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DEMOCRACY, TAXATION, WELFARE AND THE ASIAN DEVELOPMENT

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Democracy, Taxation, Welfare and the Asian Development*

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Abstract

Public policies in South and East Asian countries have a focus on development and growth with a very limited attention to redistribution and equity. As a consequence, these countries have a low fiscal pressure and a "light" welfare state. We analyze the determinants of fiscal pressure and investigate the composition of fiscal revenues in a sample of South and East Asian countries. Political factors, such as the level of democratization of the country, turn out to play a crucial role.

Keywords: Polity dataset, political economy, institutions, South and East Asia, China.

JEL Classification: H20, O53, P16, P30, P50

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1 Introduction

South and East Asian countries have a low fiscal pressure and a "light" welfare state (Jacobs 1998).

Total fiscal pressure as a percentage of GDP is lower than 18% in China, India, Malaysia and Thailand (Bernardi et al. 2006a). Welfare expenditures are also very low. In these countries enterprises and families have traditionally played a major welfare role and have partially compensated for the low public spending. In some countries, such as Japan, enterprises have adopted a variety of flexibility measures to keep workers who are not necessarily profitable, while in other South and East Asian countries three-generation families substitute the public welfare system by pooling income between workers and economically inactive people. The absence of the welfare state is based on the common practice that women are the main providers of personal care for children and the elderly at home.

These inter-related low fiscal pressure and "light" welfare state are however under challenges. South and East Asian countries are growing fast and their economic, social and political development urgently require a rethinking of the fiscal and welfare policies. On the revenue side, crucial challenges for fiscal reforms are the introduction of a more modern fiscal structure, based on the simplification of the tax administration, the fight of fiscal evasion and the development of fiscal decentralization. This will realistically raise fiscal pressure. On the expenditure side, in these countries the forms of enterprise and family welfare are currently being challenged by the economic conditions (a recession in Japan, which will make enterprises unable to avoid massive layoffs any longer), the financial crisis (which has substantially raised unemployment in Korea), the falling fertility and aging process (in China and Thailand, but also in Korea and Japan), as well as by some common trends, such as urbanization, family nuclearization, the raise of female employment (which imply a reduced readiness of women to care for their parents or children).

Political factors may also represent a crucial challenge: many of these countries show a trend towards increased democratization and participation of civil society, which raise demands for government to assume more responsibility for the unemployed, sick, poor and the elderly. As a consequence, welfare expenditure is expected to increase in South and East Asian countries. Some countries have already introduced important reforms in the last decade to strengthen their social welfare systems (Japan, Korea), while others have them in their agenda (China). The World Bank (1999) identifies the "social protection" as a strategic sector for the structural long-term development of South and East Asian countries. This sector includes three areas, strictly interrelated: social safety nets (including social funds), labor market policies (including child labor) and pensions. This last area, pensions, is crucial, especially for countries in which the demographic transition is well advanced, such as China, Thailand, Korea and Japan.

In this paper we provide a positive empirical analysis of the role of political regimes on taxation and welfare in a selected sample of South and East Asian countries, which includes China, India, Japan, Malaysia, South Korea and Thailand. We first study the determinants of the total fiscal pressure and investigate the structure and composition of fiscal revenues. We find that total fiscal pressure (TFP) depends on the per capita income (RPCI), the openness of the economy (OPE) and the debt of GDP ratio (DEBT). Political factors, such as the level of democratization of the country, turn out to play a crucial role. Second, we emphasize the role of political regimes to determine tax policies and design across countries. More democratic countries have more personal income taxation and more autocratic countries have more corporate income taxation. Finally, we discuss the implications of these features of the tax systems on the expenditure side, in particular on the size of the welfare system.

This positive analysis suggests many policy implications. A main lesson is that the future of fiscal and welfare systems in South and East Asian countries is not so obvious. Though we might expect that taxes will raise with the economic growth and welfare will enlarge under demographic and social pressures, the levels of taxation and of the welfare state are unlikely to reach those of Western European countries, at least in the next future. This may be due to several reasons: first, these countries share a common view, that differentiate them, for instance, from western European ones, that government intervention should be limited to enhance growth and efficiency rather than to redistribute and promote equity. In other words, the efficiency-equity trade-off seems to be addressed by favoring efficiency over equity. Second, and related to the first point, an important role is played by political factors: in a country such as China, for instance, the absence of a democratization process may be an obstacle for reforms in favor of a new welfare state. Political factors affect crucially this efficiency-equity trade-off of the economic development in Asian countries: as long as the main goals of government intervention are in terms of efficiency (growth, investment, trade volume and macro policies), the successful results that we observe suggest that the sequence of reforms that is characterizing, for instance, China, i.e. first to introduce economic liberalizations and only after to start a democratic transition, is a good strategy, as argued by Giavazzi and Tabellini (2005) and Persson and Tabellini (2006). However, if demographic, social and other changes increase the importance of redistributive goals, the democratization process may play a crucial role to determine successful outcomes in terms of equity. In other words, we argue that the democratic transition is not necessary for the economic success in terms of efficiency, but it may be crucial in terms of equity and redistributive goals. As a consequence, we expect reforms in strategic areas such as taxation and welfare, where equity goals are a main motivation, to be more successful when political and economic development go hand in hand.

This paper contributes to the analysis of taxation and politics in South and East Asian countries. There is a huge literature on taxation in developing countries (see Burgess and Stern 1993, Bernardi et al. 2006a and their references). However, although very often informally discussed in policy debates and policy documents, the role of political factors has been generally neglected by the empirical analysis. The relationship between the tax structure and political regimes has been instead recently analyzed for a large sample of countries by Kenny and Winer (2006). They find that democracies rely substantially more on income taxation than other political regimes. Other studies have specifically focused on the direct/indirect tax mix (Musgrave 1969) or on particular taxes, such as Mulligan et al. (2004) who have empirically analyzed the consequences of democracy for the structure of the personal income tax. They find that democracies have flatter personal income tax structure than non democratic regimes. Our results are consistent with those found in these previous studies, but we have a different and new perspective: we focus only on South and East Asian countries, but consider all their main taxes. As a consequence, we can discuss crucial implications of taxation for the development of one of the more dynamic areas of the world. The paper is also related to the growing political economy literature of democracies, which analyzes, both theoretically and empirically, the economic determinants of democracy, the link between democracy and economic development, and the role of democracy on public policies (see Boix 2003, Barro 1996, Giavazzi and Tabellini 2005, Persson and Tabellini 2006, Acemoglu et al. 2004 and 2005, Acemoglu and Robinson 2006, Mulligan et al. 2004)

The paper is organized as follows: next section provides evidence on democracy indicators in a sample of six Asian countries and analyzes the role of the democratic institution on the level of fiscal pressure and specific revenues. Section three discusses the implications for welfare expenditures, section four concludes.

2 Democracy and taxation

In this section we analyze the determinants of fiscal pressure in a selected sample of six South and East Asian countries. We choose two big developing countries (China and India), two transition "tiger" economies (Malaysia and Thailand) and two industrialized countries (Japan and South Korea). We explore which economic factors affect the total fiscal pressure and the level of specific taxes (i.e. income, corporate) and which role is played by the political regime.

We first present a brief, not exhaustive, overview of tax systems and political regimes in these countries, then describe the data and show the results.

2.1 Overview of tax systems and political regimes

South and East Asia is a fast developing and highly economically integrated area, but its countries are not homogeneous (as for instance in South America and, to a less extent, Eastern Europe). In the sample that we have chosen, a structure of clusters can be identified according to the economic characteristics: China and India are fast developing yet still poor countries, Malaysia and Thailand are transition countries, Japan and South Korea are two, more or less mature industrialized countries. Moreover, there is no supra-national authority which coordinates single countries' policies and harmonize their institutions.

Figure 1 shows the evolution of total fiscal pressure over the period 1992-2002 in these countries and Table 1 summarizes the structure of fiscal revenue, comparing 1992 and 2002 data.

[INSERT FIGURE 1]

[INSERT TABLE 1]

Total fiscal pressure is quite low, especially if compared with that of countries in other world areas with a similar per-capita income (CIS countries, for example): in percentage of GDP it is, in 2002, 16.8% in China, 14.6% in India, 17.9% in Malaysia and 16.6% in Thailand (Bernardi et al. 2006a). Even in South Korea, an industrialized country with a per-capita income similar to the one of many western European countries (such as Greece and Portugal, for instance) total fiscal pressure is only 27.4% of income (35.9% in Greece and 33.9% in Portugal).

Indirect taxes prevail on direct ones, with the exception of Japan and Malaysia, similarly to what happens in most developing and transition economies (Burgess and Stern 1993). A low tax wedge on labor improves efficiency, while a high burden on consumption reduces equity and induces welfare losses.

Firms enjoy a generous tax system, especially foreigner firms, which take advantage from a complex system of tax incentives, aimed at attracting foreign direct investments in specific sectors[1]. As a consequence, although tax incentives may generate a low level of taxation, corporate tax revenue is usually higher than personal income tax, with a large part of revenues coming from multinationals. Personal income tax is instead quite embryonal, again with the exception of Japan.

A very strong feature is that social contributions are important only in Japan and, to a lower extent, in South Korea. The other countries have a very limited, approximately zero, pension system. As we will discuss in more details in section 3, this is a crucial challenge for the economic and political development of South and East Asian countries, in particular in China, which shows a rapid aging of population.

[1] These countries (with exception of Japan and South Korea) are not forced to respect the OECD rules against harmful tax competition. A World Tax Organization would be necessary to avoid the anticompetitive outcomes of the tax holiday regimes especially in China (Tanzi 1999).

These features reveal many policy issues for taxation and development in these countries: some of them apply more to a specific cluster of countries, some are general. Many studies have analyzed and discussed these issues[2]. In this section we argue that a crucial issue to be investigated is the development of democratic institutions. We show the role of the political regime on the current tax system and suggest the implications for the future. Before that, it is thus essential to provide an overview of the political regime of these countries.

The Polity dataset (2002) contains an indicator called "democracy," which represents an annual measure of institutionalized democracy. This measure is based on three essential elements: (i) the presence of institutions and procedures through which citizens can express effectively their preferences about alternative policies and leaders, (ii) substantial institutionalized constraints on the exercise of power by the executive, (iii) the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation. The rule of laws, systems of checks and balances, freedom of the press, and other aspects of democracies are included, because they are considered specific means of these three elements. The democracy indicator ranges from 0 (minimum democracy) to 10 (maximum democracy).

Figures 2 and 3 show the values of the democracy indicator for the period 1800-2003 for China, Japan and India and for Malaysia, Thailand and South Korea respectively. Two results emerge: (i) China is characterized by the lowest absolute levels of the democracy indicator (scoring 1 from 1800 to 1950 and 0 from 1950 to 2003), Japan and India have a tradition of high democracy and

[2] Recently, Bernardi et al. (2006a) have investigated the following policy issues suggesting directions for reforms: the improvement of tax administration and the control of tax evasion, the development of fiscal federalism, the assessment of incentives in corporate taxation, the introduction of a pension system, the design of a personal income tax which would join redistributive aim to the mere efficiency goals. Fiscal decentralization is also crucial. Even India and China, giant countries, clearly difficult to be administered only at central level, have a low fiscal decentralization. Recent trends seem to move towards greater decentralization. Related to this, tax administration is another crucial area.

Korea, Thailand and Malaysia have recently reached high levels of democracy; (ii) China is characterized by the more stable trend with almost no variation (or a small negative variation) in the democracy indicator of the last two centuries, while the other countries, especially the ones which entered the mid-1990s with low levels of democracy, have experienced a certain variation of this indicator over time, mostly an ascendant path (see for instance Korea, Thailand and Malaysia).

In the remaining of the paper we empirically explore the relation between the evidence reported in Table 1 and the ones reported in Figures 2 and 3, i.e. the link, if it exists, between political regimes and the level and structure of taxation. We then discuss the implications for welfare.

[INSERT FIGURE 2]

[INSERT FIGURE 3]

2.2 The data

We construct a dataset to analyze the determinants of total fiscal pressure and of the level of revenue sources (personal income, corporate income, social security, goods and service, trade, property) in our six Asian countries for the period 1991-2002.

According to the standard literature (Musgrave 1969, Burgess and Stern 1993, Tanzi 1994, see also Bernardi et al. 2006b) the total fiscal pressure mainly depend on real per capita income (RPCI), the share of agriculture on GDP (AGR), the openness of the economy (OPE) and the debt/GDP ratio (DEBT). Data on total fiscal pressure are taken from Bernardi (2006b); data on the real per capita income, the openness of the economy and the share of agriculture on GDP come from U.N. Statistical Yearbook (vv. yy.) and data on the debt/GDP ratio are those provided by IMF International financial statistics (vv. yy.). Moreover, following Kenny and Winer (2006), we add to these variables the indicators of political regimes: democracy (DEMOC), autocracy (AUTOC) and a combined Polity score (POLITY), all coming from the Polity dataset (2002). DEMOC stays for institutionalized democracy and is conceived as three essential and interdependent elements as we already said above. The democracy indicator ranges from 0 to 10 and is derived from codings of the competitiveness of political participation, the openness and competitiveness of executive recruitment and constraints on the chief executive using different weights. AUTOC stays for instituzionalized autocracies, that is political systems whose common features are a lack of regularized political competition and concern for political freedoms. The autocracy indicator also ranges from 0 to 10 and is derived from codings of the competitiveness of political participation, the regulation of participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive using different weights. Finally, POLITY is computed by subtracting the AUTOC score from the DEMOC score: it ranges from +10 (strongly democratic political system) to -10 (strongly autocratic political system).

Summary statistics of all variables are in Table 2.

[INSERT TABLE 2]

2.3 The results

We first run a pooled OLS regression explaining the total fiscal pressure and then several OLS regressions explaining the share of revenue coming from the six main taxes. As in Kenny and Winer (2006), since each tax is part of the tax system in the country, as optimally decided by its government, the equations constitute a system of seemingly unrelated regressions. To reduce the heteroskedasticity problem due to differences across countries, we use Huber-White standard errors and we define dependent variables as total fiscal pressure as a fraction of GDP and each revenue as a percentage of total tax revenue. To ensure efficient estimations that preserve the adding up property of the coefficients, we use the same explanatory variables in each regression. They are: real per capita income (RPCI), the share of agriculture on GDP (AGR), the openness of the economy (OPE), the debt/GDP ratio (DEBT), the political regime (DEMOC, AUTOC or POLITY used once a time).

The result for the total fiscal pressure are in Table 3 and for the different revenue sources in Tables 4a and 4b.

[INSERT TABLE 3]

Table 3 shows that our regressions without fixed effects explain total fiscal pressure quite well (R^2 is more than 0.86), depending positively and significantly on real per capita income and democracy (or polity, and negatively on autocracy) and negatively on debt. Openness is also significant in the specification using democracy and polity. That real per capita income increases the total fiscal pressure is consistent with Wagner's law, and suggests that in these countries, which are growing fast, the total fiscal pressure is expected to increase. Kenny and Winer (2006) refer to this as a "scale" effect: as the government gets larger, more taxes are collected from each tax source. Openness has a positive sign, suggesting that imports are still a relevant tax handle. The debt/GDP ratio has instead a negative sign: the causality effect is here not clear, because if more indebted countries have lower taxation, they will need to enlarge their debt even more.

A crucial result is that democracy increases the total fiscal pressure while autocracy decreases the total level of taxation. This is consistent with the formal voting literature. Differently from the Chicago Political Economic School, this literature affirms that it would be possible to predict public policy starting from a measure of democracy. And this is in line with what argued by Boix (2003). When dealing with the link between democracy and the public sector, the author initially specifies that as the choice of a political regime depends on its distributive implications, the economic and fiscal consequences coming from a democracy or an authoritarian system must be different. Under a non-democratic regime the size of the public sector should be small, a substantial part of the electorate being excluded from the decision-making process. As a consequence, independently from the type of the economy, the level of redistributive spending should be minimal. A transition to democracy, on the contrary, should raise taxes and public spending. Under the same level of ex-ante inequality, the level of inequality ex-post has to be lower in a democracy than in a non democracy, i.e. the extent of redistribution increases.

Total fiscal pressure evolves over time in each country (see figure 1). To explain the within country variability, in column b of table 3 we add country fixed effects. Interestingly, the political regime (democracy, autocracy, polity) remains significant in explaining the total level of taxation and it is the only variable which remains significant. Even real per capita income is not significant any more, meaning that Wagner's law does not apply to explain differences within countries. Country dummies are jointly significant. In column c of table 3 instead we add time fixed effects. Again, the political regime remains significant in explaining the total level of taxation, but dummies for time effects are not significant.

Turning to the structure of taxation, Tables 4a and 4b show several interesting results[3].

[INSERT TABLES 4a AND 4b]

A general result is that a larger total fiscal pressure is associated with a larger amount of each revenue source (with the exception of trade taxes). This confirms the existence of a scale effect, as in Kenny and Winer (2006): as the government gets larger, more taxes are obtained from each tax source. In a political economy

[3] We do not include country fixed effects here, because our aim is exactly to identify the cross-country variation (as in Kenny and Winer 2006).

context, this effect arises because a larger government can be considered as a consequence of an exogenous increase in the benefits related to the provision of a specific public good, determining a raise in the total marginal political benefits. As total revenues grow, all bases are used more heavily. However, the reliance on the base associated with a relatively flat individual political cost function will grow relative to the others[4]. In our analysis, the political regime is especially significant in explaining the tax mix in our countries. More democracy induces more personal income taxation and less corporate income taxation, while more autocracy reduces the size of the personal income tax and increases the one of the corporate income tax. This result is in line with both the greater predisposition of socialist regimes for taxing private business and their lower emphasis on the use of personal income tax for redistribution (Musgrave 1969). These two facts are also underlined by Kenny and Winer (2006), but are not completely confirmed by their empirical analysis. Turning to indirect taxes, democracies are associated with larger trade taxes than autocracies, while there is no significant effect of the political regime on goods and services taxes. According to our results, in democracy also property taxes are higher than in autocratic countries. Moreover, more autocratic countries have lower social security contributions, while democracy is not significant at explaining the level of social security. This suggests that a necessary condition to introduce a welfare system seems to be the abolition of autocratic regimes, while once a democratic transition has happened, the level of democracy is not so crucial any more[5].

[4]The presence of total fiscal pressure among the explanatory variables may produce endogeneity problems. We have run the regressions omitting this variable and the results on the determinants of the tax mix remain very similar. Including total fiscal pressure may however be important in a context with different political regimes, because it reveals the presence of the scale effect.

[5]Notice that this is partly in line with the results of Mulligan et al. (2004). In their empirical comparison of democratic and non democratic public sectors, they consider the spending policy group consisting of government consumption, education spending and social spending (pension and non pension programs) as a percentage of GDP, and they find that democracy is not significant to increase none of these expenditures categories. However, when they consider as dependent variables different policies that might affect public office competition, erecting

Our results on the tax mix in democratic versus autocratic countries are consistent with several ideas developed in the literature. Musgrave (1969) argues that, since one of the main goal of individual taxation is to redistribute income or realize some social goal, more autocratic countries, which directly exercise more control on the economy in general, and on wages in particular, do not need this source of taxation. They instead rely more on corporate taxation, mainly state enterprise in socialist countries, for instance, or even private business, due to ideological reasons. This is however not consistent with the result in Mulligan et al. (2004), who find that income tax structures are flatter in democracies than non-democracies, which implies that redistribution is not more important in democracies than non-democracies. An alternative explanation of the different tax mix in democratic versus autocratic countries is offered by Wintrobe (1990), who suggests that, since democratic countries do not use repressive measures as governing instruments, they have to design tax systems that induce more voluntary tax compliance (see also de Juan et al. 1994, Pommerehne and Weck-Hannemann 1996, Alm 1996, Feld and Frey 2002). Mature democracies thus rely more on revenue sources, such as self-assessed personal income taxation, based on voluntary tax compliance, while more repressive governments that cannot rely on tax sources requiring a certain level of voluntary cooperation, such as personal income taxes, move toward corporate taxes or trade taxes[6].

3 Implications for Welfare

Our results on tax levels and tax structure in South and East Asian countries have important implications on the expenditure size. In particular, the low fiscal pressure is strictly related to the "light" welfare state. As already noted,

political entry barriers, democracies are less likely to use these anticompetitive policies than non democracies. The absence of these anticompetitive policies may be important for the development of a welfare state.

[6]Notice that while for personal and corporate taxes our results are consistent with this argument, for trade and property taxes they are not.

these countries, with the exception of Japan and South Korea, have almost no pension system. However, they are experiencing deep economic (growth), demographic (aging) and social changes (urbanization, family nuclearization, rise of female employment) which will require an increase of welfare expenditure. Is the political regime important also to this respect?

To answer this question, we narrow our attention on China, the most important example of a country without a developed welfare state. In China, recent reforms are trying to introduce a "light" welfare state, in particular a pension system, expected to raise step by step, but the democratization process is totally absent (see section 2.2). The public pension system, which typically represents the larger share of the welfare state in developed countries, is a very modest share of the economy, 3.5 percent of GDP in 2002. Official statistics report that only a small fraction of the Chinese workforce is currently part of the pension program: 55 percent of urban workers and only 11 percent of the rural workforce are covered by the public pension system and only 6 percent of workers in the private sector are covered by a pension scheme. However, "China is growing older" (Jackson and Howe 2004), as a combination of a falling fertility (due in part to the modernization policy and in part to the government control policy) and a rising longevity (due to the improvements of living conditions, especially in the urban areas). Additional risky circumstances, in particular the inability of state-owned enterprises (SOEs) to cover the pensions of current retirees, the underdevelopment of China's capital market and the deep social transformations, make the pension reform a critical component of China's overall economic reform and one of the main challenges for the development of its economy. Otherwise, China will be the first country to "grow old before to grow rich" (Jackson and Howe 2004). Some reforms of the pension system have already started (see Chen 2004), which suggest that China is moving its first steps toward the introduction of a welfare state, actually limited to new pension programs. The development of this process will be essential for China to become a prosperous developed country. However, the fact that this movement toward welfare is not joined by any democratization process, as predicted by the recent theories on democracy and development, may affect the overall Chinese development. According to Giavazzi and Tabellini (2005) and Persson and Tabellini (2006), China seems to follow the "hard path" of development by introducing economic liberalizations while still being autocracy. This way of proceeding is "hard" because democratic governments are more likely to pursue economic liberalizations compared to dictatorships. But, according to their empirical results, countries that first liberalize and then become democracies do much better in terms of growth, investment, trade volume and macro policies than countries that pursue the opposite sequence. Opening the economy may also mean securing the protection of property rights and enforcing rule of law, two prerequisites for a well-functioning democracy. Moreover Boix (2003) finds a growth on welfare state expenditure only after the introduction of a democratic system. The author also shows that under an authoritarian regime the public sector expands at a slower rate than under a democracy.

There are some fundamental problems for democratization in China. First, there exist massive internal differences, in particular huge income disparities between coastal areas and interior regions, which may lead to territorial conflicts and fragmentation (Boix 2003). The risk is that coastal areas may oppose democracy because this would lead to interregional redistribution towards the rural interior regions. However, it may also happen that an authoritarian regime will expropriate coastal areas. A pessimistic view would thus predict a separation of areas. Boix (2003) identifies the historical roots of non democracy in China with the existence of a unified empire, characterized by non mobile capital and inequality of income. Thus, provided that income inequality does not substantially change, together with fragmentation of areas, a democratic transition will be difficult to implement. Second, China is characterized by several barriers to political competition (torture, death penalty, press censorship, regulation of religion) which makes its political regime highly non democratic and very stable (Mulligan et al. 2004). Thus, economic liberalization may not be sufficient if political competition is not pursued, through the elimination of these constraints. Only after that, a democratic transition may be possible. While in the first phase of the economic development, i.e. after modernization, a rising welfare state (public expenditures and revenues) may not need a democratization process, we expect that the democratization process that will follow the economic modernization will be important for the design of an appropriate welfare system.

4 Conclusions

We have analyzed the tax system and tax structure of a sample of South and East Asian countries. We have stressed the role of the political regime in determining the total fiscal pressure, the tax mix and, related to this, the development of welfare expenditures.

Our empirical analysis is quite limited: many important factors may have been omitted, especially factors which affect the administrative costs of taxation (such as education level, federal structure, etc. see Kenny and Winer 2006). However, it represents the first applied study which combines economic and political factors to explain taxation and draw policy implications for a crucial developing area in the world. The results are quite interesting and suggest that the democratization process represents a crucial challenge for the Chinese development. In particular, while introducing economic reforms before political reforms China has reached outstanding economic performances under efficiency reasons, the democratization process may be crucial for better outcomes in terms of equity and distributive issues.

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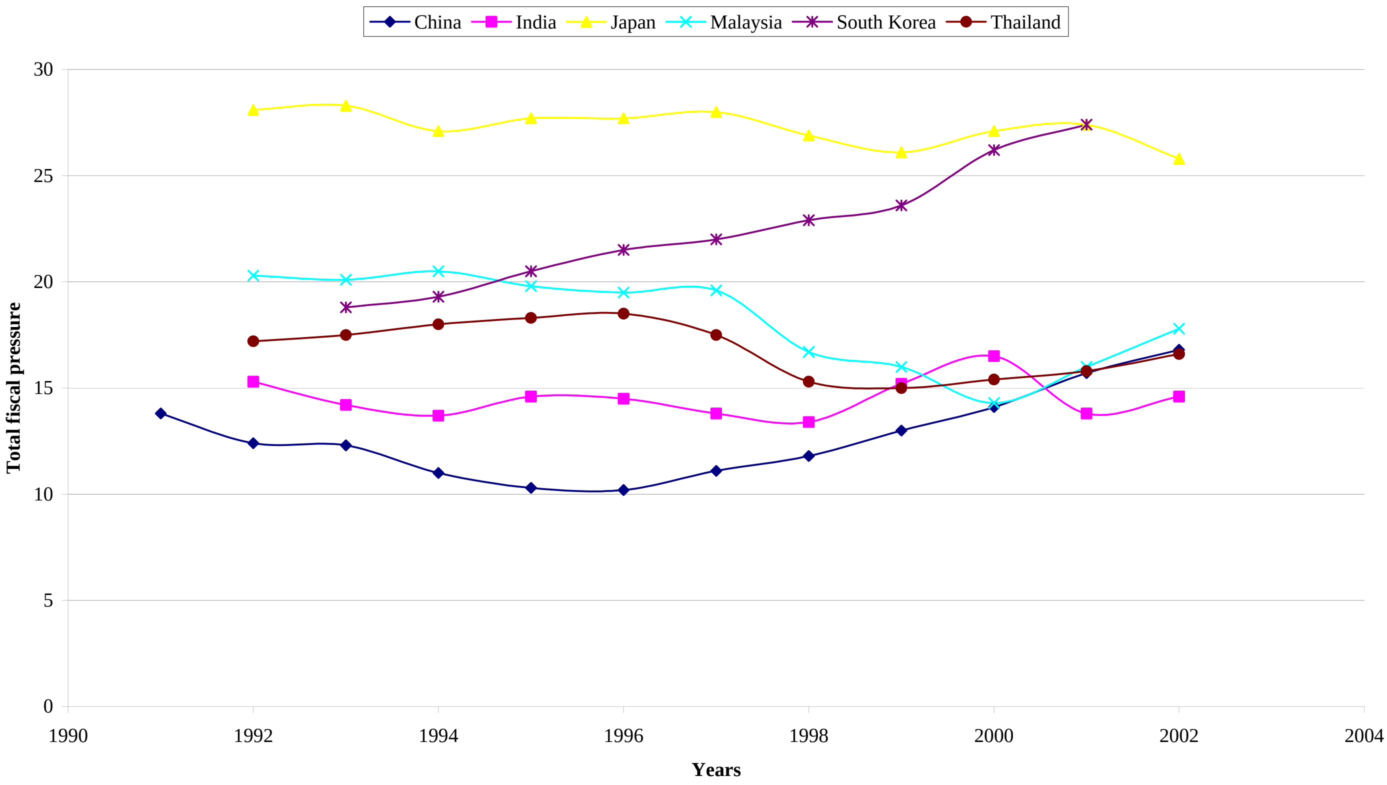
http://www.cidcm.umd.edu/inscr/polity/ - Polity dataset

Figure 1 The evolution of total fiscal pressure 1992-2002



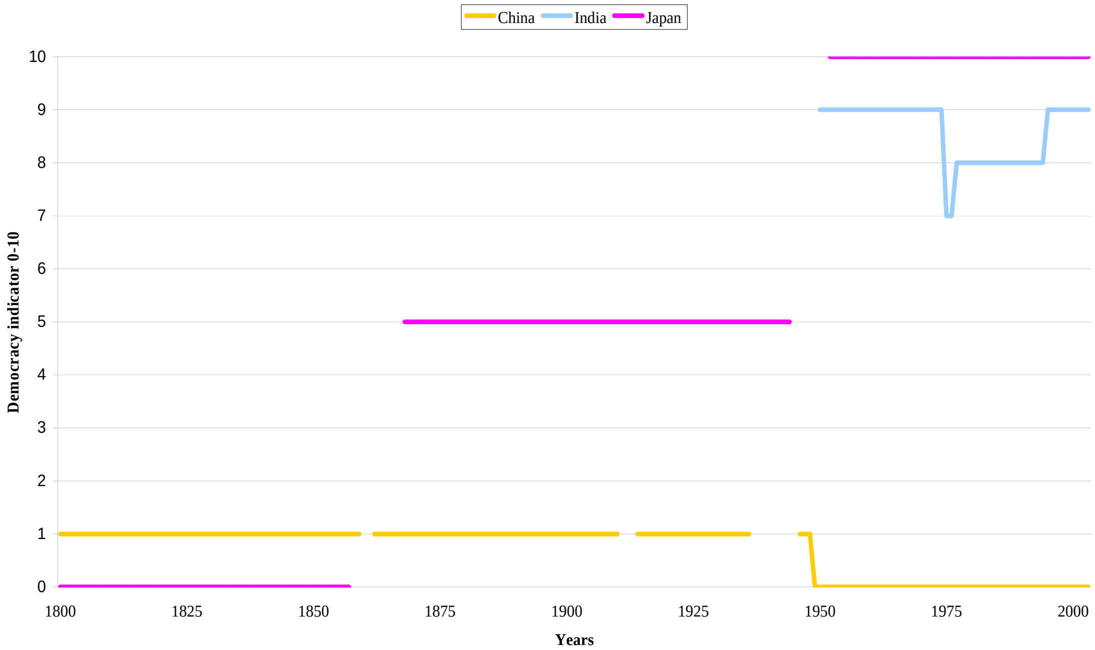
Source: Bernardi et al. (2006b)

Table 1 Structure and development of fiscal revenue in selected South and East Asia countries,1992-2002 (% of GDP)

	About 1992						*About 2002*					
	China	*India*	*Japan*	*Malaysia*	*South Korea*	*Thailand*	*China*	*India*	*Japan*	*Malaysia*	*South Korea*	*Thailand*
Direct taxes, of which:	*3.0*	*2.4*	*14.6*	*9.8*	*6.2*	*5.6*	*4.2*	*3.2*	*9.0*	*11.8*	*7.3*	*5.5*
personal income	0.0	1.1	8.1	n.a.	3.5	1.8	1.0	1.4	5.5	2.9	3.7	1.9
corporation income	2.7	1.2	6.5	n.a.	2.7	2.9	2.9	1.8	3.5	7.3	3.6	2.9
Indirect Taxes, of which	*8.5*	*12.3*	*4.0*	*9.8*	*9.2*	*11.2*	*11.3*	*10.7*	*5.2*	*5.0*	*10.9*	*10.5*
VAT-general consumption	2.6	-	1.3	n.a.	3.9	3.9	5.9	-	2.4	2.7	4.9	3.0
specific excises & sales taxes	2.6	8.8	2.2	n.a.	5.1	3.9	0.9	8.8	2.1	1.2	5.2	4.4
custom duties	0.8	3.3	-	-	-	3.0	2.3	1.8	-	1.0	-	1.8
Other taxes	*0.9*	*0.6*	*2.7*	*0.7*	*2.7*	-	*1.3*	*0.7*	*2.8*	*1.1*	*4.2*	-
Total taxes revenue	*12.4*	*15.3*	*21.3*	*20.3*	*18.1*	*16.8*	*16.8*	*14.6*	*17.0*	*17.9*	*22.4*	*16.0*
Social contributions	-	-	*8.7*	-	*1.0*	*0.2*	-	-	*10.3*	-	*5.0*	*0.6*
employers	-	-	4.5	-	0.7	0.1	-	-	5.1	-	2.8	0.3
employees	-	-	3.3	-	0.3	0.1	-	-	4.1	-	2.2	0.3
self-employed	-	-	1.0	-	-	-	-	-	1.2	-	-	-
Total fiscal revenue	*12.4*	*15.3*	*28.1*	*20.3*	*19.1*	*17.2*	*16.8*	*14.6*	*25.8*	*17.9*	*27.4*	*16.6*
Administrative levels												
Central government	3.2	7.4	13.1	n.a.	13.5	15.9	10.1	6.3	10.1	n.a.	16.4	13.9
Local government	9.2	7.9	7.8	n.a.	2.6	1.1	6.7	8.3	6.9	n.a.	5.5	2.1
Social Security	-	-	9.1	-	3.0	0.2	-	-	10.3	-	5.5	0.6

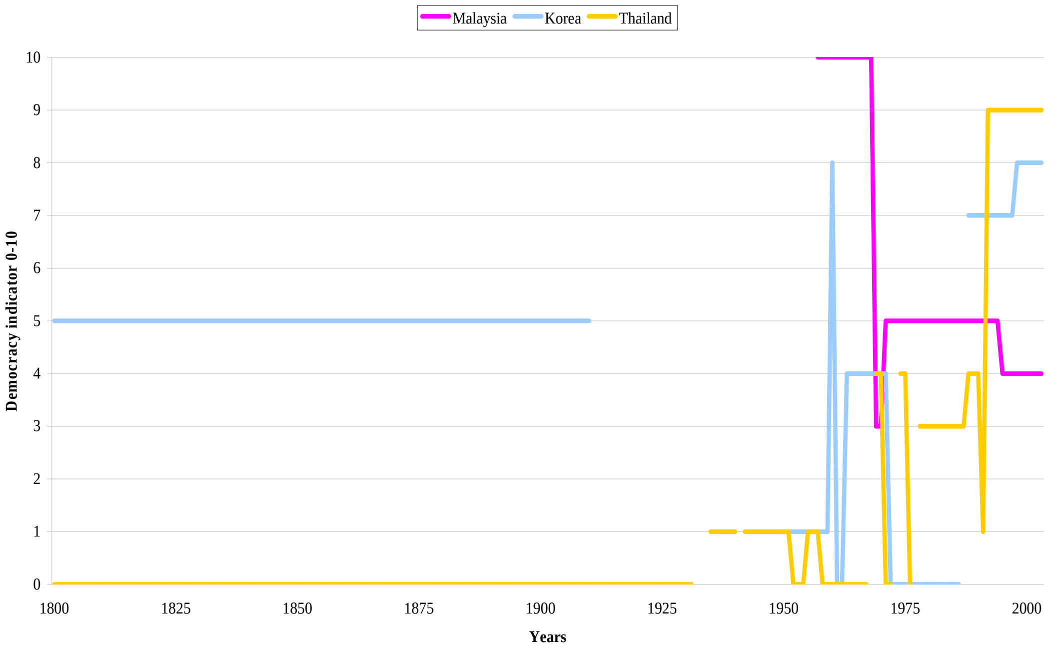
Source: Bernardi et al. (2006b)

Figure 2 Democracy in South and East Asia: China, India and Japan



Source: Polity dataset (2002)

Figure 3 Democracy in South and East Asia: Malaysia, Korea and Thailand



Source: Polity dataset (2002)

Table 2 Summary statistics of all variables

Variable	OBS	MEAN	STD. DEV.	MIN	MAX
COUNTRY	67	3,43	1,72	1	6
YEAR	67	1996,9	3,27	1991	2002
TFP	64	18,54	5,49	10,2	29,8
AGR	66	14,89	6,93	3,6	36,2
OPE	66	31,9	29,91	2,13	97,35
DEBT	66	43,82	25,57	8,8	134,7
DEMOC	67	6,52	3,58	0	10
AUTOC	67	1,49	2,62	0	7
POLITY	67	5,03	6,08	-7	10
PIT	44	2	1,67	0	5,9
CIT	44	2,4	0,95	1,2	4,2
DIRECT	56	5,69	2,88	2	11,8
SS	45	1,83	3,45	0	10,3
GS	50	7,42	1,9	3,3	10,9
TRADE	49	1,34	1,12	0	3,3
INDIRECT	53	9,16	2,19	4,2	12,6
PROP	45	0,97	1,16	0	3,2
OTH	29	0,63	0,65	0	2,2
NONTAX	33	2,91	1,33	0,8	5,7
RPCI	66	88812,77	12421,17	222,4	40644,9

Table 3 Total fiscal pressure and political regimes

	(1a) TFP	(1b) TFP	(1c) TFP	(2a) TFP	(2b) TFP	(2c) TFP	(3a) TFP	(3b) TFP	(3c) TFP
RPCI	3,9e-04 (2,7e-05)***	-8,72e-06 (7,51e-05)	3,8e-04 (3,62e-05)***	3,9e-04 (2,72e-05)***	1,4e-05 (9,9e-05)	3,8e-04 (3,52e-05)***	3,9e-04 (2,69e-05)***	2,9e-05 (8,7e-05)	3,8e-04 (3,6e-05)***
AGR	-0,0804 (0,06)	0,1334 (0,07)*	-0,1289 (0,08)	-0,0954 (0,06)	-0,0308 (0,04)	-0,1419 (0,08)*	-0,0862 (0,06)	0,0998 (0,05)*	-0,1334 (0,08)*
OPE	0,0291 (0,01)*	0,0279 (0,06)	0,0258 (0,01)*	0,0132 (0,01)	-0,0821 (0,05)	0,0088 (0,01)	0,0227 (0,01)*	-0,0026 (0,05)	0,0191 (0,01)
DEBT	-0,0293 (0,01)*	0,0022 (0,01)	-0,0254 (0,03)	-0,0302 (0,01)*	-0,0102 (0,01)	-0,0277 (0,03)	-0,0298 (0,01)*	-0,0009 (0,01)	-0,0266 (0,03)
DEMOC	0,2967 (0,08)***	3,2414 (0,76)***	0,3149 (0,08)***						
AUTOC				-0,4498 (0,11)***	-5,9469 (1,29)***	-0,4865 (0,12)***			
POLITY							0,1808 (0,05)***	2,5486 (0,45)***	0,1934 (0,05)***
COUNTRY FIXED EFFECTS		YES (jointly signif.)			YES (jointly signif.)			YES (jointly signif.)	
TIME FIXED EFFECTS			YES (not signif.)			YES (not signif.)			YES (not signif.)
number of observations	63	63	63	63	63	63	63	63	63
(countries)	6	6	6	6	6	6	6	6	6
R-square	0,86	0,92	0,89	0,87	0,93	0,89	0,87	0,93	0,89

Notes: all variables are explained in text. Robust standard errors in brackets. * means significant at 10%; ** significant at 5%; *** significant at 1%. Regressions b and c include country or time fixed effects respectively.

Table 4a Structure of taxation and political regimes

	(1) PIT			(2) CIT			(3) SS		
RPCI	7,1e-05 (1,01e-05)***	7,7e-05 (9,83e-06)***	7,4e-05 (9,96e-06)***	2,3e-05 (1,9e-05)	1,4e-05 (1,9e-05)	1,9e-05 (1,9e-05)	9,4e-05 (8,2e-05)	1,5e-04 (7,6e-05)*	1,3e-04 (8,7e-05)
AGR	-0,0306 (0,01)**	-0,0348 (0,01)**	-0,0325 (0,01)**	0,0237 (0,02)	0,0318 (0,02)	0,0273 (0,02)	-0,0516 (0,2)	-0,0735 (0,09)	-0,1160 (0,16)
OPE	0,0004 (4,7e-03)	-2,9e-04 (4,3e-03)	3,7e-05 (4,5e-03)	0,0314 (8,8e-03)***	0,0344 (8,3e-03)***	0,0328 (8,5e-03)***	-0,0157 (0,02)	-0,0168 (0,02)	-0,0144 (0,02)
DEBT	-0,0039 (2,4e-03)	-3,5e-03 (2,2e-03)	-0,0038 (2,35e-03)	-0,0029 (4,6e-03)	-0,0025 (4,3e-03)	-0,0027 (4,4e-03)	0,0236 (0,01)	0,0218 (5,4e-03)**	0,0186 (0,01)
TFP	0,1216 (0,02)***	0,1059 (0,02)***	0,1146 (0,02)***	0,1333 (0,05)**	0,1590 (0,04)***	0,1413 (0,04)**	0,3853 (0,12)**	0,2662 (0,12)*	0,3170 (0,13)*
DEMOC	0,0962 (0,02)***			-0,0925 (0,03)**			0,5199 (0,92)		
AUTOC		-0,1312 (0,02)***			0,1450 (0,04)***			-1,9853 (0,84)*	
POLITY			0,056 (9,72e-03)***			-0,0573 (0,02)**			0,6457 (0,49)
number of observations	43	43	43	43	43	43	43	43	43
(countries)	6	6	6	6	6	6	6	6	6
R-square	0,97	0,97	0,97	0,70	0,73	0,71	0,98	0,99	0,99

Notes: all variables are explained in text. Standard errors in brackets. * means significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4b Structure of taxation and political regimes

	(4) GS			(5) TRADE			(6) PROP		
RPCI	-2,6e-04 (2,2e-05)***	-2,6e-04 (2,3e-05)***	-2,6e-04 (2,3e-05)***	-7,3e-05 (1,8e-05)***	-6,7e-05 (2e-05)**	-7e-05 (1,9e-05)***	2,4e-05 (1,3e-05)*	3,1e-05 (1,2e-05)*	2,7e-05 (1,2e-05)*
AGR	-0,0385 (0,02)*	-0,0419 (0,02)*	-0,0399 (0,02)*	0,0768 (0,02)***	0,0779 (0,02)***	0,0770 (0,02)***	-0,0294 (0,01)*	-0,0356 (0,01)**	-0,0321 (0,01)*
OPE	-0,0470 (0,01)***	-0,0498 (0,01)***	-0,0482 (0,01)***	0,0120 (8,4e-03)	0,0156 (8,9e-03)*	0,0135 (8,7e-03)	-0,0244 (5,8e-03)***	-0,0265 (5,4e-03)***	-0,0254 (5,7e-03)***
DEBT	5,4e-03 (5,3e-03)	4,1e-03 (5,2e-03)	4,8e-03 (5,3e-03)	7,9e-04 (4,4e-03)	3,3e-03 (4,6e-03)	1,9e-03 (4,5e-03)	-0,0116 (3,1e-03)***	-0,0118 (2,8e-03)***	-0,0118 (2,9e-03)***
TFP	0,4258 (0,05)***	0,4191 (0,06)***	0,4234 (0,05)***	0,0132 (0,04)	0,0071 (0,05)	9,5e-03 (0,05)	0,1486 (0,03)***	0,1285 (0,03)***	0,1399 (0,03)***
DEMOC	-0,0484 (0,04)			0,1790 (0,03)***			0,0795 (0,02)***		
AUTOC		0,0403 (0,05)			-0,2033 (0,04)***			-0,1209 (0,03)***	
POLITY			-0,0231 (0,02)			0,0959 (0,02)***			0,0486 (0,01)***
number of observations	43	43	43	43	43	43	43	43	43
(countries)	6	6	6	6	6	6	6	6	6
R-square	0,83	0,83	0,83	0,81	0,78	0,80	0,91	0,92	0,91

Notes: all variables are explained in text. Standard errors in brackets. * means significant at 10%; ** significant at 5%; *** significant at 1%.