters, private security/detectives, real estate agencies and mechanized slaughter houses.

There have been significant attempts to improve the administration and enforcement of the tax as well, though progress in actual implementation has not been commensurate. Besides amnesties given from time to time, efforts have been made to reduce arrears by introducing simplified assessment procedures. A large number of pending cases in courts have been decided through out of court settlements. There have also been attempts to establish special tax courts to deal exclusively with tax disputes. With the assistance of the Canadian International Development Agency (CIDA), the government has started an ambitious programme of computerising tax returns and building a management information system.

State tax systems

While a good deal of progress has been made in the tax system reform of the central government, progress in the case of state tax systems has not been commensurate. The sales taxes, which account for over 60 per cent of states' revenues, have, over the years, become stagnant. The states prefer to levy the tax at the first point of sale, and this makes the tax base narrow. With as many as 16-20 rate categories introduced to fulfil a variety of objectives, the tax has become complicated. This has given rise to a large number of classification disputes as well. Taxation of inputs and capital goods, in addition, has contributed to cascading. In an imperfect market characterized by mark up pricing, the taxes on inputs and capital goods results in the phenomenon tax-on-tax, and mark up on the tax with consumers paying much more than the revenues collected by the government. In addition, there is a tax on inter-state sales, which not only causes severe distortions but also results in inter-state tax exportation in favour of richer states. All these have combined to make the sales tax system complicated, opaque and distorting. Above all, with independent and overlapping commodity tax systems at the central and state levels[3], co-ordinated and harmonized development of domestic trade taxes has become difficult.

The Government of India appointed a study group to recommend measures to harmonise and rationalize the domestic trade tax system in the country (India 1994). The study group made a thorough analysis of the distortions of the prevailing system of taxation and has recommended the gradual moving over to destination based, consumption type value added taxes at the state level. At the central level, the study group recommended complete switching over to the manufacturing stage VAT. At the state level, the existing sales taxes were to be transformed into retail stage destination type VAT.

In order to persuade the states to rationalise their tax systems on the lines recommended by the study group the Government of India appointed a state Finance Ministers' Committee. The Committee has made recommendations to switch over to the VAT in a given time frame through stages. Unfortunately, in spite of the consensus on the need for reforms in the sales tax systems at the state level, there has been very little action in terms of actual rationalization.

Revenue implications of reforms

The economic crisis of 1991 resulted in a significant decline in revenues. Although the tax reforms were intended to be a revenue neutral exercise, the natural consequence of a significant decline in tax rates was to reduce revenues. As there was no commensurate increase in the tax base, the revenue naturally showed a declining trend. Thus, the tax-GDP ratio, which was over 16 per cent in 1990-91, declined sharply to less than 14 per cent in 1993-94. Although thereafter there has been some improvement, it still remains less than 15 per cent and this remains a matter for concern (India 1994). Thus, the reforms in the Indian context have in fact, caused an immediate loss of revenues, though in the next few years, they are likely to reach pre-reform levels.

Interestingly, in spite of significant reductions in the rates of both individual and corporate income taxes, the revenues have shown a significant increase. The share of revenue from direct taxes showed a significant increase as a proportion of GDP as well as total tax revenue. The contribution of revenue from direct taxes, which was less than 14 per cent in 1990-91, increased sharply to 24 per cent in 1997-98. However, it is not clear to what extent the increase in revenue productivity is due to increase in public sector wages following the implementation of pay commission recommendations, how much of this is attributable to better compliance arising from lower marginal tax rates and how much due to administrative measures.

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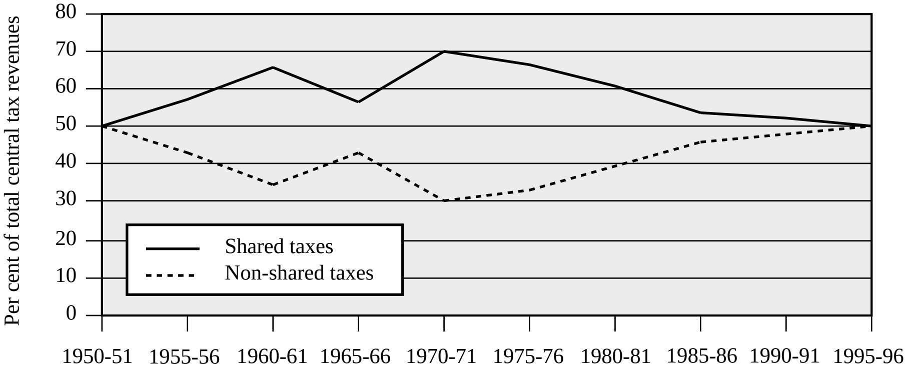
[3] There is also a commodity tax at the local level called "octroi". This is a tax on the entry of goods into a local area for consumption, use or sale. This tax is levied by urban local bodies and is levied in many states.

The decline in the tax-GDP ratio since the reforms were initiated has to be attributed to lower yield of indirect taxes. Naturally, some reduction in customs revenue was only to be expected as the prevailing tariffs were extremely high and had to be drastically reduced. For the same reason, the reforms in excise duties were to be calibrated to compensate revenue loss from import duties. This, however, did not happen and in fact, the revenue from union excise duties showed a drastic decline. Analysis shows that the revenue from import duties as a ratio of GDP declined by 1.3 percentage points from 3.9 per cent in 1990-91 to 2.6 per cent in 1997-98. However, decline in the revenue from excise duties was faster, by 1.5 percentage points from 4.6 per cent to 3.1 per cent during the same period. Consequently, the share of excise duties in total revenue declined by about 7 percentage points (from 28 to 21 per cent) as compared to a 6 percentage point decline in the share of customs (from 24 to 18 per cent). Significant improvements in the tax ratio, therefore, have to come from improvement in the revenue productivity of domestic indirect taxes.

The continued heavy reliance on import duties as a source of revenue rather than as an instrument of protection is an issue that merits some discussion. It has been pointed out that the central government does not have the incentive to raise revenues from the taxes that are shared with the states. According to the existing intergovernmental fiscal arrangement, the central government should share 87.5 per cent of the net collections from personal income tax and 47.5 per cent of gross revenues from union excise duties with the states. This is alleged to have created a moral hazard problem and it is stated that the central government concentrates on those taxes which are not shared. Consequently, while the share of revenues from the taxes that are shared with the states have declined, the revenues from the sources that are not shared have shown a steady increase (chart 4). Therefore, Joshi and Little (1996, pp. 93-94) state, "…there is no doubt that this cockeyed growth of the tax system has harmed the development of the whole economy."

Chart 4. Composition of shared and non-shared tax revenues of central government



IV. SHORTCOMINGS AND CHALLENGES

After eight years of tax reform, as already mentioned, a number of disquieting features in the tax system still remain. Improving the productivity of the tax system continues to be a major challenge in India. The tax ratio is yet to reach the pre-reform levels. Although the coverage under income tax has shown significant improvement, much remains to be done to reach the hard-to-tax groups. The ratio of domestic trade taxes in particular has continued to decline and this has posed a major constraint in reducing tariffs which is necessary to achieve allocative efficiency. Designing of tariffs itself needs to be re-examined to ensure lower tariffs a well as a low level of dispersion to ensure that effective rates of protection are as intended. Reforms in excise duties have not reached the stage of achieving a simple and transparent manufacturing stage VAT. Much remains to be done to simplify and rationalise the state and local consumption taxes. Concerted efforts are necessary to create a proper management information system and automating tax returns. Above all, tax reforms should become systemic, a continuous process to keep the economy competitive instead of being sporadic and crisis-driven.

In the case of direct taxes, as already mentioned, the revenue ratio has shown an upward trend. Marked decline in tax rates seems to have improved tax compliance, though much of the increase seems to have come about due to increases in public sector wages. Yet, the revenues realized are nowhere near the potential and much remains to be done to improve the horizontal equity of the tax system by extending the tax net to hard-to-tax groups. The criteria stipulated for filing tax returns has increased the number of tax returns from less than half a per cent of population to more than 2 per cent. But this has not brought about a corresponding increase in revenues. Inability to bring in the hard-to-tax groups into the net has continued to exert pressure to increase the standard exemption limit deductions. There is also scope for rationalizing savings incentives. Perquisites continue to receive favourable tax treatment and the coverage of tax deduction at source needs to be expanded before long.

In the case of corporate income taxes, too, it is necessary to broaden the tax base by minimizing tax concessions and preferences. Rather than minimizing them, the recent coalition governments have gone about proliferating tax incentives to complicate the tax system and to create a wide wedge between the nominal and effective corporate tax rates. As the companies started using the provisions, for revenue reasons, the government started levying the minimum alternative tax (MAT). Thus one imperfection was sought to be remedied through another. This has complicated the tax system further.

As already mentioned, complete rethinking is necessary in designing tariffs. The TRC recommendation of having seven tax rate categories, the rates varying according to the stage of production, would create large dispersal in the effective rate of protection. Levying lower rates on necessities and higher rates on consumer durable and luxury items of consumption enormously increases protection to these products. It is essential that the highest tariff rate should be brought down to 15-20 per cent and there should be no more than three rate categories. Unless this is done, it would not be possible for Indian manufacturing to achieve international competitiveness in the medium term.

The most important challenge in restructuring the tax system in the country is to evolve a co-ordinated consumption tax system. Although tax assignment between different levels of government follows the principle of separation, as these separate taxes levied by the centre (excise duties), states (sales taxes, state excise duties, taxes on motor vehicles, goods and passengers), and local governments (octroi) fall on the same tax base, we end up in a chaotic situation with tax on tax and mark up on the tax. Besides cascading and relative price distortions, this results in a totally non-transparent tax system. Development of dual VAT – a manufacturing stage VAT by the centre and a consumption type destination based retailed stage VAT by the states is a solution, which needs to be progressively applied. However, neither the centre nor the states have made appreciable progress in this regard. To achieve this, in the case of the centre, the excise duties should be levied entirely as *ad valorem* levies. The rates should be rationalised into a maximum of two and tax credit should be provided on a systematic basis. For this, developing a proper information system is imperative. At the state level, transforming the state taxes into VAT has to be calibrated even more carefully. Rate rationalization, systematic provision of tax credit on inputs and those paid on previous stages, removal of competing tax incentives and concessions, zero rating the tax on inter-state sales – all these have to be done in phases.

A major difficulty in evolving a destination based retail stage VAT at the state level arises from the fact that the states do not have the power to levy tax on services. As mentioned earlier, the states can levy sales taxation of only goods. Taxation of services is not assigned to either the centre or the state, but the former levies taxes on selected services based on power to levy taxes on residual items. Proper levy of goods and services tax would, therefore, require an amendment of the Constitution. The central government can use this as a leverage to persuade the states to reduce and eventually eliminate the taxation on inter-state sales so that a levy of destination based VAT becomes a reality.

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EXPERIENCE WITH TAX REFORM IN THE REPUBLIC OF KOREA

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How can a tax system be designed to "optimally" raise revenue to finance necessary government expenditures? This question must be at the centre of the economic policies in many countries. In developing economies, one more function is required – that is, taxation itself must promote rapid economic growth. In other words, taxation should raise the required funds, and promote economic growth, presumably with tax incentives, while at the same time satisfying the so-called principles of taxation – efficiency, equity and simplicity. In this paper, the author describes past tax reforms in the Republic of Korea and evaluates them. They are evaluated in relation to five aspects: impact on tax revenue, on growth, on equity, on efficiency and on simplicity. In addition, suggestions for future tax reforms are given.

I. BRIEF HISTORY OF TAX REFORMS

From independence to the war rehabilitation period[1]

Like many other countries in the world, the history of taxation in the Republic of Korea conforms with that of capitalist development in the country. In this sense, the embryonic tax system in the Republic of Korea was already formed in the late 19th century. It was then further developed and distorted concurrently during Japanese domination.

That system, however, was far from "modern." A modern tax system in the country was only introduced in 1948, when the first government of the country was formed. In that year, a tax law committee was founded and eight fundamental tax acts were enacted. Major acts included the Income Tax Act, Corporation Tax Act, and Liquor Tax Act. After that, ten additional tax acts, including the Inheritance Tax Act and Commodity Tax Act, were enacted.

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1 This period classification, along with those of the subsequent sections, follows the classifications used in Choi and Han (1992).

A number of changes in taxation were needed due to the war (1950-1953). These changes were particularly aimed at providing the additional revenue required to finance the war. In this regard, the Land Tax Act and Temporary Tax Revenue Expansion Act were introduced in 1950, while a number of existing tax acts, such as the Income Tax Act, were revised. As the war continued, further reform of the tax system, especially with respect to collection, was done. For this, the Special Measure for Taxation and the Temporary Land Income Tax Act were enacted in 1951. As a result, the land income tax replaced the general income tax as the main source of tax revenue.

With the armistice in 1953, emergency wartime tax measures were adjusted to a normal peacetime tax system, especially to meet the needs of economic reconstruction. For this purpose, the government of the Republic of Korea sought the help of foreign experts. As a result, H.P. Wald's Report and Recommendations for the Korean Tax System was published in August 1953.

Following the suggestions of Wald's report, reform of the tax system was put into effect. The Special Measure for Taxation and the Temporary Tax Revenue Expansion Act were abolished, while the textile tax was absorbed into the commodity tax and the license tax was transferred from the central government to local authorities. The income tax system was divided into specific taxes with flat rates and global taxes with progressive rates.

In order to increase tax revenue, the government introduced three new taxes in 1958: an education tax which was levied as a surtax to the personal income tax, an asset revaluation tax, and a foreign exchange tax. This last tax, introduced to absorb gains resulting from the difference between the official and market exchange rates, was abolished in 1963.

In the tax reform initiated by the Democratic Party government in 1960, direct tax rates were generally reduced, but indirect tax rates were raised, and tax exemptions and deductions designed to promote exports and capital accumulation were increased substantially.

The take-off period

In 1961, right after the coup, the military government began to work on structural tax reform and measures to improve tax administration. It enacted the Temporary Measure for Tax Collection and the Special Measure for Tax Evasion Punishment in order to collect delinquent taxes. The government also revised the Income Tax Act, the Corporation Tax Act, and the Business Tax Act, and established a new tax accounting system.

Then, at the end of the same year, the government implemented a general tax reform with emphasis on eliminating irregularities within the tax administration, laying the foundation for a lasting, modern tax system, and providing strong support for the

First Five-Year Economic Development Plan. It was the first time that the role of taxation was extended to areas other than just securing enough funds. This new role of taxation, i.e. the promotion of rapid economic growth, was given the central position in tax policy until the early 1980s, when the main focus of economic policy was changed. The other important characteristic of this reform was the streamlining of the local tax system.

Almost all the major tax acts were revised. As a result, the total number of taxes was reduced to 28 from the previous 38. Then in 1962, the Adjustment Law for National and Local Tax and the National Tax Appellate Application Law were introduced. These tax reforms in 1961-62 are regarded as establishing many of the features of the present tax system in the Republic of Korea.

In 1966, there was an important change in the tax administration of the country. On March 3rd of that year, the National Tax Service (NTS)[2] was established. Its main functions have been the assessment and collection of internal taxes. The establishment of the NTS marked the beginning of modern tax administration.

There was another large scale tax reform in 1967. The aim of this reform was to promote rapid economic growth by supporting the Second Five-Year Economic Development Plan. Tax incentives were widely introduced, particularly for this purpose. Twelve of the 19 existing tax laws were modified extensively and a new Real Estate Speculation Control Tax Law was instituted. The most important characteristic of this reform was the introduction of the global income tax, although it was incomplete. A more complete form of the global income tax was introduced in the major tax reform of 1974, which will be discussed below. Finally, in an effort to enhance equity, the highest marginal rate of the inheritance tax was increased from 30 per cent to 70 per cent.

In 1974, the government undertook reform measures of the tax system, primarily to improve income distribution. Income redistribution was a particularly important policy issue at that time because it was widely recognized that the development strategy until then put too little emphasis on equity. The major features of the reform were as follows: a full-scale global income tax system was introduced as discussed above (see table 1 for the tax bases and rates). Generous personal exemptions were also allowed to reduce the tax burden of low income earners. A rate structure also lightened the tax burden of low income earners, and increased the burden on those in the high income brackets. A capital gains tax was introduced to replace the Real Estate Speculation Control Tax which had been in effect since 1968.

In December 1976, the government carried out a large scale tax reform and introduced the Value Added Tax (VAT) and Special Excise Tax. Eighteen new tax laws were enacted or amended under the reform as well. This tax reform was mainly

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[2] At first, it was called the Office of the National Tax Administration (ONTA) and then the National Tax Administration (NTA).

Table 1. Comprehensive income tax rates (1974)

(Unit: thousand won, per cent)

Comprehensive income tax base		*Tax rates*
Over	*Not more than*	
0	240	6
240	480	10
480	720	12
720	960	15
960	1 200	18
1 200	1 500	21
1 500	1 800	25
1 800	2 400	30
2 400	3 000	35
3 000	4 800	40
4 800	7 200	45
7 200	12 000	50
12 000	24 000	55
24 000	36 000	60
36 000	48 000	65
48 000		70

aimed at improving stable national life, meeting the fiscal requirements of the Fourth Economic Development Plan, and further modernizing the tax system. The last objective, that is, modernization of the tax system, is regarded as being accomplished by this reform.

The 1976 amendments to the internal tax laws generally went into effect in January 1977, except for the Value Added Tax Law and the Special Excise Tax Law, which went into effect on 1 July 1977. By this reform, the traditional indirect tax system, which included a cascade-type business tax, was replaced by a consumption-type VAT and a supplementary special excise tax. This was primarily to simplify tax administration and promote exports and capital investment. A single, flexible rate of 10 per cent was applied to all items subject to VAT. The entertainment and food tax, which had been a local tax item, was incorporated into the national tax system. The registration tax, which had been treated as a national tax, was converted to a local tax starting 1 January 1977.

The liberalization and stabilization period

There was a dramatic economic policy change in the 1980s. Following the second oil crisis in 1979 and the political turmoil of 1979 and 1980, the economy of the Republic of Korea was plunged into a deep recession. Under these new circumstances, the government switched its economic policy directions fundamentally: from protection to competition and openness, and from regulation to liberalization and bold privatization. In this regard, the government began to reduce its intervention in the private sector. As a result, not many new functions were demanded from taxation.

Therefore, unlike the 1960s and 1970s, there were no major tax changes during the 1980s, up to 1987, although there were minor revisions of tax laws. In this period, major changes were made in two areas – tax incentives and the curbing of land price hikes.

During the course of rapid economic growth, strategic industries were provided with a variety of tax incentives under many different schemes. The successive addition of new industries, firms, or individuals to the list of beneficiaries, and new types of incentives to the existing stock of incentive schemes complicated the tax system, generated inequities in the tax burden among individuals and sectors, and lessened the influence the tax preference measures could exert. In 1982, the government took its first step towards streamlining the tax incentive system. This will be discussed further in the next section.

The centerpiece of the tax reform in the late 1980s was how to control land speculation through tax measures. Speculation on land has been a serious economic and social problem in the Republic of Korea and the resulting land price hike caused much distortion in resource allocation and in the distribution of income and wealth.

To solve this problem, various measures – mostly tax-based – were taken. Most important among these was the aggregate land tax (the global landholding tax) which was introduced in 1989. This tax replaced the excessive land holding tax which had been in effect for the previous two years. Also, the so-called "public concept" of the ownership of land was introduced. To meet this principle, the increased rate of land tax was introduced in 1989, together with such non-tax measures as the Excessive Residential Land Ownership Charge and the Land Development Charge. Other major non-tax measures to curb the land price hikes included the introduction of a new system of assessing land: an upward adjustment of the assessment ratio.

Contrary to their intention, however, these measures are judged as (relatively) unsuccessful in their fight against land price hikes. As a result, all three measures related to the public concept of land were abolished in the late 1990s.

The government finally introduced the real name financial transaction system in August 1993. The tax measure related with this is the inclusion of the financial income in excess of 40 million won into the global income tax base. It was announced that this would be enacted in the tax reform in 1994. This measure, however, was suspended in 1998 amidst the economic crisis, and is supposed to be reintroduced in 2001.

In 1994 and 1995, there were major tax reforms in the Republic of Korea. The 1994 tax reform was designed to establish an advanced tax system which is characterized by low tax rates and a broader tax base in line with the tax reform in the United States in 1986.

Among many measures to achieve these goals, the most important ones are as follows: first, income tax became closer to a comprehensive income tax by incorporating interest and dividend income into the global income tax system (this has been applied since the beginning of 1996). Until 1995, interest and dividend income were assessed and withheld at a rate of 20 per cent, separate from global income.

Second, the self-assessment system for individual income taxes was introduced and went into effect on income reported in 1996. This would have indeed been an important improvement in tax administration if it had proceeded as intended. The reality, however, is that government-assessment is widely used even now.

Finally, corporation tax rates were reduced to improve the international competitiveness of domestic industries. As a result, the corporation tax rate of firms whose incomes were greater than 100 million won per year was reduced to 30 per cent from the previous 32 per cent.

Tax law amendment in 1995 was in line with that of the previous year, that is, lowering the tax burden and widening the tax base. For this, individual income tax brackets were adjusted (see table 2). At the same time, the corporation tax rate was further reduced by 2 per cent (see table 3).

Table 2. Individual income tax brackets (1995)

Tax rate (per cent)	*Brackets*	
	Before	*Revised*
10	10 million won	10 million won
20	10 30	10 40
30	30 60	40 80
40	60	80

Table 3. Change in corporation tax rate

Tax year	*Tax rate (private corporations)(per cent)*
1995	income 100 million won: 18 (19.35)
	income 100 million won: 30 (31.50)
1996	income 100 million won: 16 (17.20)
	income 100 million won: 28 (30.10)

Financial crisis and tax reform: 1998-1999

The economic crisis which started in late 1997 forced the government to initiate a series of comprehensive economic reform measures to overhaul the economy. As a part of such reforms, the government made a number of changes in tax laws to facilitate the restructuring process, stimulate investment and consumption, and broaden the tax base and tax revenue.

Measures for restructuring

One of the most important causes behind the crisis was too much debt owed by firms. Thus, the financial restructuring of the corporate and financial sectors was inevitable to overcome the crisis. In this sense, the tax liability should neither discourage nor prevent companies and financial institutions from undergoing the necessary restructuring. Therefore, the government exempted or reduced taxes on asset transactions that are needed for corporate and financial restructuring.

Tax incentives to encourage and accelerate restructuring were mostly granted to transaction-related taxes, such as the Capital Gains Tax, Acquisition Tax, and Registration Tax. These incentives are to encourage corporate mergers and acquisitions, business divisions, asset swaps, alienation of business assets, and contributions by company owners. For example, profits resulting from the revaluation of corporate assets after mergers and acquisitions have been made eligible for deferral from corporate income tax until the alienation of the revalued assets. Corporate mergers and acquisitions have also been exempted from the Registration Tax.

Stimulating investment and consumption

The withdrawal of foreign capital was one of the principal factors that precipitated the Republic of Korea's economic crisis. Therefore, restoring the confidence of foreign investors and attracting foreign investment were overriding priorities. To attract foreign direct investment (FDI), the Foreign Investment Promotion Act (FIPA) was enacted in 1998. In May 1999, provisions dealing with tax incentives for FDI was subsumed into the Special Tax Treatment Control Law (STTCL).

The principal objective of FIPA is to attract FDI by creating a more liberalized and favourable business environment for foreign businesses and providing tax incentives to certain types of FDIs. Under FIPA, foreign businesses and investors who make advanced technology FDI in the Republic of Korea have been made eligible for exemptions from individual and corporate income taxes for the first 7 years and 50 per cent reductions for the next three years. In addition, foreign businesses and investors have been granted exemptions from a number of local taxes (i.e., Acquisition Tax, Property Tax, Aggregate Land Tax, and Registration Tax) for a minimum of 5 years and 50 per cent reductions for the next 3 years. Imported capital goods have also been made eligible for full or partial exemptions from customs duties, the special excise tax, and VAT.

As an additional measure to attract FDI, the long-protected real estate market in the country was completely opened to foreign investors in June 1998. In an effort to attract large-scale foreign investment, the government also introduced a Foreign Investment Zone (FIZ) system. Foreign investment companies that receive the FIZ designation are eligible for government support and tax benefits.

Tax incentives were provided to small and medium-sized enterprises to stimulate employment and technology investment. They include tax exemptions on stock options, tax credits and exemptions on R&D, reduction of special excise tax on consumer electronic goods and automobiles, reduction of automobile tax, and reduction of capital gains tax.

Broadening tax bases and increasing tax revenue

Tax revenue has decreased significantly since the beginning of 1998 due to the recession. On the other hand, a sharp increase in government spending was necessary, particularly to meet part of the cost of restructuring, unemployment benefits, and social safety nets. These naturally led to a huge fiscal deficit.

To prevent an excessive deficit, the government raised tax rates on items that were believed to have been least affected by the economic crisis. Thus, among others, taxes on gasoline and diesel were raised, and the progressive taxation of interest income was switched to a proportional withholding tax. In addition to these, cigarettes became subject to VAT on top of the existing local tax.

In an effort to broaden the tax bases, the government also curtailed tax exemptions and reductions. One notable example is the abolition of the VAT exemption on services supplied by professional service providers, e.g., lawyers and accountants. Also, the government enacted the Special Tax Treatment Control Law to control the widely scattered exemption-related laws, making tax laws that allow exemptions and reductions subject to sunset rules.

II. EVALUATION OF TAX REFORMS

Tax revenue

As was pointed out, the major function of taxation is to secure enough funds for expenditures. It needs to be seen whether taxation in the Republic of Korea, with its many past reforms, has served this purpose well. As a result of much effort by the government to raise revenue, the share of total (national and local) tax revenue as a percentage of GNP, or the tax burden, increased from 6-7 per cent in the mid-1950s to 20-21 per cent in the 1990s, as can be seen in table 4. The overall tax burden as a percentage of GNP, however, is still considered to be low compared to that of other countries.

Table 4. Total tax revenue as a percentage of GNP

Year		*Year*		*Year*	
1955	6.2	1970	14.3	1985	17.3
1956	6.0	1971	14.4	1986	17.0
1957	7.5	1972	12.5	1987	17.5
1958	8.6	1973	12.1	1988	17.9
1959	10.2	1974	13.4	1989	18.5
1960	10.3	1975	15.3	1990	19.7
1961	9.7	1976	16.6	1991	19.3
1962	10.6	1977	16.6	1992	18.7
1963	8.6	1978	17.1	1993	18.9
1964	7.1	1979	17.4	1994	19.9
1965	8.6	1980	17.9	1995	20.7
1966	10.7	1981	18.0	1996	21.3
1967	12.0	1982	18.2	1997	21.3
1968	13.9	1983	18.5	1998	22.9
1969	14.6	1984	17.7		

Source: National Bureau of Statistics, *Major Statistics of the Korean Economy*, 1998.

The increasing trend in the tax burden was not smooth until the mid-1960s. This was due partly to fluctuations in economic activity and partly to revenue losses from extensive tax incentives and major tax reforms that reduced the tax rates of the personal and corporate income taxes and increased exemption levels of the personal income tax. For example, the fall in the tax burden ratio in 1963-65 was caused by the bad performance of the economy in the early 1960s.

This trend, however, became stable after the establishment of the NTS, except for the decrease in the tax burden during 1972-73. That is believed to be the result of the extensive tax reforms and the Emergency Decree on Economic Stabilization and Growth (the so-called "August 3rd Special Measure") in 1972.

As was mentioned in the previous section, the establishment of NTS was a turning point in the history of tax administration in the country and contributed to the revenue increase. One interesting point is that the tax burden ratio increased even in a deep recession. Cooper (1994) argued that this may be due to the target revenue approach adopted by the NTA. In other words, a more stringent effort to collect tax revenue would be made if a decrease in the revenue is expected due to a recession.

Although the tax burden in the Republic of Korea has been relatively light, the fiscal balance of the country was very sound (see table 5), until it was hit by the economic crisis in 1997. This phenomenon reflects two facts about the role of the

Table 5. Budget surplus or deficit

(Unit: 100 million won)

Year	*General Account*	*per cent of GDP*	*Consolidated Budget*	*per cent of GDP*	*GDP*[2]
1972	239	0.6	-1 925	-4.6	42 119
1975	882	0.9	-4 661	-4.5	102 955
1980	3 192	0.8	-11 737	-3.1	381 484
1981	2 342	0.5	-21 109	-4.4	476 567
1982	-582	-0.1	-22 221	-4.1	547 210
1983	2 486	0.4	-9 506	-1.5	641 965
1984	1 890	0.3	-9 229	-1.3	736 051
1985	-472	-0.1	-7 133	-0.9	820 621
1986	2 605	0.3	-649	-0.1	957 364
1987	11 132	1.0	2 597	0.2	1 121 303
1988	20 180	1.5	16 427	1.2	1 331 342
1989	4 314	0.3	-191	0.0	1 491 647
1990	2 126	0.1	-15 782	-0.9	1 787 968
1991	-17 354	-0.8	-40 220	-1.9	2 165 109
1992	1 452	0.1	-17 029	-0.7	2 456 996
1993	4 341	0.2	8 129	0.3	2 774 965
1994	17 218	0.5	13 843	0.4	3 234 071
1995	11 119	0.3	12 415	0.3	3 773 498
1996	3 618	0.1	10 990	0.3	4 184 790
1997	-3 950	-0.1	-69 590 [1]	-1.5	4 532 764
1998	-8 366	-0.2	-187 570	-4.2	4 495 088

Source: National Statistical Office, Korean Statistical Information System.

Note: [1] In 1997, includes foreign borrowing of US$ 5 billion dollars from IBRD and ADB.

[2] At current prices.

government in the past: first, it has led rapid development through non-fiscal measures such as direct intervention, regulation, policy loans, etc. Second, there has been oversuppression on all or part of government expenditures.

Part of the oversuppression was on expenditures on social welfare. It is also to be noted that the social security system in the country has not been developed sufficiently until recently. The fully funded national pension, which was introduced first, has not paid full scale benefits yet. Also medical insurance and unemployment insurance are still in their initial stages.

Impact on growth

One of the major functions of fiscal policy is to stimulate economic growth. Particularly for less developed countries, it is believed that governments should provide tax incentives for savings, capital formation, and export promotion to achieve rapid economic growth. Indeed, in such growing economies as the Republic of Korea, the above-mentioned tax incentives have been widely used. What interests us is whether the country's taxation, with many of those incentives, contributed much to the rapid economic growth of the country.

Although there has been much talk about this, rigorous analyses of the impact on growth are rare. The most prominent among them must be those of Trella and Whalley (1991, 1992). These analyses are based upon their two (1991) and three (1992) sector CGE models. Since they are the only meaningful analyses on this subject to the best of the author's knowledge, our evaluation here will be centred around these papers.

According to Trella and Whalley, tax reforms in the Republic of Korea have "probably facilitated rather than fueled high growth." This conclusion is based on their findings that the GDP growth rate in each of the phases in which the major tax regime changes have occurred has been consistently high.

What is more important is their second conclusion in the second paper. They concluded that taxation in the Republic of Korea has played a relatively modest role, accounting for 3.0 to 4.2 per cent of the country's growth between 1962 and 1982, with only 3.6 per cent between 1962 and 1972. This is equivalent to a 0.26 percentage point contribution to the growth rate over the period 1962-1982 (which is about half of the counterpart in the two sector model).

Thus, the contribution of taxation to the growth rate is indeed small. This interpretation, however, is open to criticism. Krueger (1992) raises this question in her comment to the paper. She started with noting the fact that half a percentage point on the growth rate for many other countries would be a major achievement. Moreover, it does not count the secondary effects of taxation, e.g. reducing the budget deficit and the rate of inflation. Therefore, she argues that the isolated direct effect of taxation, excluding all of these derived effects, cannot be small. In other words, taxation may have had a substantial effect on the Republic of Korea's growth, contrary to Trella and Whalley's conclusion.

It would be very difficult, however, to analyse the true contribution of taxation capturing all of these effects. International comparison may be needed. It should be admitted that taxation has certain limits as a tool for growth, considering the fact that its primary function is the provision of funds for the public good. Taking this into account, it is more appropriate to see whether taxation has contributed more to growth than other policy tools. We now turn to this subject.

There have been so many tax incentives in the country that we cannot even list all of them here. The most important among them are special depreciation, investment tax credit and tax free reserves. A tax holiday was extensively used until its abolition in 1981 (see the appendix for a more detailed explanation of tax incentives in the Republic of Korea).

In the 1960s, the core of the Republic of Korea's development policy was export promotion, and naturally the greatest emphasis was placed on those tax incentives designed to promote foreign exchange earning activities. In this period, a tax holiday was the most important tax incentive until the investment tax credit was introduced in 1967. The government's efforts to promote exports in the 1960s were highly successful, and investment in light manufacturing export industries grew rapidly. It is, however, very difficult to measure the net effect of tax incentives because at the same time, very strong credit support, such as policy loans, was provided to the export industries.

What are the impacts of such tax incentives? Have they really contributed much to the growth of the economy as intended? The answer is neither in the affirmative nor negative. Almost all the research on the cost of capital and effective corporation tax rates in the Republic of Korea points out that they have been somewhat effective, but not very much (Kwack and Yoo (1994), and Yoo (1998)). Yoo (1995) showed that investment tax credits and accelerated depreciation were powerful. Other measures, particularly the policy loans, have been argued to be far more effective than tax incentives (see Cho and Kim 1994).

Finally, it should be pointed out that the structure of tax incentives in the country is very complicated and difficult to interpret. This aspect along with the efficiency of the tax incentives will be discussed later in the paper.

Equity

It goes without saying that equity is one of the most important factors in evaluating taxation. It is said, however, that taxation in the Republic of Korea leaves much to be desired in equity, both vertical and horizontal. Despite continuous efforts by the government, the equity of taxation has not improved much.

It is appropriate to look in this context at the tax structure of the country, including the revenue structure first, because it is the outcome of tax reforms. In other words, it essentially reflects the appropriateness of tax reforms. Currently, there are 16 national taxes including customs duties, and 15 local taxes (see figure A1 in the appendix). It is often criticized that there are too many taxes which in turn causes the complexity of the tax system.

If we look at the composition of taxes the major revenue sources of the central government are consumption and income taxes while those of the local government are property related taxes. Since its introduction in 1977, VAT has became a major source of revenue in the Republic of Korea. As shown in table 6, VAT yielded 24.3 per cent of total national tax revenue, making it the largest single tax in the country. Although it ceded its position to personal income tax in 1998, due to the recession after crisis, the switch was reversed again in 1999 according to tentative figures.

Taxes on wealth at the central government level, such as the inheritance and gift tax, assets revaluation tax, and securities transaction tax are hardly significant in terms of their revenue yield. Revenue collected from the above taxes comprise only 2.1 per cent of the central government's total tax revenue in 1998. Wealth taxes at the local government level such as the acquisition tax, property tax, registration tax,

Table 6. The tax system in the Republic of Korea (1997-1998)
(per cent)

National taxes	*Share in total taxes*		*Share in national taxes*		*Local taxes*	*Share in local taxes*		*Share in local taxes*	
	1998	*1997*	*1998*	*1997*		*1998*	*1997*	*1998*	*1997*
1. Domestic taxes	60.7	60.9	75.6	75.9	1. Ordinary taxes	17.7	17.8	89.6	90.3
Personal income tax	20.4	19.2	25.4	23.9	Acquisition tax	2.9	3.3	14.6	16.8
Corporation tax	12.8	11.1	15.9	13.8	Registration tax	3.8	4.6	19.3	23.2
Inheritance and gift tax	0.8	1.3	1.0	1.6	License tax	0.3	0.3	1.4	1.6
Assets revaluation tax	0.5	0.2	0.7	0.3	Inhabitant tax	3.0	2.6	15.3	13.4
Excessive land holding tax	0.0	0.0	0.0	0.0	Property tax	0.7	0.6	3.8	3.1
					Automobile tax	2.5	2.1	12.5	10.6
Excess profit tax	–	–	–	–	Farmland income tax	–	–	–	–
Value-added tax	18.6	20.7	23.2	25.8	Butchery tax	0.1	0.0	0.3	0.2
Special consumption tax	2.6	3.7	3.3	4.7	Horse race tax	0.4	0.3	2.1	1.8
Liquor tax	2.1	2.3	2.7	2.9	Tobacco tax	2.6	2.4	13.2	12.3
Telephone tax	1.1	0.8	1.4	1.0	Aggregate-land tax	1.4	1.4	7.2	7.3
Stamp tax	0.4	0.4	0.4	0.6					
Securities transaction tax	0.3	0.4	0.4	0.5	2. Earmarked tax	1.7	1.6	8.7	8.6
Carry-over	1.1	0.7	1.4	0.9	City planning tax	0.9	0.8	4.5	4.1
					Fire service facilities tax	0.3	0.3	1.8	1.4
2. Customs duties	4.5	6.7	5.7	8.3	Workshop tax	0.4	0.4	2.0	1.9
					Regional development tax	0.1	0.1	0.4	0.4
3. Surcharges	15.1	12.6	18.8	15.8					
Education tax	6.2	5.8	7.7	7.3					
Transportation tax	7.7	5.5	9.6	6.9	3. Carry-over	0.3	0.4	1.8	1.8
Special tax for rural development	1.2	1.3	1.5	1.6					

Source: Bank of Korea, *Economic Statistics Yearbook*, 1999.

city planning tax, fire service facilities tax and automobile tax are major fiscal resources for local governments, accounting for 56.5 per cent of their total tax revenue. Revenue from wealth taxes as a percentage of total tax revenues of both governments at all levels, however, is about 12.7 per cent, which is not very high by international standards.

As can be seen in table 7, which shows the structure of the national tax system, the Republic of Korea once heavily depended on domestic indirect taxes on goods and services which accounted for 52.4 per cent of total tax revenue of the central government in 1980. In the 1990s, however, its share drastically decreased to around 38 per cent. On the other hand, taxes on income and profits accounted for only 36.0 per cent of the total national tax revenue in 1994. This is an increase compared to the 25 per cent level in the late 1970s. Although income taxes have gained importance in recent years, income taxes do not occupy the central position in the revenue structure of the country. The share of taxes on international transactions, entirely composed of customs duties on imports in the Republic of Korea, has also gradually decreased to 4.9 per cent in 1998 from 17.2 per cent of the central government revenue in 1980.

These facts, i.e., the largest share captured by VAT, the relatively low shares of income and property taxes, explain one important characteristic of the structure of tax in the country. It is that the government relies very heavily on indirect taxes. As

Table 7. Structure of national taxes, 1970-1998 (per cent)

	Percentage of total national taxes									
	1970	*1975*	*1980*	*1985*	*1990*	*1994*	*1995*	*1996*	*1997*	*1998*
Taxes on income, profit and capital gains	35.0	24.3	25.5	28.7	37.5	36.0	35.9	33.3	33.0	35.7
Social security contributions	0.8	1.0	1.2	1.7	5.1	8.8	8.7	10.3	10.2	13.4
Taxes on property	2.5	3.9	0.6	0.7	2.4	3.2	2.6	2.0	2.1	1.8
Taxes on goods and services	46.5	51.1	52.4	49.0	38.4	38.5	37.0	38.0	37.6	34.7
Taxes on international transactions	13.8	14.4	17.2	16.2	13.0	6.7	7.4	7.3	7.3	4.9
Other taxes	1.3	5.5	3.0	3.8	3.6	6.8	8.4	9.1	10.0	9.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Finance and Economy, Government Finance Statistics in Korea, 1980, 1991, 1995, 1997, 1999.

shown in the second column of table 8, more than 70 per cent of total tax revenues, national and local, were revenues from indirect taxes until the mid-1980s, though the share decreased to 64 per cent in the 1990s.

What do these shares imply? They imply that taxation in the country is still considered to be vertically inequitable because indirect taxes are more regressive than direct taxes. As a matter of fact, most tax incidence research has shown that direct taxes are progressive while indirect taxes are slightly regressive.

Table 8. Characteristics of the tax structure, 1970-1997 (per cent)

	Direct taxes to total taxes[1]	*Indirect taxes to total taxes*[2]	*National taxes to total taxes*	*Local taxes to total taxes*	*Local taxes to GNP*
1970	33.9	66.1	91.7	8.3	1.2
1971	36.9	63.1	91.9	8.1	1.2
1975	25.8	74.2	89.8	10.6	1.6
1976	29.6	70.4	90.5	9.5	1.6
1980	25.2	74.8	88.3	11.7	2.1
1981	25.7	74.3	88.9	11.1	2.0
1982	26.0	74.0	88.2	11.8	2.2
1983	24.5	75.5	87.8	12.2	2.4
1984	24.8	75.2	87.8	12.2	2.3
1985	27.8	75.2	87.8	12.2	2.1
1986	27.3	72.7	88.3	11.7	2.0
1987	29.8	70.2	88.2	11.8	2.1
1988	33.3	66.7	86.3	3.7	2.5
1989	36.5	63.5	81.8	18.9	3.5
1990	35.9	64.1	80.8	19.2	3.6
1991	35.8	64.2	79.1	20.9	3.7
1992	36.0	64.0	78.8	21.2	4.0
1993	35.7	64.3	78.1	21.9	4.1
1994	35.7	64.3	78.1	21.9	4.3
1995	37.6	62.4	78.8	21.2	4.4
1996	35.9	64.1	80.3	19.7	4.0
1997	33.8	66.2	80.3	19.7	4.3

Sources: Bank of Korea, Economic Statistics Yearbook, 1991, 1996, 1998.
Ministry of Finance, Government Finance Statistics in Korea, 1991.
National Bureau of Statistics, Major Statistics of the Korean Economy, 1991.

Notes: [1] The classification of direct and indirect taxes is based on national income accounts.
[2] General sales tax in Korea before July 1977 was the ness tax, which was replaced by the VAT.

There is considerable research on tax incidence in the Republic of Korea. Since conducting new research or a full scale analysis of tax incidence is beyond the scope of this paper, the results of previous research are summarized below.

According to previous research, indirect taxes are generally regressive, except for the special excise tax. These results conform with our expectation. For example, Heller (1981), Han (1982), Hyun and La (1993), and Sung (1999) all showed such results (see table 9 and figure 1). For special excise tax, however, the results are split. Most of the research showed that the special excise tax is regressive, although this tax was introduced to offset the regressiveness of the VAT. Heller's result is somewhat mixed and should be interpreted as proportional. On the other hand, Hyun and La (1993) showed that this tax is progressive.

There is not much research on the incidence of direct taxes. Hyun and La (1993) and Sung (1999) all showed that income tax is progressive (see table 10 and figure 2). The latter have shown that the tax burden became more regressive after the crisis in 1997. For property tax, Kwack and others have shown that it is progressive under the "new" view, while it is regressive under, the "old" view (see table 11).

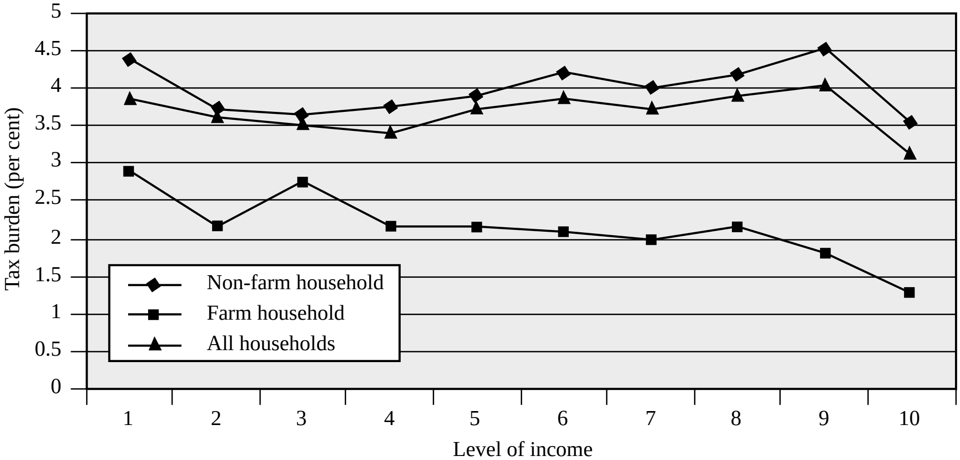
We have only talked about one part of equity – i.e. vertical. The country's tax system is regarded as horizontally inequitable as well. In particular, the inequality of the tax burden between the self-employed and employees is serious. Many analyses on tax evasion showed that more than 50 per cent of the income of the self-employed is not reported while that of employees is nearly fully revealed (see Yoo 1997).

Table 9. Indirect tax burden by taxes
(per cent)

	Special consumption tax		*Liquor tax*		*VAT*		*Indirect tax*	
	1984	*1991*	*1984*	*1991*	*1984*	*1991*	*1984*	*1991*
	0.61	0.37	0.25	0.24	4.31	3.77	7.34	4.39
	0.36	0.32	0.13	0.21	2.46	3.20	4.27	3.71
	0.36	0.34	0.12	0.20	2.30	3.05	3.95	3.64
	0.42	0.44	0.11	0.18	2.27	3.07	3.89	3.68
	0.34	0.55	0.12	0.15	2.16	3.21	3.59	3.91
	0.36	0.73	0.10	0.15	2.10	3.31	3.47	4.19
	0.39	0.66	0.10	0.13	2.05	3.23	3.37	4.02
	0.37	0.79	0.09	0.12	2.02	3.39	3.25	4.17
	0.38	0.97	0.08	0.09	1.97	3.45	3.10	4.52
	0.41	0.78	0.07	0.07	1.88	2.72	2.85	3.57
Average	0.39	0.69	0.10	0.13	2.10	3.15	3.41	3.95

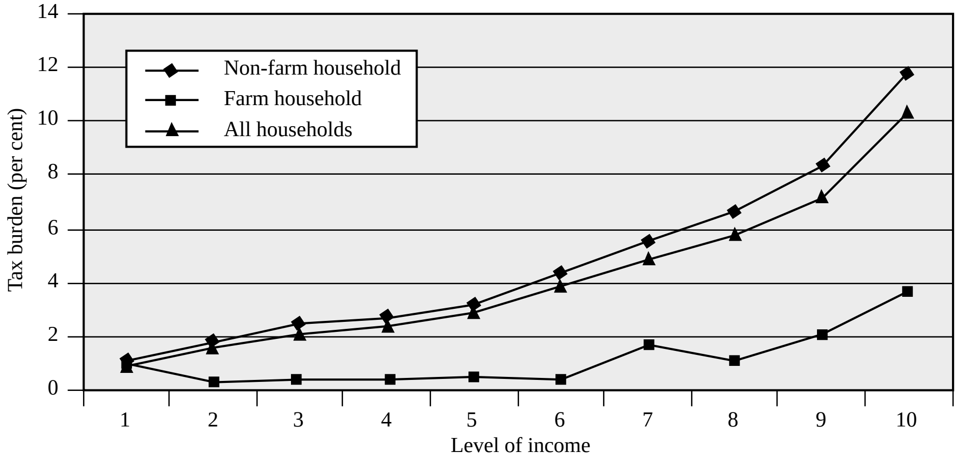
Source: Hyun, J. and S. La, *Analysis of Tax and Social Assistance Policy: Korean Tax-Benefit Model*, 1993.

Figure 1. Burden of indirect tax (1991)



Source: Hyun, J. and S. La, *Analysis of Tax and Social Assistance Policy: Korean Tax-Benefit Model*, 1993.

Figure 2. Burden of income tax 1991



Source: Hyun, J. and S. La, *Analysis of Tax and Social Assistance Policy: Korean Tax-Benefit Model*, 1993.

Table 10. Income tax burden 1991 (per cent)

	Non-farm households	*Farm households*	*All households*
	1.10	1.04	0.91
	1.85	0.31	1.58
	2.49	0.41	2.14
	2.75	0.41	2.44
	3.24	0.53	2.86
	4.36	0.44	3.85
	5.60	1.72	4.87
	6.67	1.13	5.77
	8.32	2.07	7.14
Average	11.75	3.68	10.26
Gini Index	6.64	1.74	5.79
Atkinson Index	0.2907	0.3241	0.2974
= 0.5	-6.3	-1.7	-5.2
	0.0725	0.0851	0.0749
= 0.9	-11.2	-3.3	-9.5
	0.1269	0.1472	0.1307
B-S Index	-10.4	-3.0	-8.8
Degree of progressiveness	0.9158	0.7328	0.8509
Degree of regressiveness	0.0173	0.0810	0.0182
Degree of retrogression	0.0669	0.1862	0.1308
Degree of horizontal equity	0.1336	0.1523	0.0878

Source: Hyun, J. and S. La, *Analysis of Tax and Social Assistance Policy: Korean Tax-Benefit Model*, 1993.

Table 11. Burden of property tax 1991

(Ratio to income tax)

Level of income	*Traditional aspect*			*New aspect*
	Total	*Land*	*Buildings*	*Total*
Average	0.80	0.46	0.34	0.68
	0.94	0.35	0.59	0.55
	0.66	0.23	0.43	0.35
	0.61	0.23	0.38	0.34
	0.67	0.30	0.37	0.45
	0.68	0.32	0.36	0.48
	0.74	0.39	0.35	0.58
	0.77	0.44	0.33	0.65
	0.81	0.49	0.32	0.72
	0.88	0.55	0.33	0.82
	0.88	0.62	0.26	0.94

Source: Kwak and others, *Reform Proposals for Property Holding Taxes – Concentrated on Land Tax*, Economic Policy Information Centre, 1991.

Efficiency and simplicity

It is hard to tell which tax is relatively efficient or not unless rigorous empirical research is done. Unfortunately, there has been little of that. In particular, research on the excess burden (or dead weight loss) which is essential to evaluate efficiency, is scarce. Thus, in this section, we will limit our discussion to the corporation tax by introducing analyses on the marginal effective tax rate, which will enable us to evaluate the distortion in resource allocation.

There is considerable research on the marginal effective tax rate and the cost of capital. Since all of it cannot be introduced here, two papers will be summarized to see the implications on the neutrality of the corporation tax in the Republic of Korea. The first is a paper by Kwack and Yoo (1994). It extended the earlier results by Kwack (1985), which computed the effective tax rate essentially based upon a Jorgenson-Sullivan type analysis. The effective tax rates computed in that paper are presented in table 11.

The tax reduction effects, which are the differences between the statutory and effective tax rates, were fairly constant until the early 1970s. They then began to increase to a level above 10 per cent in the mid-1970s. This seems to be due to the reinforcement of tax support to key industries, particularly the tax holiday. From 1982, however, the tax reduction effect began to decrease again and has been stable since then. This decrease is mainly due to the abolition of the tax holiday.

What is of interest in this paper, however, is the distortion of resource allocation caused by tax incentives. That will be explained now. In table 13, effective tax rates by asset type are presented. As can be clearly seen from this table, the effective tax rates of buildings and construction are higher than those of machinery and equipment.

This is considered to be the result of the fact that most of the tax incentives were applied only to investments on machinery and equipment. However, since direct tax incentives such as the tax holiday (reintroduced in 1975) are applied regardless of asset type, effective rates of buildings and construction became fairly low during the late 1970s. Although the effective rates of buildings and construction have been higher than those of machinery and equipment, the actual costs of capital of the former have been lower than those of the latter. This was proven in two researches – Kwack (1985) and Kim (1991). It is argued that the tax holiday is the main reason behind this phenomenon (see Kim 1991 for details).

As a final discussion on efficiency, it should be mentioned that the country's taxation has not served well as a device for correcting externalities. Environmental taxes have not yet been introduced. The Liquor Tax and Tobacco Consumption Tax are not high enough to correct the externalities caused by drinking and smoking. This is why a tax rate hike on these taxes is widely discussed these days. Also, taxes on petroleum are considered insufficient to correct the problems of pollution and

Table 12. Changes in the effective marginal tax rate (all assets)

Year	*Statutory tax rate[1] (A)*	*Effective tax rate[2] (B)*	*Effective tax rate[3] (C)*	*Tax reduction effect (A-B)*	*A-C*	*C-B*
1960	.330	.300	.319	.030	.011	.019
1961	.242	215	.237	.027	.005	.022
1962	.220	.189	.216	.031	.004	.027
1963	.275	.227	.269	.048	.006	.042
1964	.330	.281	.324	.049	.006	.043
1965	.330	.284	.324	.046	.006	.040
1966	.385	.328	.377	.057	.008	.049
1967	.385	.319	.372	.066	.013	.053
1968	.495	.436	.453	.059	.042	.017
1969	.495	.434	.449	.061	.046	.015
1970	.495	.438	.454	.057	.041	.016
1971	.450	.395	.414	.055	.036	.019
1972	.400	.311	.375	.089	.025	.064
1973	.430	.369	.437	.061	-.007	.068
1974	.430	.342	.435	-.002	-.005	.003
1975	.530	.451	.543	.079	-.013	.092
1976	.530	.428	.531	.102	-.001	.103
1977	.530	.380	.517	.150	.013	.137
1978	.530	.360	.503	.164	.027	.137
1979	.530	.359	.504	.171	.026	.145
1980	.530	.383	.508	.147	.022	.125
1981	.530	.405	.530	.125	.000	.125
1982	.504	.454	.502	.050	.002	.048
1983	.437	.394	.439	.043	-.002	.045
1984	.437	.378	.393	.059	.044	.015
1985	.437	.395	.397	.042	.040	.002
1986	.437	.386	.392	.051	.045	.006
1987	.437	.397	.398	.040	.039	.001
1988	.437	.397	.403	.041	.034	.007
1989	.437	.395	.404	.042	.033	.009
1990	.437	.402	.407	.035	.031	.004

Source: Kwack and Yoo, *Tax Incentives and Economic Development*, 1994.

Notes:
1 Corporation tax rate x (1 + inhabitant tax + defence tax rate).
2 Effective tax rate considering all the tax incentives.
3 Effective tax rate considering depreciation allowance only.

congestion. In particular, the big difference in the special excise tax rates between diesel and gasoline result in a price difference and cause distortion.

For simplicity, the current tax system in the Republic of Korea leaves much to be desired. There are at least three main causes for this. First of all, there are too many taxes (31 as was shown in the previous section). Second, terms of tax codes are very difficult to understand by the general public. And third, too many tax incentives cause complexity so that even beneficiaries cannot know for certain how much benefit they can receive. Such complexity leads to a high cost of both compliance

Table 13. Changes in the effective marginal tax rate by asset type

		Buildings				*Machinery and equipment*			
Year	*Statutory tax rate (A)*	*Effective tax rate (B)*	*Effective tax rate (C)*	*Tax reduction effect (A-B)*	*C-B*	*Effective tax rate (D)*	*Effective tax rate (E)*	*Tax reduction effect (A-D)*	*E-D*
1960	.330	.313	.320	.017	.007	.274	.319	.056	.045
1961	.242	.228	.236	.014	.008	.184	.242	.058	.058
1962	.220	.203	.214	.017	.011	.160	.218	.060	.058
1963	.275	.252	.267	.023	.015	.184	.274	.091	.090
1964	.330	.304	.322	.026	.018	.235	.328	.095	.093
1965	.330	.304	.323	.026	.019	.243	.328	.087	.085
1966	.385	.342	.377	.043	.035	.291	.376	.094	.085
1967	.385	.343	.374	.042	.031	.267	.368	.118	.101
1968	.495	.463	.472	.032	.009	.414	.442	.081	.028
1969	.495	.459	.471	.036	.012	.414	.442	.081	.028
1970	.495	.465	.474	.030	.009	.415	.443	.080	.028
1971	.450	.418	.430	.032	.012	.368	.403	.082	.035
1972	.400	.295	.387	.105	.092	.296	.365	.104	.069
1973	.430	.368	.425	.062	.057	.343	.427	.087	.084
1974	.430	.350	.424	.080	.074	.326	.440	.104	.114
1975	.530	.437	.527	.093	.090	.397	.551	.133	.154
1976	.530	.450	.524	.080	.074	.363	.537	.167	.174
1977	.530	.396	.527	.134	.131	.323	.514	.207	.191
1978	.530	.347	.528	.183	.181	.323	.487	.207	.164
1979	.530	.350	.532	.180	.182	.310	.486	.220	.176
1980	.530	.372	.531	.158	.159	.333	.487	.197	.154
1981	.530	.376	.540	.154	.164	.357	.514	.173	.157
1982	.504	.467	.511	.037	.044	.434	.487	.070	.053
1983	.437	.404	.445	.033	.041	.379	.431	.058	.052

Source: Kwack and Yoo, *Tax Incentives and Economic Development*, 1994.
Note: See the note in table 11 for the meaning of tax rates.

and administration. These, in turn, become one of the sources of tax evasion and corruption.

III. SUGGESTIONS FOR FUTURE REFORM

Simplification of the tax system

As was pointed out in the previous section, a complex tax structure is one of the most distinguishing characteristics of the Republic of Korea, with 16 national taxes and 15 local taxes. It is argued that the country has too many taxes, and some taxes contribute little to revenue size, as shown in table 6. Excess profits tax and farmland tax are good examples. Some taxes do not play an important role as policy tools, such as the excessively-increased value tax. Also, some taxes, like the butchery tax, would be better named as fees than as taxes. Earmarked taxes are another source that makes the country's tax system so complicated. They are a sort of surtax levied on other tax amounts. For example, Special Tax for Rural Development is a surtax levied on the amount of exemption of corporation tax, individual income tax, customs duties, etc. The necessity for tax simplification has long been argued. In 1997, the Korea Institute of Public Finance proposed a tax reform to reduce the number of taxes from 31 to 13 (see figure A2 in annex and KIPF reform proposal for details).

Another source of the complex tax system is tax incentives. As was indicated, the structure of tax exemptions and reductions is very complicated and difficult to interpret. It leads to a low level of tax compliance by taxpayers. Therefore, it is necessary to abolish so many unnecessary incentives.

Reform of the VAT

Small businesses have been specially treated under the VAT system, since VAT was introduced in the country, as in most other countries with VAT. They were given special consideration to reduce the cost of tax compliance.

There are two types of special treatment for small businesses; one is a simplified method and the other is a special method. The simplified method is applied to small businesses that have between 48 million won and 150 million won in turnover per year. The value-added ratios for this group are predefined according to types of business by the tax authority. For example, manufacturing has a value-added ratio of 22 per cent, and restaurants and hotels have a value-added ratio of 50 per cent. These ratios are, in general, lower than the real value-added ratio. Thus the same value-added ratio is applied to the same businesses, irrespective of the real situation of each business. The other method is the special method, which is applied to small businesses with less than 48 million won in turnover per year. This group has a tax liability of 2 per cent of total turnover. It means that this group has a value-added ratio of 20 per cent, irrespective of the type of industry or personal situation. Within the special method, no tax liability is applied to groups that have less than 26 million won in total turnover per year.

Table 14 shows the number of taxpayers and the relative size of the tax base for the group receiving special treatment under VAT. In 1997, around 60 per cent of the total VAT taxpayers were considered small businesses and benefited from the special treatment in VAT. However, their share in the tax base was only 1.7 per cent. Thus, even though small business groups are very plentiful, their contribution is almost nothing. The reason for the large number of taxpayers receiving special treatment is that the tax authority is hard pressed to prove the exact size of total turnover for each business, since the businesses are more dependent on cash than on personal checks and credit cards. This is why self-employed businesses have a high level of under-reporting.

Invoices are very important records for cross-checking tax evasion under the VAT system. One distinguishing aspect is that small businesses receiving special treatment do not have to issue invoices with transactions. That is because their value-added ratios are already determined by the tax authority. Also, small businesses under special treatment do not want to receive invoices with their purchases, as they run the risk of letting the tax authorities know the exact size of their turnover if they receive invoices. It makes tax evasion possible for all taxpayers under the VAT system, since small businesses with no obligation of invoicing can be used as a method of tax evasion by others.

It has been widely criticized that the special treatment of small businesses in the VAT system is a crucial source for tax evasion. Although the special treatment was designed to help small businesses, an unexpected consequence is a high level of tax evasion. Therefore, special treatment must be abolished. It might have to be

Table 14. VAT return (taxpayers and tax base) by tax types (per cent)

Year	*Taxpayers*					*Tax Base*			
	Corporation	*Individual*				*Corporation*	*Individual*		
		General	*Simplified*	*Special*			*General*	*Simplified*	*Special*
				Total	*No tax*				
1993	5.2	34.6	_	60.2	11.1	78.3	19.7	_	2.1
1994	5.6	39.1	_	55.3	18.0	78.3	19.9	_	1.9
1995	5.9	43.7	_	50.4	34.3	79.1	19.3	_	1.6
1996	6.6	35.9	10.6	46.9	40.0	79.9	18.0	0.6	1.6
1997	6.6	34.3	16.7	42.4	36.9	81.2	16.1	1.2	1.5

Source: National Tax Administration, various years.

done gradually or step-by-step to lessen possible political resistance by the affected groups.

Comprehensive income tax

It has long been argued that comprehensive income tax is the most desirable form of income tax, setting aside the debate on comprehensive income tax vs personal expenditure tax. This "principle" must be true of the Republic of Korea as well. Income tax in the country, however, is far from comprehensive.

Currently, there are four different types of income – interest, dividend, retirement, and forestry – which are excluded from global income. Existence of such separately taxed income types has undesirable effects, particularly on equity. Since income tax is progressive, the total tax burden will be lower, the larger part of income is taxed separately. Thus, the introduction of the comprehensive income tax is desirable. In particular, inclusion of interest income is important in relation to real name based financial transactions.

Realization of self-assessment

All the tax systems became administered by self-assessment, after self-assessment was introduced in individual income tax in 1996. Even though the system was changed to self-assessment, the actual management has tended to be by the government. A typical example is that the tax authority makes predetermined tables that show the annual turnover and the level of income by type of business. Also, the tax authority has made this table available to taxpayers. Under this mechanism, taxpayers would report their turnover and income by just following their group guidelines of the amounts for their turnover and income. In addition, there is no incentive for the self-employed group to report their turnover and income honestly. Thus, predetermined tables must be abolished (or made unavailable to taxpayers), and the system should be switched to a true self-assessment system.

CONCLUSION

In this paper, the past tax reforms in the Republic of Korea have been described and evaluated. It has been shown that although many tax reforms have been done they have not been entirely successful. This does not mean that the current tax system as a result of such reforms is a failure. Rather, we have to interpret that there is much room for further development of the current system.

As was shown in section III, the country's tax system does not seem to contribute much to the provision of funds for public goods. Although it did contribute to the rapid economic growth of the country, the scope of the contribution has been limited. Factors that made these contributions possible – most notably tax incentives

– simultaneously caused some inefficiency to creep in and increased the complexity of the tax system. Also, there is much room for improvement as far as tax equity is concerned.

There are several proposals to simplify the tax system, such as reform VAT by abolishing special treatment, introduce a comprehensive income tax and realize a self-assessment system. Of course, these do not comprise the whole reform agenda, but are a major part of it.

In this paper, no attempt was made to add a new analysis or evaluation of past tax reforms. Instead, a survey of previous research was done. Conducting rigorous research – theoretical and empirical – on them is left for the future.

Since the economic environment of each country differs, one country's experience with tax reforms might not be directly applicable to other countries. The experience of the Republic of Korea, however, can be a good reference for tax reforms being undertaken, or likely to be undertaken, by other countries in the region.

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Annex

Tax incentives

In the early phase of the country's development, tax incentives played a relatively limited role in influencing business investment behaviour, largely because of the prevailing market imperfections. It was only after 1966, the year in which the National Tax Administration was established, that tax incentives began to play a significant role in the country's economic development.

In the 1970s, more diversified and sophisticated tax incentives were provided during the course of the so-called heavy industrialization phase, while incentives for export promotion were actually reduced in the early 1970s. During that decade, even though direct allocation continued to play a major role, in line with the increasing reliance of the government on market forces in the allocation of resources, tax incentive policies began to receive increasing emphasis. In 1974 there was a major tax reform and all major incentives were unified and rearranged under the title of "Special Tax Treatment for Key Industries" in the Tax Exemption and Reduction Control Law (TERCL).

In the 1980s, tax incentives began to be used less than before under the perception that they were being abused. First, some industries were deleted from the beneficiary list. The 60 per cent special depreciation system was completely abolished. The tax holiday option was abolished and the investment tax credit option was confined only to the machinery and electronics industries. At the same time, the investment tax credit rate was reduced to 6 per cent (10 per cent for investments using domestic capital goods) from 8 per cent (10 per cent). Effective from 1983, it was again halved to 3 per cent (5 per cent for investments using domestic capital goods) reflecting the downward adjustment of the statutory corporation tax rate.

After the Uruguay Round and the subsequent launch of the WTO, the aforementioned trend of the reduction of tax incentives was accelerated. Even with these and other unexplained changes, however, many tax incentives are still in effect today. For example, there are major incentives such as reserves for investment for small and medium-sized enterprises, investment tax credits, and various incentives for the induction of foreign direct investment.

Figure A1. The tax system of the Republic of Korea

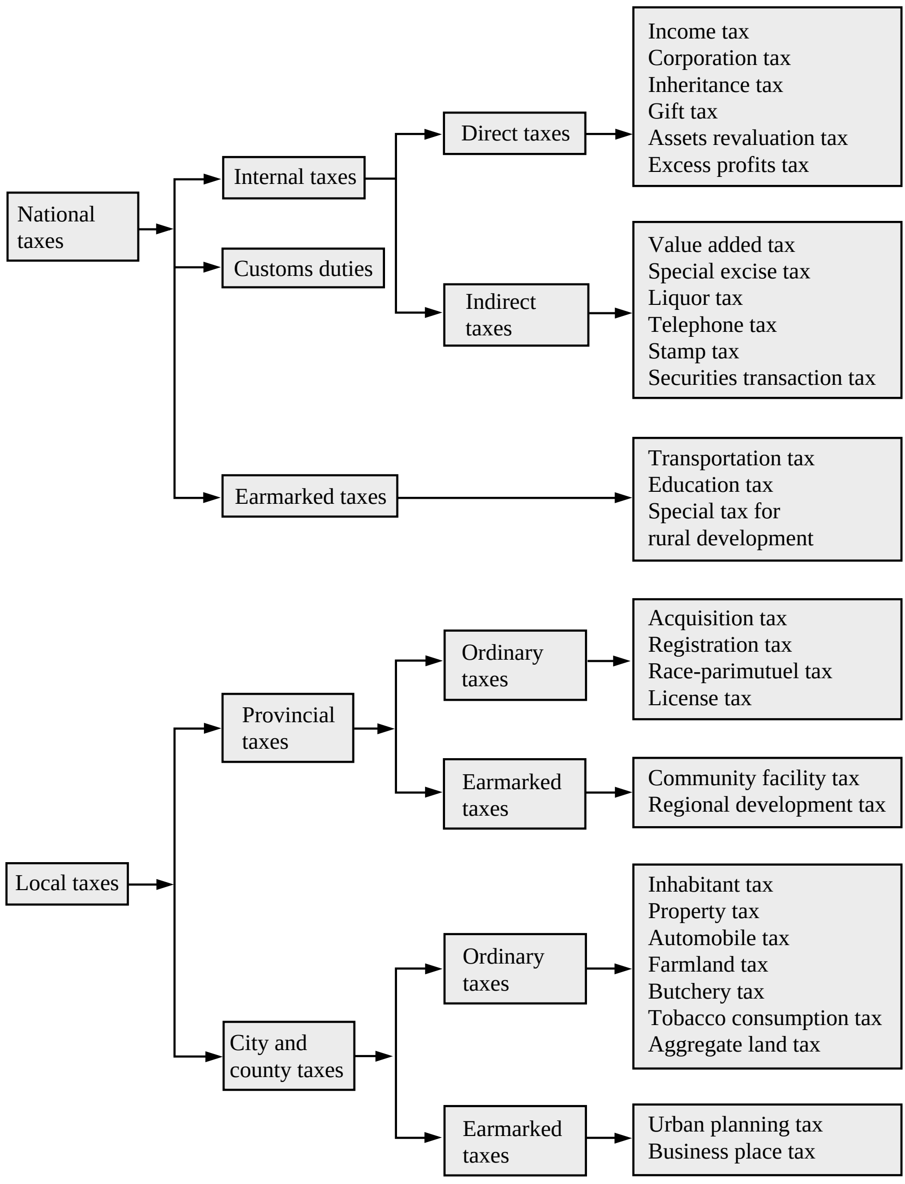
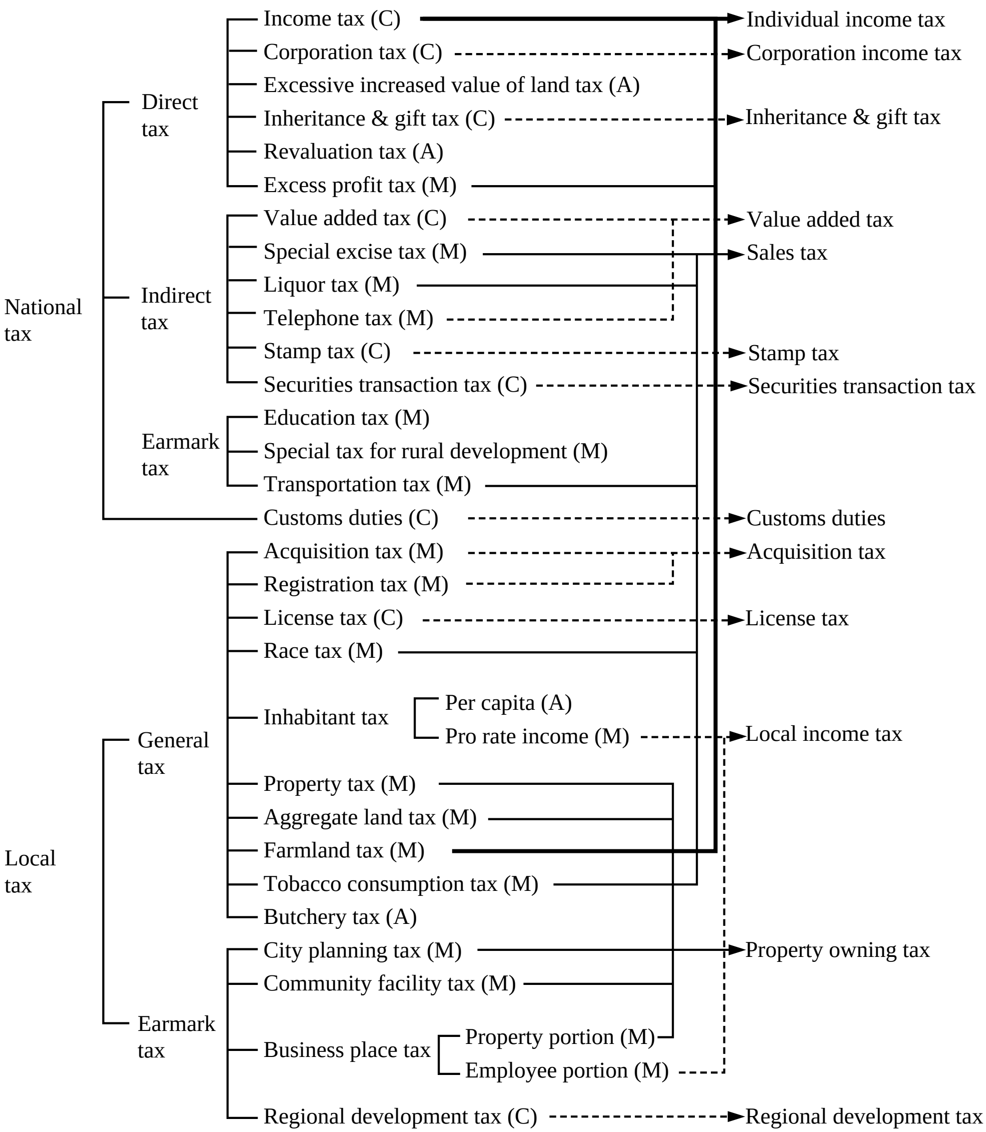


Figure A2. KIPF Reform proposal in the tax structure



Source: KIPF (1997).

Note: (C): Continuance; (M): Merge; (A): Abolition.

POURING GOOD MONEY AFTER BAD: A COMPARISON OF ASIAN AND DEVELOPED COUNTRY MANAGERIAL DECISION-MAKING IN SUNK COST SITUATIONS IN FINANCIAL INSTITUTIONS

*Bashir A. Khan, Stephen B. Salter and David J. Sharp**

Recent currency and bond trading losses at Barings and Daiwa banks illustrate the willingness of managers to over-commit resources to a course of action in which sunk costs have been incurred and which by any rational standards should have been long discontinued. An international study of the determinants of managerial risk-taking is important because it sheds light on the extent to which aggressive decision-making reported in north American literature is prevalent elsewhere, and whether there are systematic differences between behaviours in different countries.

The study has important implications for the practice of management. For example, by knowing cross-cultural differences in willingness to take risk, and to act in one's individual rather than the general interest, managers in transnational corporations would be better able to predict risk-taking behaviours and adjust internal risk management systems accordingly.

One of the more difficult management decisions is to decide whether to continue to commit resources to a risky and highly uncertain project (to escalate it), or to abandon it, after a great deal of corporate investment, and possibly personal commitment and reputation, have already been used up. Recent unauthorized speculation by financial traders in Barings and Daiwa banks are spectacular examples of the escalation of decisions which could and should have been terminated much sooner than they actually were. An understanding of the factors which lead to and exacerbated this escalation behaviour, and how they vary between national cultures, is therefore important to managers of multinational organizations if the risk of similar events in the future is to be reduced. Previous north American research suggests that

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the presence of conditions for adverse selection (agency theory) and the framing of information (prospect theory) may explain the escalation of losing projects. Using a sample of managers from the United States, Canada, Hong Kong, China, Singapore and Pakistan, this study explores cross-cultural differences in willingness to escalate a losing project by making further investment with zero net expected value. It also constitutes a joint test of the universality of agency and prospect theory.

We first review the literature and develop a hypothesis (section I). Methodological issues are then addressed (section II), followed by results (section III), discussion of results (section IV), and conclusions and implications (section V).

I. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Explaining escalation of commitment

The north American literature (e.g. Whyte 1993) suggests a number of factors that could promote the excessive escalation of risky projects. Two that have been widely studied are a framing effect (Kahneman and Tversky 1979) and agency theory (Jensen and Meckling 1976). The framing effect arises from an individual's cognitive processing of the value of decision outcomes, which results in the over-weighting (relative to a purely economic rational valuation) of losses when they are described as certain (in contrast to uncertain). Thus, when a decision outcome is described (framed) as a loss, managers are more willing to take risks to avoid that certain loss outcome. Whyte (1993) argues that, even though from a rational economic view, sunk costs are irrelevant to a decision, the presence of a sunk cost in a decision context may predispose decision-makers to take risks. This arises because presenting prior investments as a potentially recoverable loss is similar to framing a decision to do nothing as a certain and negative loss, whereas escalating the decision results in uncertain but possible loss recovery. Such loss recovery may be preferred to the certainty of the loss already incurred. Whyte (1993) demonstrated, using students in both an individual and group context, that the presence of sunk costs significantly increased the likelihood of project escalation, as predicted by prospect theory. Whyte (1993) also demonstrated that personal responsibility for a project significantly increased the likelihood of escalation. Rutledge and Harrell (1991) find similar results but confirm that in an escalation of commitment decision, while both negative framing and initial responsibility for a decision increased the likelihood of escalation, framing was dominant.

The second explanation of escalation is based on agency theory, which states that rational managers act in their own self-interest, rather than of the firm's shareholders. Adverse selection problems of this type arise when two conditions are satisfied (Baiman 1982, 1990). First, there must be a condition of information asymmetry, that is, a decision-maker's supervisor (principal) must have less information than the decision-maker, and therefore is unable to closely monitor the subordinate's (agent's) decisions. Second, an action in the agent's self-interest has to be different from that which would have been made in the interest of the firm, known as an incentive to shirk. If escalating the decision is in the manager's (agent's) personal self-interest, and if he has private information regarding the outcomes of the escalation decision that his supervisor (principal) does not have, then the manager agent will rationally escalate the decision in his own interest. Harrison and Harrell (1993) show that, as predicted by agency theory, the presence of adverse selection, is likely to bias subjects in a project abandonment decision in favour of continuing rather than abandoning the project. Harrell and Harrison (1994) confirm the effect found in Harrison and Harrell (1993) but demonstrate that both incentive to shirk and asymmetrical information must be present for adverse selection and escalation of commitment in the direction predicted by agency theory.

Universal theories and culture

The debate over the universality of theories of management behaviour is a long-running one. Adler (1983, 1991) and Hofstede (1983) raise doubts not only about the cross-cultural validity of American theories, but also point out the cultural myopia of north American research. They argue that not only assumptions regarding management behaviour, but also research methodologies, including hypotheses to be tested and the manner in which they are tested, are culture-bound, and may not apply to all cultures. If Hofstede (1983) and Adler (1983, 1991) are correct, this raises the possibility that certain behavioural theories may be associated with particular cultures, and that certain cultures may be expected to respond differently to particular stimuli.

Hofstede (1980a, b) in his comprehensive study of over 50 national cultures, identified north American and similar anglo cultures (Australia, New Zealand and the United Kingdom of Great Britain and Northern Ireland) as highly individualist, while many Confucian Pacific rim countries, such as Singapore and Hong Kong, China as less individualist and more collectivist. Agency theory, which is essentially a theory of self-interest, may be more associated with strongly individualistic countries (indeed, it is interesting to speculate whether agency theory could have been developed to the extent it has been in any culture other than an individualist one; the very idea of rigorously modeling self-interest may not have occurred to researchers in a collectivist culture). Agency theory assumes a culture where emphasis is placed on an individual's duty to oneself, and where such self-interested behaviour is the norm, and therefore culturally acceptable. Indeed, the whole basis of research in management accounting and control systems is premised on the assumption that managers act in their own interest (Healy 1985; Thornton 1982). It is possible that in a more collectivist culture, where individual achievement is less valued, and individual responsibility to one's organization is stressed, managers would be less willing to take actions in their own self-interest. Similarly, Gray (1988) and Salter and Niswander (1995) have demonstrated that culture directly affects differences in financial reporting practices and accounting structures across countries.

The relationship between prospect theory and culture is less clear. Kahneman and Tversky (1979) noted that some effects of prospect theory were "essentially identical" among Swedish, Israeli and American students and faculty. This is consistent with the view that prospect theory is a theory of individual human cognition and information processing, and therefore independent of culture. However, they also note that "the carriers of value are *changes* in wealth or welfare, rather than final states" (p. 277), and cite the example that a given level of wealth may imply abject poverty for one person and great riches for another. To the extent that a perception and/or actual levels of these variables are culture-related (Hofstede 1980b), culture may affect perceptions and therefore decision choices. Thus, it is possible that prospect theory is culture-specific.

Hofstede (1980a) identified a culturally-based measure of collective tolerance for uncertainty, which he labeled "uncertainty avoidance", which may play a part in decision-making under risk. Singapore and Hong Kong, China were relatively comfortable with the uncertainties of life, while anglo/north American countries (UK, USA, Canada, Australia and New Zealand) were more uncertainty avoiding, and Pakistan highly so. To the extent that a greater comfort with uncertainty is reflected in a higher willingness to take risks, the Confucian values of patience combined with higher risk-taking might indeed provide the basis for different decisions under uncertainty.

The low uncertainty avoidance of the Pacific rim countries suggests two possible effects. First, it may simply cause an overall greater willingness to take business risks. However, there may be another effect in a negatively-framed escalation decision situation, where even the more uncertainty avoiding north American cultures are willing to take risks to avoid creation losses. Framing may thus act as a *de facto* modifier to cultural predilections. A less uncertainty avoiding culture should, therefore, exhibit an enhanced framing effect.

Hypotheses

Joining the streams of literature above, the purpose of this paper is to test for cross-cultural differences in responses to situations of decision-making under uncertainty. Both prospect and agency theories have been used to explain escalation of commitment, and are jointly and separately tested here in different cultures. Decision-making under uncertainty is used as a background, in a sunk cost, escalation of commitment, situation. The hypotheses below are in the alternate form.

Ha 1: *Ceteris paribus*, managers from low uncertainty avoidance cultures are more willing to take risks to escalate losing projects.

Ha 2: Managers from countries with high individualism scores are more likely to escalate decisions when agency conditions (an incentive to shirk and asymmetrical information) are present.

Ha 3: Managers from low uncertainty avoidance cultures will exhibit an enhanced framing effect relative to managers from higher uncertainty avoidance cultures.

II. METHODOLOGY

Sample and administration

Managers with at least two years of full-time work experience in Pakistan, USA, Canada, Hong Kong, China and Singapore participated in the study. The Pakistani sample was obtained from alumni lists, and was contacted by mail. 105 responses were received from two waves of mailings totalling 300 questionnaires, for a response rate of 35 per cent, while the majority of the rest of the sample attended various executive, part-time or full-time MBA programmes, and participated in the study during class time; however, some took the instrument from class and returned it later. Approximately 20 managers from the commercial division of a major Singapore bank who agreed to participate were also included; the instrument was distributed via a contact person at the bank. The sample demographics are shown in table 1.

Given the similarity of cultures in Singapore and Hong Kong, China and in USA and Canada, based on Hofstede (1980a, b), the sample was aggregated into three groups on the basis of two culture measures (UA and IDV) for the purposes of

Table 1. Demographic data (means of items, in local currency where applicable and number of respondents reporting each responsibility)

	USA	*Canada*	*Pakistan*	*Singapore*	*Hong Kong, China*
Years of full-time work experience	5.6 n = 129	8.4 n = 261	14.2 n = 87	10.2 n = 211	7.1 n = 104
Number of employees for whom responsible	7.2 n = 21	71.1 n = 69	120.3 n = 74	45.8 n = 171	8.1 n = 104
Lending limit	n.a.	$CAN167,500 n = 4	Rs 33.7 million n = 8	$S4.4 million n = 23	n.a.
Expenditure budget	$US 3.3 million n = 9	$CAN8.3 million n = 59	Rs 349 million n = 36	$S33.8 million n = 84	$HK3.2 million n = 29
Revenue budget	$US 43.6 million n = 5	$CAN45.3 million n = 39	Rs 445 million n = 26	$S154 million n = 47	$HK19 million n = 11

calculation of inter-cultural differences. The groups that resulted were Pakistan (high UA, collectivist), a United States/Canada group (highly individualist, moderate UA), and a Hong Kong, China/Singapore group (collectivist, low UA). Tests of differences in responses between the two countries in two groups indicated that there were no significant differences between them.

Instrument

The experiment was pre-tested in the USA, Canada and Singapore, with additional comments from academic colleagues in Pakistan and Hong Kong, China. Subjects were presented with four escalation decisions, and were asked whether they would make a further investment, the expected value of which was equal to the amount invested (i.e. it was a break-even additional investment). In all cases, the activities ("projects") to date had incurred non-recoverable losses, and their future outcome was in some doubt. Two cases were operating decisions with possible long-run intangible benefits (market research and software development projects), and two were short-term financial decisions (currency speculation and a risky bank loan).

Agency was manipulated by including in two of the cases a description of the decision-making situation in which both conditions for adverse selection (information asymmetry and a personal incentive to take the risk) were present, and in the other two a description in which they were absent. Framing was manipulated by describing the outcome of not taking the decision either in neutral terms (in two cases), or in a way which highlighted the already-incurred (sunk cost) loss as certain and the loss avoidance possibility of escalating the situation by making an additional investment (two cases). This resulted in four versions of the instrument; to control for possible order effects, four versions with the sequence of cases reversed were also provided, resulting in a total of eight versions of the instrument. Thus, each participant received all four cases, each with a different combination of agency and framing manipulations. The amounts of the decision were intentionally limited to realistic amounts for which respondents would likely be responsible in the course of their own work, and were of approximately similar magnitude in each country, but expressed in local currency terms. Unlike previous studies (Whyte 1993; Harrell and Harrison 1994; Rutledge and Harrell 1992) which use a continuous decision variable, this study enhanced the realism of the case situation by requiring respondents to make a go/no go decision.

III. RESULTS

Between culture comparisons

Since order effects of cases were found to be insignificant, all results are reported for the two orders combined. Table 2 shows the percentage of respondents

Table 2. Percentage of respondents willing to escalate decisions

Panel 1A North America: Software development case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	58 (n = 93)	70 (n = 96)	64 (n = 189)
	Present	61 (n = 99)	60 (n = 101)	61 (n = 200)
	Totals	59 (n = 192)	65 (n = 197)	63 (n = 389)

Panel 1B Pacific rim: Software development case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	59 (n = 78)	88 (n = 76)	77 (n = 154)
	Present	69 (n = 85)	70 (n = 76)	70 (n = 161)
	Totals	68 (n = 163)	79 (n = 152)	73 (n = 315)

Panel 1C Pakistan: Software development case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	86 (n = 22)	88 (n = 26)	88 (n = 48)
	Present	78 (n = 18)	92 (n = 24)	86 (n = 42)
	Totals	83 (n = 40)	90 (n = 50)	87 (n = 90)

Panel 2A North America: Market research case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	45 (n = 101)	69 (n = 99)	52 (n = 200)
	Present	62 (n = 93)	75 (n = 97)	69 (n = 190)
	Totals	54 (n = 194)	72 (n = 196)	60 (n = 390)

Table 2. *(continued)*

Panel 2B Pacific rim: Market research case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	67 (n = 75)	79 (n = 86)	73 (n = 161)
	Present	72 (n = 78)	82 (n = 76)	77 (n = 154)
	Totals	69 (n = 153)	80 (n = 162)	75 (n = 315)

Panel 2C Pakistan: Market research case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	71 (n = 24)	89 (n = 18)	79 (n = 42)
	Present	68 (n = 22)	80 (n = 25)	74 (n = 47)
	Totals	70 (n = 46)	84 (n = 43)	76 (n = 89)

Panel 3A North America: Currency trader case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	44 (n = 99)	60 (n = 101)	52 (n = 200)
	Present	72 (n = 97)	75 (n = 93)	74 (n = 190)
	Totals	58 (n = 196)	68 (n = 194)	63 (n = 390)

Panel 3B Pacific rim: Currency trader case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	51 (n = 86)	65 (n = 75)	58 (n = 161)
	Present	57 (n = 76)	68 (n = 78)	62 (n = 154)
	Totals	54 (n = 162)	67 (n = 153)	60 (n = 315)

Table 2. *(continued)*

Panel 3C Pakistan: Currency trader case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	33 (n = 18)	70 (n = 23)	54 (n = 41)
	Present	56 (n = 25)	64 (n = 22)	60 (n = 47)
	Totals	47 (n = 43)	67 (n = 45)	57 (n = 88)

Panel 4A North America: Bank loan case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	25 (n = 97)	35 (n = 93)	30 (n = 190)
	Present	38 (n = 101)	50 (n = 99)	44 (n = 200)
	Totals	32 (n = 198)	43 (n = 192)	37 (n = 390)

Panel 4B Pacific rim: Bank loan case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	12 (n = 76)	36 (n = 78)	27 (n = 154)
	Present	27 (n = 75)	38 (n = 86)	33 (n = 161)
	Totals	19 (n = 151)	40 (n = 164)	30 (n = 315)

Panel 4C Pakistan: Bank loan case		*Framing of do-nothing alternative*		*Totals*
		Neutral	*Negative*	
Agency conditions	Absent	40 (n = 25)	45 (n = 22)	43 (n = 47)
	Present	13 (n = 24)	56 (n = 18)	31 (n = 42)
	Totals	27 (n = 49)	50 (n = 40)	37 (n = 89)

in each culture grouping who were willing to make the additional investment (escalate) for each of the four vignettes. Comparing the extreme lower right hand cells in each of panels 1-4 of table 2, we see that in all but the currency trader case, the Pakistani managers were most willing to escalate the decision, though in only the software development case is the Pakistani percentage noticeably higher than the other two groups. Interestingly, for the two non-financial decisions, the Pakistani and Asian managers were noticeably more willing to take the risk than were the north American managers, but for the two financial decisions, no clear difference emerged. Clearly, the high uncertainty avoidance of the Pakistan culture is not reflected in a lack of willingness to take risk in these decisions.

Intra-culture analysis

To further examine the validity of agency and prospect theory explanations within each culture, separate chi-squared tests were performed for the agency and framing effect on a case-by-case basis. The results are shown in table 3.

Table 3. Chi-squared test of framing and agency effects in each culture (r-statistic is Fisher's exact test, one tailed)

Panel A: Agency effects

Case	*Pakistan*	*North America*	*Pacific Rim*
1. Software development	$c^2 = 0.06$, r = n.s.	$c^2 = 0.34$, r = n.s.	$c^2 = 2.39$, $r = 0.08$
2. Market research project	$c^2 = 0.21$, r = n.s.	$c^2 = 5.67$, $r = 0.011$	$c^2 = 0.62$, r = n.s.
3. Currency trader	$c^2 = 0.31$, r = n.s.	$c^2 = 18.6$, $r = 0.0000$	$c^2 = 0.58$, r = n.s.
4. Bank loan	$c^2 = 1.28$, r = n.s.	$c^2 = 8.40$, $r = 0.003$	$c^2 = 1.49$, r = n.s.

Panel B: Framing effects

Case	*Pakistan*	*North America*	*Pacific Rim*
1. Software development	$c^2 = 1.08$, r = n.s.	$c^2 = 1.02$, r = n.s.	$c^2 = 4.73$, $r = 0.020$
2. Market research project	$c^2 = 2.47$, $r = 0.116$	$c^2 = 14.6$, $r = 0.0001$	$c^2 = 5.52$, $r = 0.013$
3. Currency trader	$c^2 = 3.64$, $r = 0.045$	$c^2 = 3.58$, $r = 0.037$	$c^2 = 5.22$, $r = 0.015$
4. Bank loan	$c^2 = 5.12$, $r = 0.020$	$c^2 = 5.14$, $r = 0.015$	$c^2 = 16.3$, $r = 0.0000$

In the north American group (panel A), the proportion of respondents willing to escalate the decision was, as expected, significantly higher in the presence of the agency conditions of asymmetrical information and incentive to shirk, but in only three of the four cases. In the software development case, it appears that in spite of the pre-tests, the agency manipulation failed to create the intended conditions. In the Pacific rim group, the agency effect was small and insignificant in all cases for which comparisons are valid. Among the Pakistani managers also, no agency effect is present in any of the four cases, consistent with the low individualism score (14) of that culture. These results lead us to reject the null form of hypothesis 2.

To test hypothesis 3, a chi-squared test of the framing effect in each group was performed, and the results are shown in panel B of table 3. In all three groups, the proportion of respondents willing to escalate the decision was significantly higher in the presence of the negative framing of the "do nothing" decisions than in the neutral framing versions in the market research (marginal significance in Pakistan), currency trader, and bank loan decisions. For the software decision, the proportion of managers willing to escalate the commitment in the presence of negative framing is higher in all three groups, but not significantly so in north America and Pakistan. Thus, the effect arising from prospect theory appears to be universal. As an illustration of differences between the magnitudes of the effects in the two cultures, if the framing effect is measured as the difference in percentages between the neutral and negatively-framed sub-samples, in the software project, the effect sizes were 6 (65-59) percentage points for the north American group, 11 (79-68) for the Pacific rim, and 7 (90-83) for Pakistan; for the currency trader, 10, 13, and 20 respectively; and for the bank loan, 11, 21, and 23 respectively. Only in the market research project were the Pacific rim (11) and Pakistan (14) effect sizes smaller than in north America (18).

Finally, given the significant differences between work experience in some countries, particularly Pakistan, (and the extreme skewness of its distribution within each group), it is important to control for possible confounding effects. We do this by including years of work experience (in its natural logarithmic form) in logistical regressions. We ran the following regressions for each case in each group:

$$\text{Decision} = a_0 + b_1 \text{ (framing effect)} + b_2 \text{ (agency effect)} + b_3 \text{ (log experience)} + e$$

where decision, framing effect, and agency effect are all binary variables.

The results are shown in table 4, and essentially confirm the results of the non-parametric tests above. Note that the logistical nature of the regressions prevents direct comparison of the magnitudes of regression coefficients. It is apparent from panels A and C that only framing plays a part in Pakistan and the Pacific rim, while panel B shows that both framing and agency play a significant role in north America. Interestingly, experience plays a greater part in north America than in Pakistan and the Pacific rim, and the only significant experience effect in those countries occurred in the currency trader case, perhaps reflecting the salience of currency trading risks for the more experienced respondents in the wake of the Barings Bank scandal in that country at the time of data collection. Overall, these results support the view that agency has very limited explanatory power in collectivist cultures.

Table 4. Logistical regression coefficients of decision on agency, framing and culture effects for each case (r values in parentheses)

Panel A: Pakistan sample

Case	*Experience*	*Framing effect*	*Agency effect*	*Model c^2 (significance)*
1. Software development	0.024 (n.s.)	0.696 (n.s.)	-0.164 (n.s.)	1.28 (n.s.)
2. Market research project	-0.374 (n.s.)	0.975 (0.084)	0.517 (n.s.)	6.61 (0.085)
3. Currency trader	-0.518 (0.034)	1.13 (0.020)	0.396 (n.s.)	9.38 (0.025)
4. Bank loan	-0.162 (n.s.)	0.930 (0.046)	-0.523 (n.s.)	5.84 (n.s.)

Panel B: North American sample

Case	*Experience*	*Framing effect*	*Agency effect*	*Model c^2 (significance)*
1. Software development	0.052 (n.s.)	0.213 (n.s.)	-0.122 (n.s.)	1.5 (n.s.)
2. Market research project	-0.241 (0.09)	0.833 (0.0001)	0.526 (0.016)	23.1 (0.0000)
3. Currency trader	-0.450 (0.002)	0.434 (0.049)	0.998 (0.0000)	32.7 (0.0000)
4. Bank loan	-0.356 (0.015)	0.499 (0.021)	0.612 (0.005)	19.8 (0.0002)

Panel C: Pacific rim sample

Case	*Experience*	*Framing effect*	*Agency effect*	*Model c^2 (significance)*
1. Software development	0.211 (n.s.)	0.571 (0.029)	-0.397 (n.s.)	8.0 (0.046)
2. Market research project	-0.012 (n.s.)	0.633 (0.018)	0.238 (n.s.)	6.36 (0.095)
3. Currency trader	-0.500 (0.013)	0.487 (0.039)	0.157 (n.s.)	12.1 (0.007)
4. Bank loan	-0.238 (n.s.)	1.05 (0.0001)	0.298 (n.s.)	19.2 (0.0003)

IV. DISCUSSION OF RESULTS

The results confirm that, generally, managers from lower uncertainty avoidance cultures were more willing to take risks than those from higher uncertainty avoidance cultures, but this effect is conditional on the nature of the decision. In our results, this effect was stronger in operating decisions with long-term consequences, and very small for financial decisions. This finding is consistent with Zaheer (1995) who found that the definition of acceptable risk in foreign currency trading rooms of multinational banks exhibited little cross-cultural variation. Our results support the first alternate hypothesis.

The results strongly support the notion that agency problems are associated with individualistic, and not collectivist, cultures. Thus, managers anywhere have reason to believe that their subordinates in collectivist cultures will be less likely to act in their own interest than subordinates in individualist cultures such as in north America. This is consistent with the findings of Pratt and Behr (1987) who attributed a lower audit cost in (more collectivist) Switzerland compared to the United States of America, to cultural factors which created higher costs of (self-interested) cheating in that country. An expectation on the part of managers and regulators that employees will not act in their self-interest would also go some way to explaining the relative tardiness of banking authorities in Singapore and corporate management at Daiwa Bank in implementing controls against rogue traders. Gray (1988) suggests that all regulatory and bureaucratic structures are designed to meet the cultural needs and assumptions of a society. In a culture of communal responsibility, it is not surprising that supervisory procedures, either government or corporate, were less likely to anticipate the actions of a rogue individualist in a classic adverse selection situation.

We also found strong framing effects in all three samples. While framing appears to be universal, our results also suggest that it would be a mistake to assume that framing effects are identical across countries. We found framing effects consistent with prospect theory in every single case in all three culture groups, but the differences in the magnitudes of the effects between the cultures are sufficient to warrant further study. At a minimum, the between-culture variability we found should be compared with the within-culture variability found in different north American samples in other research. Thus, while a framing effect appears to be universal, a formal test that its influence on decisions is greater among lower uncertainty avoiding cultures requires a knowledge of the distributional properties of framing effects among samples.

A related question is why the effects are larger in some vignettes than in others. This is true both for the percentage of persons indicating a willingness to commit and the difference in that number under the framing and agency manipulations. For example, why did the bank loan experience the lowest escalation in the absence of framing and agency effects, and the highest increase in escalation in the presence of negative framing and agency conditions in the United States and Asia? Finally, the significance of the experience variable, and its consistent direction in all three groups (more experienced managers were less willing to escalate) suggests that the results of previous studies in which students were used may not be generalized to manager populations.

V. CONCLUSION

This paper examined decision-making in a cross-cultural framework. Using forced decision behavioural manipulation, it compared decisions made by managers in four simple sunk cost situations where potential for adverse selection and information framing were manipulated. Managers from Pakistan, Hong Kong, China, Singapore, the United States and Canada participated in the project, and for analysis purposes were divided into Pakistani, Pacific rim and north American groups. Overall, the Pacific rim and Pakistani groups were found to be more willing to take risks than their north American counterparts, and their willingness was unaffected by the agency manipulation, but was affected by negative framing of the decision. The north American group, on the other hand, was responsive to both agency and prospect theory manipulations. For both groups the effect varied by case, and the Pacific rim and Pakistani groups were particularly disposed to escalate operating decisions. Overall, Pakistani managers made decisions more like Confucian than north American managers.

These results have implications for managers of multinational firms. Agency controls typically imposed in north America, such as close monitoring of staff, may be less relevant in Pakistan and the Pacific rim, and other collectivist cultures. However, to counteract the framing effect, the careful presentation of information, and careful training of staff to identify and sensitize them to their framing biases, would seem to be needed everywhere.

From a theoretical perspective, our study indicates that the framing aspect of prospect theory has strong cross-cultural validity, and can explain differences in reactions to sunk cost/escalation of commitment situations. Agency theory, while a good explanator of behaviour in two of the individualistic cultures in which it was originally devised and tested, appears to lack cross-cultural validity. This has some interesting practical implications for supervisory policy and monitoring, especially in the context of the strong pressures for global coverage of risk assessment following the speculative experience of both on and off-balance sheet activities of firms and financial institutions.

On the one hand, if "framing" is a decisive component in the risk-return decisions of managers globally, than some universal norms can be established in order to check excesses or create limits in which this behaviour can take place. For example, the introduction of universal laws on the assessment and evaluation of credit generated risk through the capital adequacy rules of the BIS would be applicable for all countries, especially in the light of off-balance sheet activities of many firms. Thus BIS standards were adopted in the prudential regulations for banks in 1997 in Pakistan, although the country was not a signatory to the Basle Agreement.

At the same time within this overall or general framework it is now recognized that country-specific and/or culture-specific behaviour of managers will lead to the imposition of unnecessary penalties on some (e.g. north America) and liberal concessions to others (e.g. Pacific rim) if the standards are not made more relevant. To some extent this has already happened, with the emphasis having shifted to independent agencies providing the risk ratings based on specific contexts. Thus the risks accepted by Pacific rim managers or the poor record of Pakistani firms in terms of transparency and accountability will be reflected in the ratings received. In

Pakistan's case, at least, the framing effect would suggest to managers that there is a possibility of a bail-out in case of failure, an extension of the "too-big-to-fail" doctrine which may be especially widespread as a result of the size of the public sector. These, in turn, will be in the overall context of both national and global supervision with some universal criteria for managerial risk-taking. This is very relevant, since the restrictiveness (monitoring) which comes with the agency relationship of north American firms, may be absent in family-owned firms in the Pacific rim and Pakistan. This may make a strong case for independent supervision based on universally accepted criteria regarding the protection of shareholders, and yet be administered through more culturally-oriented institutions.

This study is limited by its sample group in terms of countries and by the limited range of case decisions. Given that there was inter-case variability, a different set of cases or countries might elicit different responses. A logical extension would be to replicate the study using new cases in countries with similar cultural profiles to one of the groups used. Countries such as Australia/New Zealand on the individualist side and possibly Malaysia on the collectivist side might provide more information. An alternate strategy would be to move away from the Pacific rim context and examine responses in cultures that are higher on the uncertainty avoidance scale than the US and Canada but continue to be collectivist; examples would be Chile and Mexico in Latin America or Portugal and Greece in Europe. These studies would have the added problem of translation, however. Finally, replacing a single forced decision with a range or scale would allow the utilization of more powerful statistics such as ANOVA. This involves trading the realism of a yes/no decision for a more subjective measure of the respondent's feeling or impression, but the trade-off could be worthwhile.

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ENVIRONMENTAL ECONOMICS FOR NON-ECONOMISTS

By John Asafu-Adjaye, The University of Queensland,
World Scientific, Singapore, 2000
ISBN 981-02-4013-9, pp. xiii + 321

Over the last decade or so, the dialogue between environmentalists and economists has been both tenuous and difficult, with the two groups taking rather extreme positions and behaving like trains that pass in the night. However, the discipline of environmental economics has been growing and now encompasses a number of concepts familiar to economists, but often seen as incomprehensible to environmentalists. Nevertheless, as most of the world marches to the beat of the profit motive, there is an urgent need to help those who wish to protect the environment and manage our natural resources to be able to present their case to economic and political planners and to devise policy options seen as feasible and sellable. To date, in many economies of the world, there have been efforts to legislate solutions to environmental problems. These have inevitably run into problems of enforcement and interpretation and have not been very effective in achieving the stated goals. More recently, and particularly in more developed countries, there have been efforts to design and implement market-based solutions which rely on the use of traditional economic concepts.

Market-based instruments in the area of environmental management have been sold as providing less costly policy options, and as easier to implement devices requiring less policing. Environmental economics provides the theory and logic behind arguments on the use of economic incentives and disincentives in environment and natural resource management. Discrepancies between theory and practice, so often the case with traditional economics, are largely due to the existence of uncertainty as well as the relative political attractiveness of certain economic tools. Moreover, uncertainties in the world of environmental economics are even larger than those of pure economics as there is a very high level of uncertainty involved in dose-response relationships, in the evaluation of the true value of environmental assets and of environmental damage etc.

With such uncertainties, the practicality of the theory of environmental economics must seem much less clear than that of market economics. For example, a change in the corporate tax rate has a definitive implication for the direction of behavioural changes of the economic actors in the market, while the implications of a tax change related to the levels of pollution emitted by the associated economic activities is not at all clear. Nevertheless, the analytical path of environmental economics can provide some insights into the implications of various policy options for economic activity. However, the book itself is by no means responsible for the uncertainties of the environment economics!

Given that environmental economics is built on traditional microeconomic theory, the author inevitably has to face the challenge of explaining an applied form of economic theory to those who do not have any economics background. For example, non-economist readers will have to try to understand the theory of marginal costs and Pareto improvement in the context of environmental economics without prior knowledge of the economic theory behind these concepts. The author's rather ambitious task is thus to overcome these difficulties and so make the theory of environmental economics understandable to non-economists.

Part I presents an introduction to the ideas behind the "ecological economy" as well as basic economic theory. Chapter 2 introduces the relatively new subdiscipline of ecological economics rather extensively as an introduction to environmental economics. The chapter will be informative for economists as well, though some "economists" might find it difficult to digest the concept. Other chapters provide a background on environmental economic theory as derived from basic microeconomic theory, which should be very familiar for economists and comprehensible to environmentalists of various disciplines.

Part II provides an introduction to the policy tools promoted by the believers in environmental economics. As the title of this book demonstrates, the focus is on the academic knowledge of the instruments of environmental economics, with some limited examples of actual data and situations. It is thus designed to help with the understanding of the tools themselves rather than present problems with their real life import and solution. This part will be dense reading for many non-economists as it provides a fairly detailed introduction to the various concepts and approaches of decision-making tools in the world of environmental economics. It may be easier reading for many economists who can spot the theory behind the policy tools discussed.

In rather a sharp juxtaposition, Part III of the book provides an overview of global environmental issues and the associated economic theories that the author sees they are related to. There is some reference to the practices related to these issues in the countries in the ESCAP region, although inevitably those references are simply to illustrate the theoretical discussion rather than to analyse the individual examples. Also each of these topics has been the subject of full books on their own.

Nevertheless, Part III would be a good introduction for non-economists, including policy makers, to gain a general understanding of issues related to environmentally sustainable development. This part includes chapters on the relationship between population growth, resource use and environment, trade and environment, and on sustainable development. However, the chapter on trade and environment appears to be focused more on economic growth and environment than trade per se, including a discussion on possible links between economic growth and environmental degradation. The chapter on sustainable development introduces the main underlying concepts rather than highlight the theoretical challenges to them. It somehow reminds us of the many documents on sustainable development policy issues produced by international organizations since Rio.

This reviewer would like to congratulate the author for taking on the challenge of explaining environmental economists to non-economists. The author has demonstrated the complexities of the subject, the recent advances in academic thinking behind the new approaches being proposed and the vast range of policy tools that now exist, at least on paper. It remains to be seen how many of these actually make it into the day-to-day tool kit of planners in developing countries, especially of those who are not in the mainstream of economic planning. This reviewer has the feeling that the book as such is of more use in the academic field in developed countries, rather than being within the corpus of developing country practitioners. Consequently its true value lies more in building awareness than as a manual for planners seeking to protect the environment in developing countries.

Development Research and *Nobuko Kajiura**
Policy Analysis Division
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* The views expressed in this review are those of the reviewer and do not necessarily reflect those of the United Nations.

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