

Democratic Transformation and Economic Growth: an alternative empirical approach

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Abstract

This paper proposes an alternative approach to examine empirically the relationship between democracy and growth. Unlike the conventional methods that conduct regression of economic growth on some indication of democracy controlling for a set of relevant variables over a unified time period, this paper examines a sample of around forty countries that experienced democratic transformation and compares the economic growth performance before and after each country's democratic change. The empirical evidence shows that on average there is an improvement in growth performance after the transformation to democracy. Normally before the transformation to democracy, authoritarian regimes tend to suffer deterioration in growth performance. It seems to support the view that the deterioration of economic condition may propel the transformation to democracy. Rich countries indeed see a decline in growth after democratic transformation, while poor countries experience acceleration in growth. In addition, growth change is negatively related to initial saving ratio, positively to export ratio to GDP. Partial correlation between growth change and primary school or secondary school enrollment, ratio of government expenditure to GDP is not identified.

Key Words: Democracy, economic growth

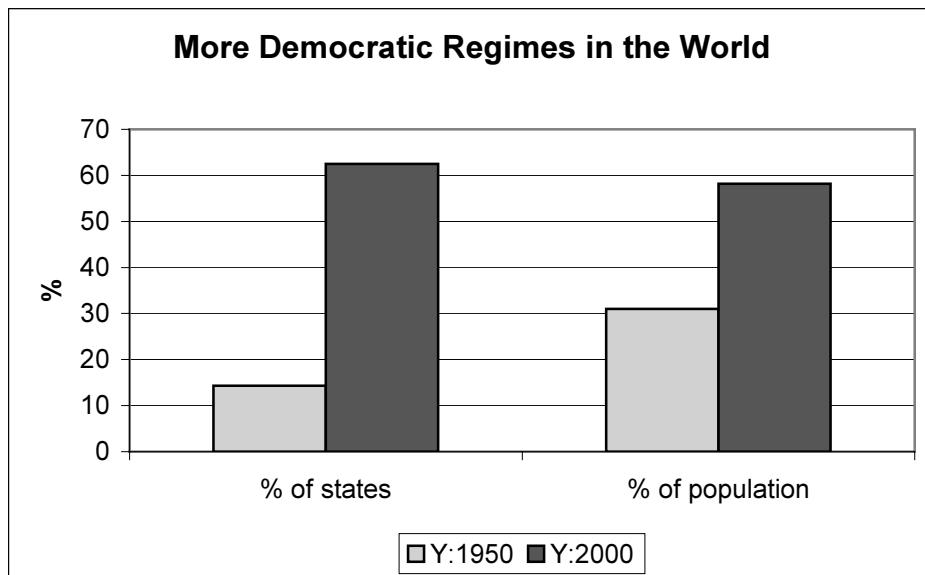
JEL classification: O40, O57

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I. Introduction

Democracy is desirable in many ways. It is related to rule of law, a more open society, more freedom to choose, more stable politics, less extreme policies and less corruption. Democracy, according to the UN report 2002, is also better at managing conflicts, at avoiding catastrophes and at preventing critical health crises. After all, with few exceptions, most developed countries in the world are democratic states.

In the past half century, the percentage of states and population that have an elected government with universal suffrage have risen from 14.3 % and 31 % to 62.5 % and 58.3%, respectively, according to the Freedom House. The UN reports in 2002 that during the two decades of 1980-2000, 81 countries took significant steps towards democracy. Despite all the progress, there are still around 60 countries ruled by authoritarian regimes. Since 1980s some newly democratized nations returned to more authoritarian rule. Many others have stalled the progress toward democracy and can be characterized as semi-democracies.



Source: Freedom house 2002.

However, one key issue concerning the benefits of democracy is still under considerable controversy. Is democracy better at promoting economic growth? To the developing world, economic growth is the only path towards prosperity. If democracy cannot deliver higher economic growth than authoritarian regimes, and if authoritarian regimes can better promote growth, then policy implication is that poor developing countries should first concentrate on activities and policies that promote economic growth, instead of making efforts to promote democracy. After a country has reached a certain degree of affluence should one start to pursue democracy.

Thus this is a fundamental issue that has impotent implications to many developing countries that have still authoritarian regimes. For example, China achieved high economic growth under an authoritarian regime, now many argue that China has to initiate political reform and transit to a more democratic regime in order to sustain high economic growth. But one counter-augment is that, though one-party rule has lots of disadvantages in China, it is doubtful China can continue high growth without one-party

rule for the time being. In East Asia, Taiwan and South Korea just achieved democracy in the late 1980s, after decades of high economic growth under authoritarian regimes. Surely a deep understanding of the relation between democracy and economic growth may shield lights on this issue.

Unfortunately the economic literature is very divided both in theoretical and empirical fronts. In theoretical front¹, Olson (1993), Clague et al. (1996) and Haggard (1997) argue that democracy is better at promoting economic growth. However, Olson (1982), Rao (1984), Persson and Tabellini (1992) and Blanchard and Shleifer (2000) disagree. Equally divided is the front of empirical studies on this issue. A survey of the literature by Brunetti (1997) finds that among nineteen empirical studies, only one study spots a firm positive relation between democracy and growth, one a negative relation, three a fragile positive relation, four a fragile negative relation, and nine indecisive relation.

The problems that the current empirical studies have to overcome include robustness of specification, collinearity, simultaneity bias, parameter heterogeneity and non-linearity of growth model. This paper proposes an alternative method to examine the relationship between democratic transformation and economic growth. The paper uses a group of countries that transformed themselves from authoritarian regimes to totally or partially free democracies in the past forty years. The average economic growth rate of 10 years prior to democracy is compared with the average growth rate of the first 10 years in democracy. The change in growth performance after the transformation to democracy then are regressed on the initial GDP per capita, inequality, investment ratio, education level of each countries, etc.

The advantage of this method is simplicity, and it is possible to circumvent many drawbacks of cross-countries regression discussed extensively in the literature. The selection of the samples is based exclusively on the regime change: from authoritarian rule to a more democratic regime. This is an important departure from normal practices in this type of studies. Unlike all other empirical studies that use a unified period of time for all countries, this paper using the starting year of democracy as a dividing line to examine growth performance in two regimes. So it does not need to identify many control variables that are indispensable otherwise, since it is the comparison of the same country.

I exclude the Eastern European block for two reasons. After the transformation, most of these economy experienced severe disruption in economic activity, though some have recovered, others do not. Second, the growth figure prior to 1990 is either nonexistent or rather dubious, making it difficult to compare.

The results of this method show that a change in political regime seems to influence economic growth in general. The 10-year average growth rate of around 40 countries is higher by a half percentage point after the democratic transformation. The 5-year average growth rate is higher by a full percentage point. Over 60 per cent of the sample countries witnessed a pick-up in growth. Normally before the transformation to democracy, countries tend to suffer a deterioration of growth performance. It seems to support the view that deterioration of economic condition may propel a transformation to democracy. The growth under democracy is much more stable than that under the authoritarian regime. Richer countries often see a decline in growth after democratic transformation, while very poor countries often experienced acceleration in growth.

¹ See an earlier survey by Przeworski and Limongi (1993).

There are some other factors that may explain the difference in growth performance across countries after democratic transformation. This paper identifies that growth performance is negatively related to initial saving ratio, positively to export ratio to GDP. There are no partial correlation relations between growth change and primary school or secondary school enrollment, ratio of government expenditure to GDP.

II. Literature Survey, Existing Methodology and its Problems

Economic literature is very divided on the relationship between growth and democracy. In theoretical front, Olson (1993) argues that democracy is better at guaranteeing property and contract rights, as an autocrat is not able to commit him credibly². Clague et al. (1996) argue that democracy can better protect property rights and thus provide more incentive for investment. Haggard (1997) argues that democracy may better manage and consolidate economic reform.

On the other hand, some theorists point out that democracy is bad for growth, as democracy is more open to the pressures of interest groups, a point made by Olson (1982). Rao (1984) argues authoritarian regimes are able to orchestrate economic growth by sacrifice current consumption for investments, and thus are better at mobilizing savings. Persson and Tabellini (1992) argue that high inequality in democracy may result in growth-deterrent redistribute taxation. Authoritarian regimes can be better at promoting economic growth. Blanchard and Shleifer (2000) use a comparison between China and Russia in fiscal federalism to demonstrate that political centralization in China reduces both the risk of capture and the scope of competition for rents by local governments. By contrast the emergence of a partly dysfunctional democracy in transitional Russia deters economic growth due to rampant local capture and competition for rents.

The literature of empirical test of the relationship between democracy and growth evolves with time in two types. The first is the test of the relationship between the level of development and democracy, pioneered by Lipset (1959). The second is the test of the relationship between growth rate and democracy, as most recent studies belong to this type, such as Barro (1991, 1996). Recent development focuses on the regression of growth on change of democratic level, e.g. Minier (1998) and political regime change, e.g. Alesina et al (1996) and Durham (1999).

Since Kormendi and Meguire (1985) and Barro (1991), cross-country regression on growth by democracy controlling for a number of standard additional variables have become a standard procedure. Surveys including Sirowy and Inkeles (1990), Borner, Brunetti and Weder (1995) and Brunetti (1997) conclude that the relationship between democracy and growth is ambiguous. Among these studies, only a few find significant unambiguous relationship between growth and democracy, but under particular specifications subject to some arbitrary selection of data set. Most recent studies in the 1990s find no relationship between growth and democracy, for example, Barro and Lee (1993), Helliwell (1994), de Haan and Siermann (1995), Levin and Renelt (1992), Alesina et al (1996) and World Bank (1990). Barro (1996) tested a non-linear relationship between democracy and growth. He finds that the relationship overall is

² The most forceful argument that secure property rights are critical for growth is made by North (1990)

ambiguous, but more democracy is conducive to growth at low levels of democracy, but harmful at high levels of democracy.

The typical way of cross-country regression is to use average GDP per capita growth in a certain period of time to be regressed on a certain measurement of degree of democracy, controlling for a set of other determinants of economic growth. The degree of democracy is often a yearly average or in a certain year. Thus this methodology neglects regime change, and has to rely on some controlling variables.

A typical regression takes the following form:

$$g_i = \alpha + \beta \cdot X_i + \gamma \cdot D_i + \varepsilon_i \quad (1)$$

where g_i is the growth rate of a certain country, the vector X_i is the set of additional explanatory variables for economic growth, which normally include initial GDP per capita, education, investment, etc. A more extensive set of X will also include fertility rate, government spending, black-market premium on foreign exchange, the change in terms of trade, etc. See Barro (1996). D_i is the democratic indicator, and ε_i is the error terms.

The empirical studies on the relationship between democracy and growth reflect problems with the gross-country empirical studies on economic growth in general. See Brock and Durlauf (2001) for a detailed exposition of the complexity of the problems. Here we focus on the empirical work on the relationship between growth and democracy, while we will refer to more general cases when appropriate.

The problems that the current empirical studies have to overcome include robustness of specification, collinearity, simultaneity bias, parameter heterogeneity and non-linearity of growth model. We will discuss each in turn.

First, there is a lack of proper specifications in controlling variables. 50 specifications and more than 90 variables can be statistically significant to economic growth and thus it is rather subjective for researchers to choose what are reasonable in context. The choice of controlling variables can have significant effects on the result. This is essentially a robustness problem, which needs sensitivity analyses. Levine and Renelt (1992) show that most explanatory variables in cross-country regressions hinge on particular specifications and do not survive if the set of additional variables is altered. They propose that a formal sensitivity test of explanatory variables should be included in this type of regression by systematically varying the set of variables. This formal sensitivity test, however, is still lacking in most empirical growth regressions. A few exceptions e.g. Alesina and Perotti (1996) performed sensitivity tests.

Second, controlling variables are sometimes correlated with the explanatory variables. This is a typical collinearity problem. This problem is manifested by Barro (1996), which says “The favorable effects on growth include maintenance of the rule of law, free market, small government consumption and high human capital. Once these kinds variables and initial level of real per capita GDP are hold constant, the overall effect of democracy on growth is weakly negative”. But don’t the benefits of democracy on growth depends mainly on democracy’s impacts on rule of law, free market and high human capital? These variables are closely connected to democracy itself. If these variables are controlled, it is hardly a surprise to have the result that democracy has negative impact on growth.

Third, when growth is regressed on democracy, any causal interpretation presupposes that democracy is exogenous to either development level or economic growth, which is contradictory to well documented theories, such as Lipset (1959), Rustow (1970), Huntington (1991) and Barro (1997). As Przeworski and Limongi (1993) point out “if democracies and authoritarian regimes have a different chance of survival under various economic conditions, the regime are endogenously selected”.

Minier (1998) argues that development level affects democracy, but economic growth does not. Thus there is no causality problem since the growth rate is regressed. However, this argument is not convincing since a deteriorating economy (meaning a decline in growth rate) could very well trigger a change in political regime. As the later empirical test shows, a transition from authoritarian regime to democracy is preceded by a remarkable decline in economic growth.

This is essentially an issue of simultaneity. OLS regressions do not reveal the direction of causality. One way to deal with it is to use exogenous variables as instruments. But to find a suitable instrument is not easy, as it should not be auto-correlated to economic growth. One example is by Frankel and Romer (1996), using area as an instrument in cross-country regression on growth.³ Another way to handle this problem is to estimate simultaneous equations, as Helliwell (1994) and Alesina and Perotti (1996) do.

Fourth, conventional growth regression studies assume that parameters that describe growth are identical across countries. Normally an augmented Solow growth framework is used, with fixed parameters for rich and poor countries alike. This is a problem of parameter heterogeneity, as pointed out by Brock and Durlauf (2001), which also claims that the assumption of a single linear growth model that applies to all countries is incorrect.

Fifth, the relationship between democracy and growth may be non-linear, as Barro (1996) demonstrates. When a country’s democracy indicator (Freedom House) change from 3 to 1 (both indicate a free democracy), the impacts on economic growth may be different from that of a change of democracy indicator in another country, say, from 6 to 4, which means a country has transformed from a not free regime to a partly free democracy. Using linear models could produce biased indicators.

Sixth, the conclusions of the empirical studies have to rely on comparison with so called “prior similar countries”. For example, a recent study, Minier (1998), examines the growth experience of countries that undergo substantial change in levels of democracy directly. The conclusion is “countries that democratize are found to grow faster than a prior similar countries, while countries that become less democratic grow more slowly than comparable countries. These differences are not due to difference in education or investment level.” The criterion for choosing “prior similar countries” or “comparable countries” is the similar level of GDP per capita and democracy. Since these “prior similar countries” have to maintain sufficiently small change in democratic level, the number of “prior similar countries” is small. In addition, only using the per capita GDP level as a criterion is a too narrow definition for “prior similar countries”. Other factors, such as economic structure, trade dependency, geographic location, population, ethnical composition and cultural and history heritages, may play certain roles in different cases.

³ This instrument, however, is controversial and is criticized by Brock and Durlauf (2001).

Seventh, most empirical studies neglect that the democratic level of a country may change over time. As de Haan and Siermann (1995) point out that “this implies that focusing on period averages of the Gastil rankings, as most authors do, may yield biased estimates, since basically the same problems remains as with point estimates. For the characterization of a regime it makes quite a difference whether a country has a constant ranking over a number of years, say a ranking of 2, or whether its position varies greatly ending up with the same average ranking of 2.”

These problems are difficult to deal with, and solutions to which are not overall satisfactory. This paper proposes an alternative method to examine the relationship between democracy and economic growth at a unique stage of political development: change of regime from authoritarian to democracy. This may help to answer the question whether democratic transformation help accelerate economic growth, and if so, under what conditions, such as at what GDP per capita level. The paper uses a group of countries that transformed themselves from authoritarian regimes to totally or partially free democracies in the past forty years. The average economic growth rate of 5-10 years prior to democracy is compared with the average growth rate of the first 5 or 10 years in democracy. This method is based on a conviction that a regime change, in this case, the transformation from an authoritarian regime to a democracy, has impacts on many aspects of economic relations. Thus the growth performance prior to and after the transformation needs to be analyzed separately. The change in growth performance after the transformation to democracy then are regressed on the initial GDP per capita, inequality, investment ratio, education level of each countries, etc. The method is essentially to conduct regression as follows

$$\Delta \bar{g}_i = \alpha + \beta \cdot X_i + \varepsilon_i \quad (2)$$

The advantage of this method is its simplicity, and it circumvents many drawbacks of cross-countries regression discussed extensively in the literature. The selection of the sample is based exclusively on the regime change: from authoritarian rule to a more democratic regime. This is an important departure from normal practices in this type of studies. The year of transformation regarded as a regime change is a starting point to examine growth performance in two regimes. So it does not need to identify many control variables that are indispensable otherwise, since it is the comparison of the same country that experienced both democratic and authoritarian regime. There is no problem of simultaneity bias and collinearity, and no problem of defining what “prior similar countries” are. The aggregate of all these countries will mitigate shocks to individual countries. Moreover, for each individual countries, the time span under exam is different, thus partially mitigate the time trend of growth in decades.

III. Empirical Test

3.1 The data set

To select which countries have transformed from authoritarian regime to democracy, we use the Freedom House’s annual survey of country score since 1972 as a selection standard. Freedom House has published an annual assessment of freedom of every state. The subjective assessment “attempts to judge all countries and territories by

a single standard and to emphasize the importance of democracy and freedom. At a minimum, a democracy is a political system in which the people choose their authoritative leaders freely from among competing groups and individuals who were not designated by the government ... Freedom House does not rate governments per se, but rather the rights and freedoms enjoyed by individuals in each country or territory”⁴.

The Survey employs two series of checklists, one for questions regarding political rights and one for civil liberties, and assigns each country or territory considered a numerical rating for each category, in the scale of 1 to 7. The political rights and civil liberties ratings are then averaged and used to assign each country to an overall status of freedom. Those whose ratings average 1-2.5 are generally considered "Free," 3-5.5 "Partly Free," and 5.5-7 "Not Free." The dividing line between "Partly Free" and "Not Free" is 5.5. In this paper, if a country's freedom house score changes from above 5.5 to under 4.5, and maintain below 4.5 over the next 5 or 10 years, the country is selected as an example. For almost all the examples, the scores consistently decline after the years after transformation. For some countries, they have just experienced this transformation in the 1990s, so a 5-year period of growth performance is compared. For few exceptions, like Nigeria, the score went below 5 in 1980, then went up after several years, then this sample is excluded. Then the country has to stay 5 or 10 years under a democracy regime, so that economic growth prior and after democratic transformation can be compared. See Appendix for details

GNP per capita growth figures are from the World Bank's Development Indicators 2002. The average 5 and 10-year growth rates of before and after democratic transformation are calculated. The World Bank does not include Taiwan's data, we exclude this sample, although it is a suitable sample from the democratic transformation point of view.

⁴ The use of the Freedom House index for democracy is not entirely satisfactory, as the index is highly subjective and places too high emphases on political system. Nevertheless, the freedom House index has the longest historical data and is comprehensive. These may be the reason for its popularity among researchers.

Change in growth performance

Countries	First year of democracy	Growth in GNP per capita					
		10-year average			5-year average		
		Prior	After	Difference	Prior	After	Difference
Argentina	1984	-0,7	1,5	2,2	-2,7	-0,6	2,1
Bangladesh*	1992	2,5	3,4	0,9	2,6	3,2	0,6
Benin*	1992	-0,6	1,9	2,5	-2,3	1,4	3,7
Bolivia	1983	1,0	-0,5	-1,5	-1,5	-2,0	-0,5
Brazil	1975	5,6	0,9	-4,8	8,7	3,0	-5,7
Cape Verde*	1992	0,9	3,3	2,4	1,9	2,9	1,0
Central Africa*	1994	-2,5	1,6	4,1	-3,3	1,5	4,8
Chile	1990	1,4	5,4	4,0	5,2	5,6	0,4
Ecuador	1980	5,6	-0,5	-6,1	4,3	-1,5	-5,8
Ghana*	1996	1,4	1,7	0,3	1,3	1,7	0,4
Greece	1975	7,2	2,1	-5,1	7,8	3,9	-3,9
Grenada	1986	3,4	3,3	-0,1	2,3	5,7	3,4
Guatemala	1986	0,0	1,1	1,1	-3,1	0,4	3,5
Guinea-Bissau*	1995	1,3	-4,0	5,3	1,9	-4,0	-5,3
Guyana*	1993	6,8	7,5	0,7	-6,8	10,3	17,1
Honduras	1981	2,3	-0,8	-3,1	3,3	-1,2	-4,5
Jordan*	1992	-2,3	2,9	5,2	-5,2	4,6	9,8
Lesotho*	1994	0,6	-0,9	-1,5	0,9	-0,4	-1,3
Madagascar*	1991	-3,0	-1,0	1,9	-0,9	-3,0	-2,0
Malawi*	1995	0,6	4,4	3,8	1,3	4,4	3,2
Mali*	1993	-1,0	0,7	1,7	0,0	0,1	0,2
Mexico	1974	3,8	1,9	-1,9	3,0	2,4	-0,6
Morocco	1978	3,8	0,8	-3,0	3,4	1,1	-2,4
Mozambique*	1995	0,6	6,5	5,8	0,5	6,5	5,9
Nepal	1981	0,2	2,1	1,9	0,7	2,2	1,5
Nicaragua*	1991	-4,6	2,0	6,6	-7,2	-1,0	6,2
Pakistan	1986	2,4	3,3	0,9	3,1	4,0	0,9
Panama*	1991	-1,7	2,7	4,3	-2,6	3,8	6,3
Paraguay	1990	1,4	-0,6	-2,1	0,1	0,0	-0,1
Peru	1981	0,8	-2,3	-3,0	-1,4	-2,1	-0,7
Philippines	1985	2,2	0,6	-1,6	1,2	0,9	-0,3
Portugal	1977	5,5	1,7	-3,7	4,4	2,3	-2,1
Senegal	1979	-0,7	0,4	1,1	-0,6	1,0	1,6
Singapore	1982	6,9	5,4	-1,5	6,2	4,5	-1,7
South Africa*	1995	-1,1	0,3	1,4	-1,7	0,3	2,0
Korea, Rep.	1986	5,8	7,9	2,1	4,4	9,4	5,0
Spain	1978	4,3	1,3	-3,0	4,0	0,0	-4,0
Suriname	1988	-1,6	1,5	3,1	-6,4	2,4	8,8
Thailand	1980	4,4	5,3	0,9	4,9	3,4	-1,5
Turkey	1983	1,5	2,9	1,4	-0,8	4,1	4,8
Uruguay	1986	-0,2	3,6	3,8	-4,6	3,6	8,2
Zimbabwe	1980	1,9	1,6	-0,3	-3,7	1,3	5,0
Average*		1,5	2,0	0,5	0,7	2,0	1,3

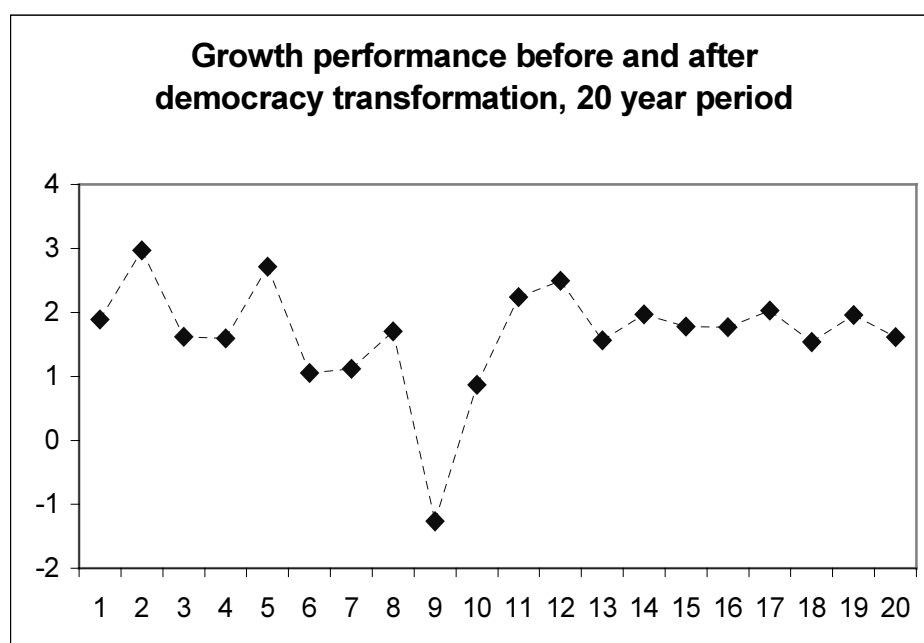
* These countries have less than ten years in democracy. Their average growth under democracy is calculated, instead of ten-year average. When calculating the average, Guinea-Bissau and Guyana are excluded for the reason that will be discussed later.

For each country, the starting year of democracy is very important. Here the starting year is chosen so that the country is already in democracy. Then subsequently the 10-year average growth rate for the country includes this starting year's growth. When calculating the 10-year average growth rate prior to the transformation, the year immediately before the starting year of democracy is not included. Because this year is most vulnerable to the immediate impact of regime change, and often a country experienced both authoritarian and democracy during this period of transition. Even when that year is included in the calculation, the result is virtually the same. Here I present the result of first option, that the year immediately before the starting year of democracy is excluded.

3.2 The empirical tests and results

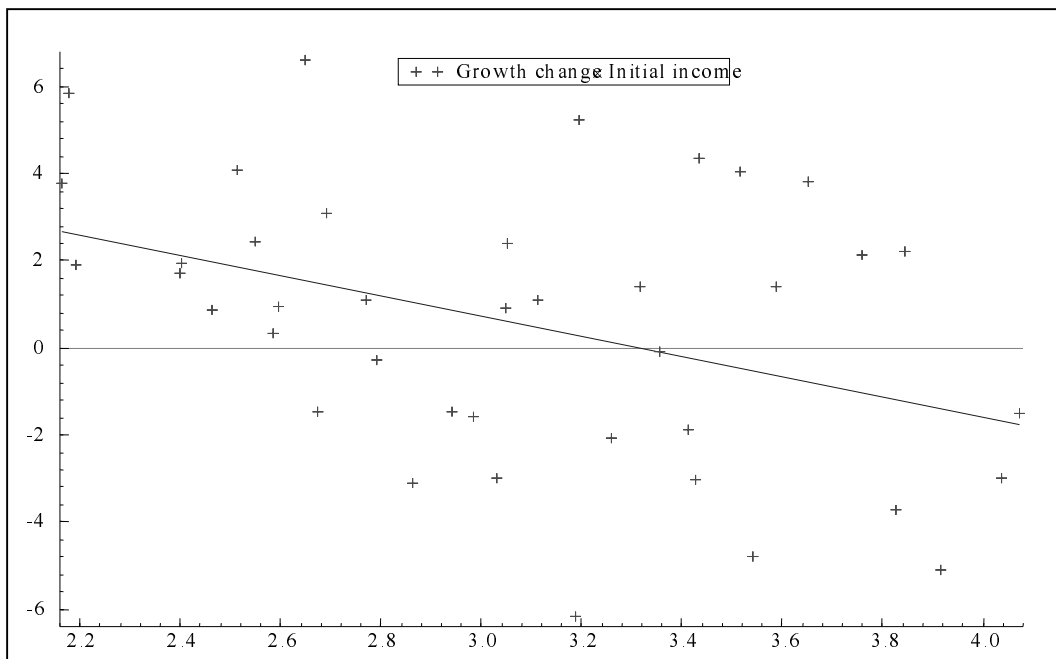
From the table, two conclusions can be drawn directly. First, the change of regimes seems to influence economic growth in general. The 10-year average growth rate is higher by a half percentage point after the democratic transformation. Around two third the sample countries witnessed a pick-up in growth. If the 5-year average growth is compared, the difference is larger than a full percentage point. Thus on average, there is an improvement in growth performance after the democratic transformation.

Second, during the 10-year period prior to the democratic transformation, the yearly growth rate trended downwards, and deteriorated to the lowest level two years before the democratic transformation. It seems to support the claim that deterioration of economic condition may propel the transformation to democracy. Once the countries achieved democracy, growth picked up robustly initially, but the growth rate gradually decelerated to a 20-year average. The growth under democracy is much more stable than that under the authoritarian regime. On average growth rate before the transformation declines by 0.25 percentage point per year, while during the first 10 years of democracy, average growth rate is rather stable.



Examining growth performance of each individual country, we find most countries conform to the above-mentioned conclusion. However, seven countries are exceptions that experienced notable acceleration in per capita income growth right before the democratic transformation. Five of them, Brazil, Greece, Paraguay, Thailand and Morocco, suffered a drastic decline in growth after becoming democracy. While Chile and Mexico maintained comparable growth performance after democratic transformation. All these seven countries were relative wealthy at the time of change. It is probably not the deterioration in economic condition, but the emerging middle class that propel the democratic change in these countries.

It is claimed by Barro (1996) that the relationship between growth and democracy may be nonlinear, and poor countries may benefit from a regime change to democracy, while it may do no good for economic growth in more wealthy countries. We can test this claim by regressing the change in growth for each country on their initial income per capita in the starting year of democracy. Guinea-Bissau and Guyana are excluded, as these two are the outliers. In 1998, Guinea-Bissau's GNP per capita declined by 30% due to war. And Guyana's change in growth rate of GNP per capita after democratic transformation is over 17 per cent. Guyana is a very poor country, which reinforces the negative relation between growth change and initial income. Including Guyana does not change the result. The following shows a scatter plot with a regression line as well as statistical test results.



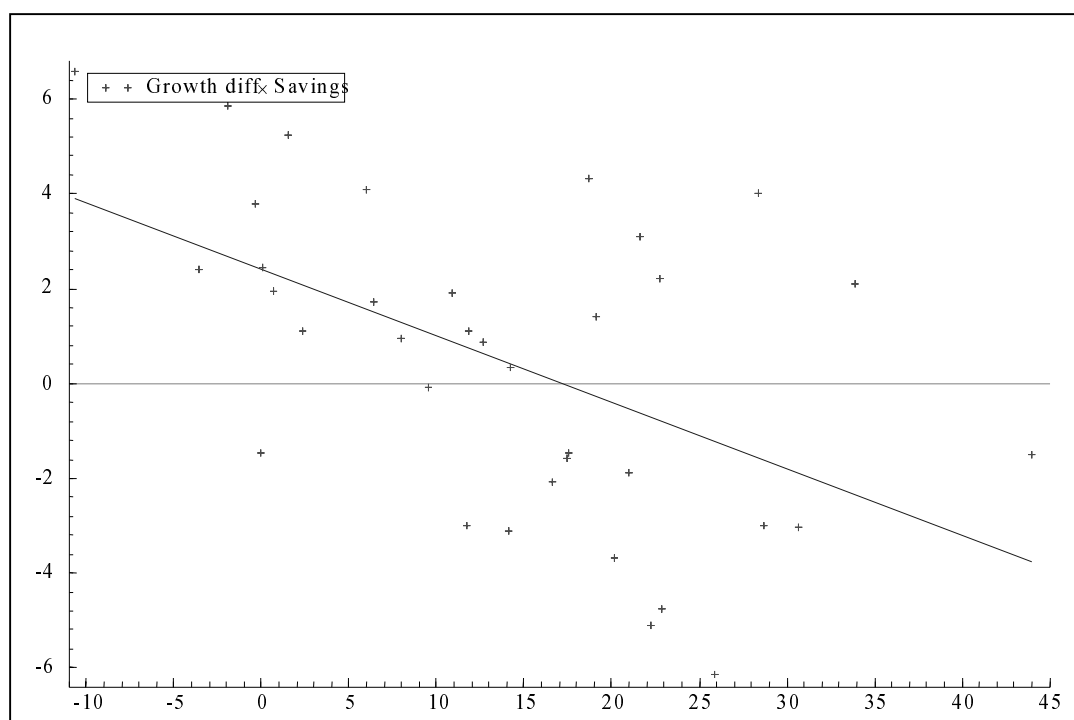
The OLS regression of Growth Change on Initial Income has the following result:

	Coefficient	Std. Error	t-value	t-prob.	Part.R ²
Constant	7.69528	2.681	2.87	0.007	0.1782
Initial income	-2.32861	0.8591	-2.71	0.010	0.1620
sigma	2.89119		RSS	317.641861	
R ²	0.162005		F(1,38) =	7.346 [0.010]*	
log-likelihood	-98.1984		DW	2.28	
no. of observations	40		no. of parameters	2	
mean(Growth Change)	0.535227		var(Growth Change)	9.47624	

The relation is indeed negative. The coefficient of initial income to growth change is significant at a level of 1 per cent. Thus rich countries often saw a decline in growth after democratic transformation, while very poor countries often experienced acceleration in growth. Concerning the case of China, the empirical evidence does not support the claim that poor countries should wait until the economy reached certain degree of affluence before engaging in democratic transformation. According to the empirical test, China might be able to achieve an acceleration of growth by 1 percentage point in the next ten years, given the current per capita GDP of \$ 1000.

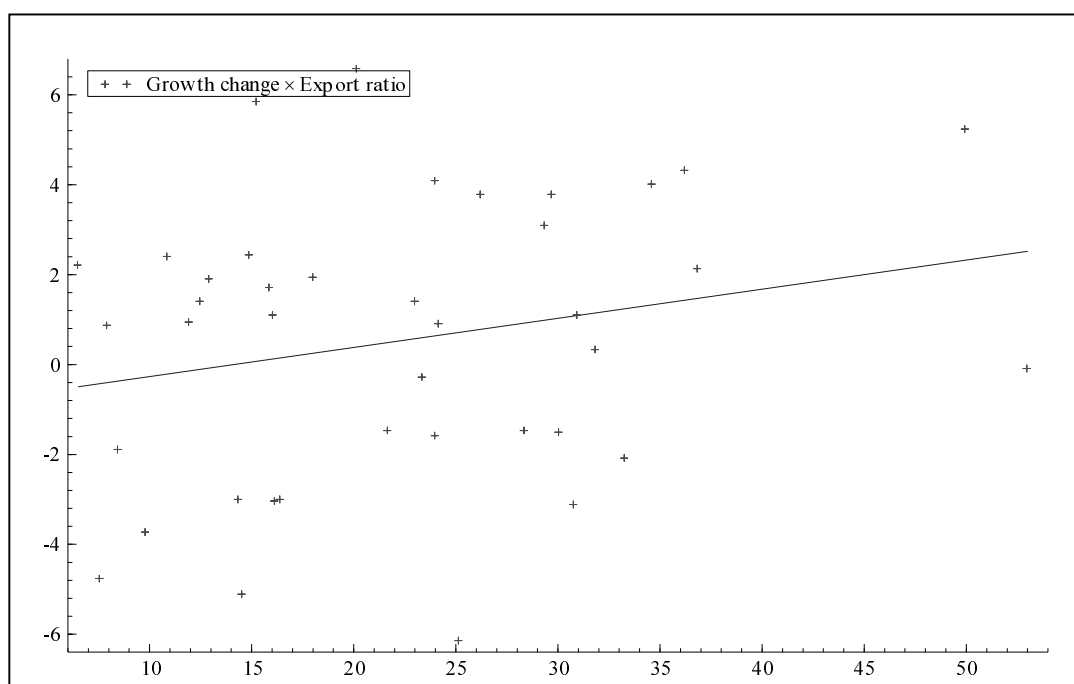
There are some other factors may explain the difference in performance across countries. For example, initial saving ratio, ratio of government expenditure to GDP, fertility rate, and income inequality, education etc. Due to data reason, we will examine Saving ratio, export ratio to GDP, ratio of government expenditure, and education.

We try the regression of the growth change on initial saving ratio, get a negative relationship, and the result is significant. (Lesotho is an outlier, with a saving rate of -36%. It is excluded from the regression.)



Regression of growth change on saving ratio					
	Coefficient	Std. Error	t-value	t-prob	Part.R ²
Constant	2.41846	0.6944	3.48	0.001	0.2420
Saving ratio	-0.133302	0.03831	-3.48	0.001	0.2416
sigma	2.75049	RSS	287.477154		
R ²	0.241584	F(1,38) =	12.1	[0.001]**	
log-likelihood	-96.2028	DW	2.13		
no. of observations	40	no. of parameters	2		
mean(Growth change)	0.535227	var(Growth change)	9.47624		

Test on the impact of export ratio to GDP on growth change yield a positive relation between on these two, however, the coefficient is not significant. There is no partial correlation relation between primary school or secondary school enrollment, ratio of government expenditure to GDP and growth change.



Alesina and Rodrick (1991) argue that democracy with initially unequal distributions of income will have lower growth than democracy with more even distribution for the reason that the large group of enfranchised poor in the first case will vote for high tax on capital, which will deter investment. Persson and Tabellini (1992) and Alesina and Perotti (1996) give evidences to show that inequality is harmful for growth. To test this hypothesis, using the same method, we regress the change in growth rate on initial inequality in the year of democratic transformation. Since inequality indicators are not available for many countries, we use the same method as Alesina and

Perotti (1996), who use difference in male and female primary enrollment rate as an indicator for inequality across country. The empirical test doesn't find a partial correlation relation between this enrollment difference and growth change.

IV Conclusion and Discussions

In this paper we find that on average there is an improvement in growth performance after the transformation democracy. Normally before the transformation to democracy, countries tend to suffer a deterioration of growth performance. It seems to support the view that the deterioration of economic condition propelled the transformation to democracy. The growth under democracy is much more stable than that under the authoritarian regime. Rich countries indeed saw a decline in growth after democratic transformation, while very poor countries often experienced acceleration in growth, a point made by Barro (1996).

There are many other factors that may explain the difference in growth performance across countries after democratic transformation. This paper finds that growth performance is negatively related to initial saving ratio, positively to export ratio to GDP. There are no partial correlation relations between growth change and primary school or secondary school enrollment, ratio of government expenditure to GDP, and a crude form of income inequality. It is probable that not the initial state of these variables in the year of transformation that matters, but the change of these variables after democratic transformation.

This paper shows that those countries that converted to democracy in the past have on average witnessed a pickup in growth. However, it does not indicate that authoritarian countries are necessarily doing worse. It is difficult to find out that should these countries not transform into democracy, how their growth performance may differ. A favorite comparison is between China and India. While in the 1950s China and India had a comparable income level and population, the two countries differed in political regime. India is a democracy, and China is an authoritarian regime. China is doing far better than India concerning economic growth, especially after 1980. During 1980-2000, China grew twice as fast as India. Of course this is just an example. Some countries under authoritarian regime are doing badly, like Iraq. As Barro (1996) and Sah (1991) claim, authoritarian regime is a form a risky investment, one type of autocrats is preoccupied with economic development, as some countries in East Asia did or do, while another conflicts with growth promotion, as many governments in Africa do.

For those economies that experienced transformation to democracy, economic growth under democracy is more stable than that under authoritarian regime. However, this conclusion is subject to sample bias. The reason for the collapse of authoritarian regime may well be a collapse in economic growth. Thus it may be a two-way causal relation, which indeed justifies simultaneous estimation methods in normal cross-country regression analyses.

Some of the countries in the sample set have a history of democracy less than ten years. These are normally very poor countries. It is not clear how long democracy can sustain in these countries. Since the 1990s several formerly democratic countries have returned to authoritarian regime. It is clear that the collapse of authoritarian regime is

preceded by decline in growth. What prompts regime change from democracy to authoritarian regime needs to be studied further.

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Appendix

ANNUAL FREEDOM IN THE Sample COUNTRY SCORES 1972 TO 2001

Year	Argentina	Bangladesh	Benin	Bolivia	Brazil	Cape Verde
1972-73	6,3,PF	2,4,PF	7,5,NF	5,4,PF	5,5,PF	-
1973-74	2,2,F	4,4,PF	7,5,NF	5,4,PF	5,5,PF	-
1974-75	2,4,PF	4,4,PF	7,6,NF	6,5,NF	4,4,PF	-
1975-76	2,4,PF	7,5,NF	7,7,NF	6,5,NF	4,5,PF	5,5,PF
1976-77	6,5,NF	7,4,PF	7,7,NF	6,4,PF	4,5,PF	6,6,NF
1977-78	6,6,NF	6,4,PF	7,7,NF	6,4,PF	4,5,PF	6,6,NF
1978-79	6,5,NF	4,4,PF	7,7,NF	5,3,PF	4,4,PF	6,6,NF
1979-80	6,5,NF	3,3,PF	7,6,NF	3,3,PF	4,3,PF	6,6,NF
1980-81	6,5,NF	3,3,PF	7,6,NF	7,5,NF	4,3,PF	6,6,NF
1981-82	6,5,NF	3,4,PF	7,6,NF	7,5,NF	4,3,PF	6,6,NF
1982-83	6,5,PF	5,5,PF	7,6,NF	2,3,F	3,3,PF	6,6,NF
1983-84	3,3,PF	6,5,PF	7,6,NF	2,3,F	3,3,PF	6,6,NF
1984-85	2,2,F	6,5,PF	7,7,NF	2,3,F	3,3,PF	6,7,NF
1985-86	2,2,F	5,5,PF	7,7,NF	2,3,F	3,2,F	6,7,NF
1986-87	2,1,F	4,5,PF	7,7,NF	2,3,F	2,2,F	6,6,NF
1987-88	2,1,F	4,5,PF	7,7,NF	2,3,F	2,2,F	5,6,PF
1988-89	2,1,F	4,5,PF	7,7,NF	2,3,F	2,3,F	5,6,NF
1989-90	1,2,F	4,4,PF	7,7,NF	2,3,F	2,2,F	6,5,NF
1990-91	1,3,F	5,5,PF	6,4,PF	2,3,F	2,3,F	5,5,PF
1991-92	1,3,F	2,3,F	2,3,F	2,3,F	2,3,F	2,3,F
1992-93	2,3,F	2,3,F	2,3,F	2,3,F	2,3,F	1,2,F
1993-94	2,3,F	2,4,PF	2,3,F	2,3,F	3,4,PF	1,2,F
1994-95	2,3,F	2,4,PF	2,3,F	2,3,F	2,4,PF	1,2,F
1995-96	2,3,F	3,4,PF	2,2,F	2,4,PF	2,4,PF	1,2,F
1996-97	2,3,F	2,4,PF	2,2,F	2,3,F	2,4,PF	1,2,F
1997-98	2,3,F	2,4,PF	2,2,F	1,3,F	3,4,PF	1,2,F
1998-99	3,3,F	2,4,PF	2,2,F	1,3,F	3,4,PF	1,2,F
1999-00	2,3,F	3,4,PF	2,3,F	1,3,F	3,4,PF	1,2,F
2000-01	1,2,F	3,4,PF	2,2,F	1,3,F	3,3,PF	1,2,F
Year	Central African Rep.	Chile	Ecuador	Ghana	Greece	Grenada
1972-73	7,7,NF	1,2,F	7,3,PF	6,6,NF	6,6,NF	-
1973-74	7,7,NF	7,5,NF	7,5,NF	7,6,NF	7,5,NF	-
1974-75	7,7,NF	7,5,NF	7,5,NF	7,5,NF	2,2,F	2,4,PF
1975-76	7,7,NF	7,5,NF	7,5,NF	7,5,NF	2,2,F	2,4,PF
1976-77	7,7,NF	7,5,NF	6,5,PF	7,5,NF	2,2,F	2,4,PF
1977-78	7,7,NF	7,5,NF	6,5,PF	6,5,PF	2,2,F	2,3,F
1978-79	7,7,NF	6,5,NF	5,3,PF	6,4,PF	2,2,F	2,3,F
1979-80	7,6,NF	6,5,PF	2,2,F	4,4,PF	2,2,F	4,5,PF
1980-81	7,6,NF	6,5,PF	2,2,F	2,3,F	2,2,F	5,5,PF
1981-82	7,5,NF	6,5,PF	2,2,F	2,3,F	1,2,F	6,5,NF
1982-83	7,5,NF	6,5,NF	2,2,F	6,5,NF	1,2,F	6,5,NF
1983-84	7,5,NF	6,5,PF	2,2,F	6,5,NF	1,2,F	7,6,NF
1984-85	7,6,NF	6,5,PF	2,2,F	7,6,NF	1,2,F	5,3,PF
1985-86	7,6,NF	6,5,PF	2,3,F	7,6,NF	2,2,F	2,3,F
1986-87	7,6,NF	6,5,PF	2,3,F	7,6,NF	2,2,F	2,2,F
1987-88	6,6,NF	6,5,PF	2,3,F	7,6,NF	2,2,F	2,1,F
1988-89	6,6,NF	5,4,PF	2,2,F	6,6,NF	2,2,F	2,1,F
1989-90	6,6,NF	4,3,PF	2,2,F	6,5,NF	1,2,F	2,2,F
1990-91	6,5,NF	2,2,F	2,2,F	6,5,NF	1,2,F	2,2,F
1991-92	6,5,PF	2,2,F	2,3,F	6,6,NF	1,2,F	1,2,F
1992-93	6,5,PF	2,2,F	2,3,F	5,5,PF	1,2,F	1,2,F
1993-94	3,4,PF	2,2,F	2,3,F	5,4,PF	1,3,F	1,2,F
1994-95	3,4,PF	2,2,F	2,3,F	5,4,PF	1,3,F	1,2,F
1995-96	3,4,PF	2,2,F	2,3,F	4,4,PF	1,3,F	1,2,F
1996-97	3,5,PF	2,2,F	2,4,PF	3,4,PF	1,3,F	1,2,F
1997-98	3,5,PF	2,2,F	3,3,PF	3,3,PF	1,3,F	1,2,F

1998-99	3,4,PF	3,2,F	2,3,F	3,3,PF	1,3,F	1,2,F
1999-00	3,4,PF	2,2,F	2,3,F	3,3,PF	1,3,F	1,2,F
2000-01	3,4,PF	2,2,F	3,3,PF	2,3,F	1,3,F	1,2,F
Year	Guatemala	Guinea-Bissau	Guyana	Honduras	Jordan	Korea, S.
1972-73	2,3,F	-	2,2,F	7,3,PF	6,6,NF	5,6,NF
1973-74	2,2,F	-	4,2,PF	6,3,PF	6,6,NF	4,6,PF
1974-75	4,3,PF	6,6,NF	4,3,PF	6,3,PF	6,6,NF	5,6,PF
1975-76	4,3,PF	6,6,NF	4,3,PF	6,3,PF	6,6,NF	5,5,PF
1976-77	4,3,PF	6,6,NF	3,3,PF	6,3,PF	6,6,NF	5,6,NF
1977-78	4,4,PF	6,6,NF	3,3,PF	6,3,PF	6,6,NF	5,5,PF
1978-79	3,4,PF	6,6,NF	4,3,PF	6,3,PF	6,6,NF	5,5,PF
1979-80	3,5,PF	6,6,NF	4,4,PF	6,3,PF	6,6,NF	4,5,PF
1980-81	5,6,PF	6,6,NF	4,4,PF	4,3,PF	6,6,NF	5,6,PF
1981-82	6,6,NF	6,6,NF	5,4,PF	3,3,PF	6,6,NF	5,6,PF
1982-83	6,6,NF	6,6,NF	5,4,PF	2,3,F	6,6,NF	5,6,PF
1983-84	6,6,NF	7,6,NF	5,5,PF	3,3,PF	6,6,NF	5,6,PF
1984-85	5,6,PF	6,6,NF	5,5,PF	2,3,F	5,5,PF	5,5,PF
1985-86	4,4,PF	6,6,NF	5,5,PF	2,3,F	5,5,PF	4,5,PF
1986-87	3,3,PF	6,7,NF	5,5,PF	2,3,F	5,5,PF	4,5,PF
1987-88	3,3,PF	6,7,NF	5,5,PF	2,3,F	5,5,PF	4,4,PF
1988-89	3,3,PF	6,7,NF	5,5,PF	2,3,F	6,5,NF	2,3,F
1989-90	3,3,PF	6,6,NF	5,4,PF	2,3,F	5,5,PF	2,3,F
1990-91	3,4,PF	6,5,NF	5,4,PF	2,3,F	5,5,PF	2,3,F
1991-92	3,5,PF	6,5,PF	5,4,PF	2,3,F	4,4,PF	2,3,F
1992-93	4,5,PF	6,5,PF	3,3,PF	2,3,F	3,3,PF	2,3,F
1993-94	4,5,PF	6,5,PF	2,2,F	3,3,PF	4,4,PF	2,2,F
1994-95	4,5,PF	3,4,PF	2,2,F	3,3,PF	4,4,PF	2,2,F
1995-96	4,5,PF	3,4,PF	2,2,F	3,3,PF	4,4,PF	2,2,F
1996-97	3,4,PF	3,4,PF	2,2,F	3,3,PF	4,4,PF	2,2,F
1997-98	3,4,PF	3,4,PF	2,2,F	2,3,F	4,4,PF	2,2,F
1998-99	3,4,PF	3,5,PF	2,2,F	2,3,F	4,5,PF	2,2,F
1999-00	3,4,PF	3,5,PF	2,2,F	3,3,PF	4,4,PF	2,2,F
2000-01	3,4,PF	4,5,PF	2,2,F	3,3,PF	4,4,PF	2,2,F
Year	Lesotho	Madagascar	Malawi	Mali	Mexico	Morocco
1972-73	7,4,NF	5,3,PF	7,6,NF	7,6,NF	5,3,PF	5,4,PF
1973-74	5,3,PF	5,4,PF	7,6,NF	7,6,NF	4,3,PF	5,5,PF
1974-75	5,4,PF	5,4,PF	7,6,NF	7,6,NF	4,3,PF	5,5,PF
1975-76	5,4,PF	5,5,PF	7,6,NF	7,7,NF	4,3,PF	5,5,PF
1976-77	5,4,PF	6,5,NF	7,6,NF	7,7,NF	4,4,PF	5,5,PF
1977-78	5,4,PF	5,5,PF	7,6,NF	7,7,NF	4,4,PF	4,3,PF
1978-79	5,4,PF	5,5,PF	6,6,NF	7,7,NF	4,4,PF	3,4,PF
1979-80	5,5,PF	6,6,NF	6,7,NF	7,6,NF	3,3,PF	3,4,PF
1980-81	5,5,PF	6,6,NF	6,7,NF	7,6,NF	3,4,PF	4,4,PF
1981-82	5,5,PF	6,6,NF	6,7,NF	7,6,NF	3,4,PF	4,5,PF
1982-83	5,5,PF	5,5,PF	6,7,NF	7,6,NF	3,4,PF	4,5,PF
1983-84	5,5,PF	5,6,PF	6,7,NF	7,6,NF	3,4,PF	4,5,PF
1984-85	5,5,PF	5,6,PF	6,7,NF	7,6,NF	3,4,PF	4,5,PF
1985-86	5,5,PF	5,6,PF	6,7,NF	7,6,NF	4,4,PF	4,5,PF
1986-87	5,5,PF	5,5,PF	6,7,NF	7,6,NF	4,4,PF	4,5,PF
1987-88	5,6,PF	5,5,PF	6,7,NF	7,6,NF	4,4,PF	4,5,PF
1988-89	6,6,NF	5,5,PF	6,7,NF	6,6,NF	3,4,PF	4,5,PF
1989-90	6,5,NF	5,4,PF	7,6,NF	6,6,NF	4,3,PF	4,4,PF
1990-91	6,5,NF	4,4,PF	7,6,NF	6,5,NF	4,4,PF	4,4,PF
1991-92	6,4,PF	4,4,PF	7,6,NF	6,4,PF	4,4,PF	5,5,PF
1992-93	6,4,PF	4,4,PF	6,7,NF	2,3,F	4,3,PF	6,5,PF
1993-94	3,4,PF	2,4,PF	6,5,NF	2,3,F	4,4,PF	5,5,PF
1994-95	4,4,PF	2,4,PF	2,3,F	2,4,PF	4,4,PF	5,5,PF
1995-96	4,4,PF	2,4,PF	2,3,F	2,3,F	4,4,PF	5,5,PF
1996-97	4,4,PF	2,4,PF	2,3,F	2,2,F	4,3,PF	5,5,PF
1997-98	4,4,PF	2,4,PF	2,3,F	3,3,F	3,4,PF	5,5,PF

1998-99	4,4,PF	2,4,PF	2,3,F	3,3,F	3,4,PF	5,4,PF
1999-00	4,4,PF	2,4,PF	3,3,PF	3,3,F	3,4,PF	5,4,PF
2000-01	4,4,PF	2,4,PF	3,3,PF	2,3,F	2,3,F	5,4,PF
Year	Mozambique	Nepal	Nicaragua	Nigeria	Pakistan	Panama
1972-73	-	6,5,NF	4,3,PF	6,4,PF	3,5,PF	7,6,NF
1973-74	-	6,5,NF	5,4,PF	6,4,PF	3,5,PF	7,6,NF
1974-75	-	6,5,NF	5,4,PF	6,4,PF	3,5,PF	7,6,NF
1975-76	6,6,NF	6,5,NF	5,4,PF	6,5,PF	5,5,PF	7,6,NF
1976-77	7,7,NF	6,5,NF	5,5,PF	6,4,PF	4,5,PF	7,6,NF
1977-78	7,7,NF	6,5,NF	5,5,PF	5,4,PF	6,4,PF	6,5,NF
1978-79	7,7,NF	6,5,NF	5,5,PF	5,3,PF	6,5,PF	5,5,PF
1979-80	7,7,NF	5,4,PF	5,5,PF	2,3,F	6,6,NF	5,5,PF
1980-81	7,7,NF	3,4,PF	5,5,PF	2,3,F	7,5,NF	4,4,PF
1981-82	7,7,NF	3,4,PF	6,5,PF	2,3,F	7,5,NF	4,4,PF
1982-83	7,7,NF	3,4,PF	6,5,PF	2,3,F	7,5,NF	5,5,PF
1983-84	7,6,NF	3,4,PF	6,5,PF	2,3,F	7,5,NF	5,4,PF
1984-85	6,7,NF	3,4,PF	5,5,PF	7,5,NF	7,5,NF	4,3,PF
1985-86	6,7,NF	3,4,PF	5,5,PF	7,5,NF	4,5,PF	6,3,PF
1986-87	6,7,NF	3,4,PF	5,6,PF	7,5,NF	4,5,PF	6,3,PF
1987-88	6,7,NF	3,4,PF	5,5,PF	6,5,PF	4,5,PF	5,5,PF
1988-89	6,7,NF	3,4,PF	5,4,PF	5,5,PF	3,3,PF	6,5,NF
1989-90	6,7,NF	4,5,PF	5,5,PF	6,5,PF	3,3,PF	7,6,NF
1990-91	6,6,NF	4,4,PF	3,3,PF	5,5,PF	4,4,PF	4,2,PF
1991-92	6,4,PF	2,3,F	3,3,PF	5,4,PF	4,5,PF	4,2,PF
1992-93	6,4,PF	2,3,F	4,3,PF	5,4,PF	4,5,PF	4,3,PF
1993-94	6,5,NF	3,4,PF	4,5,PF	7,5,NF	3,5,PF	3,3,PF
1994-95	3,5,PF	3,4,PF	4,5,PF	7,6,NF	3,5,PF	2,3,F
1995-96	3,4,PF	3,4,PF	4,4,PF	7,7,NF	3,5,PF	2,3,F
1996-97	3,4,PF	3,4,PF	3,3,PF	7,6,NF	4,5,PF	2,3,F
1997-98	3,4,PF	3,4,PF	3,3,PF	7,6,NF	4,5,PF	2,3,F
1998-99	3,4,PF	3,4,PF	2,3,F	6,4,PF	4,5,PF	2,3,F
1999-00	3,4,PF	3,4,PF	3,3,PF	4,3,PF	7,5,NF	1,2,F
2000-01	3,4,PF	3,4,PF	3,3,PF	4,4,PF	6,5,NF	1,2,F
Year	Paraguay	Peru	Philippines	Portugal	Senegal	Singapore
1972-73	4,6,PF	7,5,NF	4,6,PF	5,6,NF	6,6,NF	5,5,PF
1973-74	5,5,PF	7,5,NF	5,5,PF	5,6,NF	6,6,NF	5,5,PF
1974-75	5,5,PF	6,6,NF	5,5,PF	5,3,PF	6,5,NF	5,5,PF
1975-76	5,5,PF	6,4,PF	5,5,PF	5,3,PF	6,4,PF	5,5,PF
1976-77	5,6,NF	6,4,PF	5,5,PF	2,2,F	6,4,PF	5,5,PF
1977-78	5,6,NF	6,4,PF	5,5,PF	2,2,F	5,3,PF	5,5,PF
1978-79	5,5,PF	5,4,PF	5,5,PF	2,2,F	4,3,PF	5,5,PF
1979-80	5,5,PF	5,4,PF	5,5,PF	2,2,F	4,3,PF	5,5,PF
1980-81	5,5,PF	2,3,F	5,5,PF	2,2,F	4,4,PF	5,5,PF
1981-82	5,5,PF	2,3,F	5,5,PF	2,2,F	4,4,PF	4,5,PF
1982-83	5,5,PF	2,3,F	5,4,PF	1,2,F	4,4,PF	4,5,PF
1983-84	5,5,PF	2,3,F	5,5,PF	1,2,F	4,4,PF	4,5,PF
1984-85	5,5,PF	2,3,F	4,4,PF	1,2,F	3,4,PF	4,5,PF
1985-86	5,5,PF	2,3,F	4,3,PF	1,2,F	3,4,PF	4,5,PF
1986-87	5,6,PF	2,3,F	4,2,PF	1,2,F	3,4,PF	4,5,PF
1987-88	5,6,PF	2,3,F	2,2,F	1,2,F	3,4,PF	4,5,PF
1988-89	6,6,NF	2,3,F	2,3,F	1,2,F	3,4,PF	4,5,PF
1989-90	4,3,PF	2,4,PF	2,3,F	1,2,F	4,3,PF	4,4,PF
1990-91	4,3,PF	3,4,PF	3,3,PF	1,2,F	4,3,PF	4,4,PF
1991-92	3,3,PF	3,5,PF	3,3,PF	1,1,F	4,3,PF	4,4,PF
1992-93	3,3,PF	6,5,PF	3,3,PF	1,1,F	4,3,PF	4,5,PF
1993-94	3,3,PF	5,5,PF	3,4,PF	1,1,F	4,5,PF	5,5,PF
1994-95	4,3,PF	5,4,PF	3,4,PF	1,1,F	4,5,PF	5,5,PF
1995-96	4,3,PF	5,4,PF	2,4,PF	1,1,F	4,5,PF	5,5,PF
1996-97	4,3,PF	4,3,PF	2,3,F	1,1,F	4,4,PF	4,5,PF
1997-98	4,3,PF	5,4,PF	2,3,F	1,1,F	4,4,PF	5,5,PF

1998-99	4,3,PF	5,4,PF	2,3,F	1,1,F	4,4,PF	5,5,PF
1999-00	4,3,PF	5,4,PF	2,3,F	1,1,F	4,4,PF	5,5,PF
2000-01	4,3,PF	3,3,PF	2,3,F	1,1,F	3,4,PF	5,5,PF
Year	South Africa	Spain	Suriname	Taiwan	Thailand	Turkey*
1972-73	2,3,F (5,6,NF)	5,6,NF	-	6,5,NF	7,5,NF	3,4,PF
1973-74	4,5,PF	5,6,NF	-	6,5,NF	6,3,PF	2,4,PF
1974-75	4,5,PF	5,5,PF	-	6,5,NF	5,3,PF	2,3,F
1975-76	4,5,PF	5,5,PF	2,2,F	6,5,NF	2,3,F	2,3,F
1976-77	4,5,PF	5,3,PF	2,2,F	5,5,PF	6,6,NF	2,3,F
1977-78	5,6,PF	2,2,F	2,2,F	5,4,PF	6,5,NF	2,3,F
1978-79	5,6,PF	2,3,F	2,2,F	5,4,PF	6,4,PF	2,3,F
1979-80	5,6,PF	2,2,F	2,2,F	5,5,PF	4,3,PF	2,3,F
1980-81	5,6,PF	2,3,F	7,5,NF	5,6,PF	3,4,PF	5,5,PF
1981-82	5,6,NF	2,3,F	7,5,NF	5,5,PF	3,4,PF	5,5,PF
1982-83	5,6,NF	1,2,F	7,6,NF	5,5,PF	3,4,PF	4,5,PF
1983-84	5,6,PF	1,2,F	7,6,NF	5,5,PF	3,4,PF	4,5,PF
1984-85	5,6,PF	1,2,F	7,6,NF	5,5,PF	3,4,PF	3,5,PF
1985-86	5,6,PF	1,2,F	6,6,NF	5,5,PF	3,4,PF	3,5,PF
1986-87	5,6,PF	1,2,F	6,6,NF	5,5,PF	3,3,PF	3,4,PF
1987-88	5,6,PF	1,2,F	4,4,PF	5,4,PF	3,3,PF	2,4,PF
1988-89	5,6,PF	1,2,F	3,2,F	5,3,PF	3,3,PF	2,4,PF
1989-90	6,5,PF	1,1,F	3,3,PF	4,3,PF	2,3,F	3,3,PF
1990-91	5,4,PF	1,1,F	6,4,PF	3,3,PF	2,3,F	2,4,PF
1991-92	5,4,PF	1,1,F	4,4,PF	5,5,PF	6,4,PF	2,4,PF
1992-93	5,4,PF	1,1,F	3,3,PF	3,3,PF	3,4,PF	2,4,PF
1993-94	5,4,PF	1,2,F	3,3,PF	4,4,PF	3,5,PF	4,4,PF
1994-95	2,3,F	1,2,F	3,3,PF	3,3,PF	3,5,PF	5,5,PF
1995-96	1,2,F	1,2,F	3,3,PF	3,3,PF	3,4,PF	5,5,PF
1996-97	1,2,F	1,2,F	3,3,PF	2,2,F	3,3,PF	4,5,PF
1997-98	1,2,F	1,2,F	3,3,PF	2,2,F	3,3,PF	4,5,PF
1998-99	1,2,F	1,2,F	3,3,PF	2,2,F	2,3,F	4,5,PF
1999-00	1,2,F	1,2,F	3,3,PF	2,2,F	2,3,F	4,5,PF
2000-01	1,2,F	1,2,F	1,2,F	1,2,F	2,3,F	4,5,PF
Year	Uruguay	Zimbabwe				
1972-73	3,4,PF	6,5,NF				
1973-74	5,5,PF	6,5,NF				
1974-75	5,5,PF	6,5,NF				
1975-76	5,5,PF	6,5,NF				
1976-77	6,6,NF	6,5,NF				
1977-78	6,6,NF	6,5,NF				
1978-79	6,6,NF	5,5,PF				
1979-80	6,6,NF	4,5,PF				
1980-81	5,5,PF	3,4,PF				
1981-82	5,5,PF	3,5,PF				
1982-83	5,4,PF	3,5,PF				
1983-84	5,4,PF	4,5,PF				
1984-85	5,4,PF	4,5,PF				
1985-86	2,2,F	4,6,PF				
1986-87	2,2,F	4,6,PF				
1987-88	2,2,F	5,6,PF				
1988-89	2,2,F	6,5,PF				
1989-90	1,2,F	6,4,PF				
1990-91	1,2,F	6,4,PF				
1991-92	1,2,F	5,4,PF				
1992-93	1,2,F	5,4,PF				
1993-94	2,2,F	5,5,PF				
1994-95	2,2,F	5,5,PF				
1995-96	2,2,F	5,5,PF				
1996-97	1,2,F	5,5,PF				
1997-98	1,2,F	5,5,PF				

1998-99	1,2,F	5,5,PF				
1999-00	1,2,F	6,5,PF				
2000-01	1,1,F	6,5,PF				