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by

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**Department of Economics
SCAPE Working Paper Series
Paper No. 2008/03 - March 2008**
<http://nt2.fas.nus.edu.sg/ecs/pub/wp-scape/0803.pdf>

Economic Openness, Disciplined Government and Ethnic Peace

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March 2008

ABSTRACT

Many studies have examined the determinants of ethnic conflicts in multi-ethnic developing countries and report a myriad of contributory factors. It is natural to observe many correlates because ethnic wars tend to gain their own momentum and proceed for variety of reasons that are not directly related to the initial causes. Some intervention is necessary to end an ethnic war. The objective of this exercise is to draw attention to conditions necessary to sustain ethnic peace. Good governance and high and shared growth often top the list of conditions necessary to achieve ethnic peace. How to get good governance to developing countries is the key question of interest. To long for an enlightened leader to emerge and set every thing right is utopian. In this exercise we argue that openness to foreign trade and investment is a more assured condition to achieve good governance and high growth. Openness acts as a disciplining force on governments regardless of whether they are democratic or authoritarian. A theoretical framework and empirical evidence are presented to support the hypothesis.

Key words: Openness, disciplined government, quality of governance, growth, ethnic conflict, feedback loop

JEL: F41, H56, O10

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The authors would like to thank Chan Kok Hoe, Anthony Chin, Kaliappa Kalirajan, Basant Kapur, Gamini Premaratne, and Partha Sen for their useful comments on an earlier draft of this exercise.

1. Introduction

Like sparks that remain buried under a pile of ash, ethnic tension is a dormant spark that awaits fuelling in multi-ethnic societies. It is all too well known how ethnic conflicts¹, once ignited, engulf and destroy peaceful lives, scar ethnic relationships over many generations and become hard to contain without mammoth efforts. There is a growing literature that focuses on the determinants of ethnic conflicts and wars. The objective of our exercise, however, is to draw attention to examining the conditions necessary to sustain ethnic peace. This is important because when ethnic peace breaks down and escalates into an ethnic war, the war may gain its own momentum and continue for reasons unrelated to the initial causes of the conflict. Even if such a war comes to an end through some interventions, there is no guarantee that lasting ethnic peace will emerge if the necessary conditions for peace are absent.

This exercise was motivated by the experience of Malaysia and Sri Lanka. Both countries are democracies, have practiced ethnic preference policies² and experienced racial riots. Although Sri Lanka's ethnic preference policies were relatively mild and Sri Lanka had a head-start in terms of socio-economic development, Sri Lanka failed to sustain ethnic peace and got embroiled in a crippling separatist war that came to surface in 1983. Malaysia, on the other hand, has so far managed ethnic peace successfully. In fact, any one predicting the ethnic future of the two countries would have predicted a more

¹ We use the term ethnic tension broadly to refer to ethno-linguistic-religious tension. Ethnic conflict refers to an armed conflict.

² Many countries, including developed ones, have put in place affirmative action plans to redress some disparities that were created by historical circumstances. If the outcome is not Pareto improving (i.e., make the targeted group better off without making other groups worse off) they become discriminatory.

turbulent ethnic climate for Malaysia than for Sri Lanka. A careful examination of the policies and performance of the two countries point in the direction that it was the open economy that helped Malaysia move forward despite the constant presence of ethnic tension in the country, and it was the import substitution (closed economy) policies that paved the way for the ethnic conflict in Sri Lanka. Poverty and relative deprivation became a breeding ground for both ethnic and communist rebellions in Sri Lanka.³ The experiences of the two countries prompt us to place openness to foreign trade and investment as one of the most assuring conditions, where possible, for ethnic peace in developing multi-ethnic countries because it ensures not only growth by promoting the private sector but it also acts as a disciplining force of on the government. This is the hypothesis that we set out to test in this exercise.

The quality of governance needs some discussion at the outset. There is a large literature that blames governments for failures in the developing world, and discussions are abound why good governance is essential for development and ethnic peace. Although the policy makers are responsible for formulating and implementing good policies, there is no mechanism in closed economies to keep the policy makers under check. Even the most promising leaders in closed economies have failed to bring about the changes they desired because of over-powering bureaucracies. Obviously a determined leadership is required to make a change. The leaders who have succeeded in opening the economies have managed to create, perhaps slowly, more responsible bureaucracies. Once set in

³ Armed communist uprising in Sri Lanka occurred in 1971. This created a precedence for ethnic rebellion. Although Sri Lanka embarked on a private-sector driven open-economy policy in 1977 and repealed many discriminatory policies, it came too late for the country; the ethnic tension had already given way to the formation of rebellion groups.

motion, openness appears to generate a sustaining feedback loop between government policies and the country's socio-economic environment that will bring about economic growth and ethnic peace. Policy makers in this setting are more likely to implement socio-economic policies that harness ethnic peace and share the growth dividends.⁴ (We follow up on this further in Section 3.)

After a brief literature survey in Section 2, we will present a theoretical framework in Section 3 and provide regression results in Section 4 from panel estimation of a three-equation model for growth, quality of governance and ethnic conflict as the endogenous variables. A results summary is provided in the concluding section.

2. Recent Literature on Ethnic Conflicts

Collier and Hoeffler (2007) provide a substantive summary of the literature on civil wars. They point out that the study of civil war is dominated by political scientists. Nevertheless, these studies in general have focused on three broad categories of determinants of ethnic conflicts (Collier et al. 2003). The studies that emphasize *economic factors* have focused on issues like poverty, economic inequalities and legacies of colonialism. The studies that emphasize *political factors* have focused on issues like the lack of democracy and opportunities for a peaceful resolution of political disputes. The studies that emphasize *cultural factors* have focused on issues like longstanding ethnic and religious animosities. As a background for our study, in the next three sub-

⁴ Singapore is a classic example in this regard. Although circumstances pushed Singapore to adopt open economy policies and the leadership deserves full credit for its quality of governance, we often forget the role that Singapore's global dependence played in disciplining the country's single-party government. China and India are two recent examples where openness is playing a highly disciplining role on the government and bureaucracies.

sections we highlight the findings of some recent studies, especially those which have attempted to provide some quantitative analyses. It should be noted that there is a substantial overlap in some of these studies with regard to the three types of factors.

Economic Factors

Many studies have looked into how growth is affected by civil conflicts and how civil conflicts depend on economic factors. As for the former type, the empirical growth literature has been growing at a rapid rate and some of these studies have examined how conflicts affect growth. Barro and Lee (1994) estimate an endogenous growth model that includes either the occurrence or the duration of a civil war as an additional explanatory variable. They found that the occurrence of civil war has a negative but statistically insignificant effect on the growth rate and the duration of the war has a positive but statistically insignificant effect on growth. Sala-I-Martin (1997) on the other hand found a statistically significant negative effect of the incidence of war on growth. Using an augmented neoclassical growth model Mankiw et al. (1992) found that the incidence of a civil war has a moderately negative impact on per capita income and substantially negative impact on the growth rates of per capita income in the neighboring countries. They further found that the greater the intensity of the civil conflict, the greater the spatial spillover effects. Easterly and Levine (1997) found that ethnically diverse societies have slower economic growth and more political instability than ethnically homogeneous societies.

As for how economic factors affect conflicts, we try to summarize the literature under some broad themes. A number of studies have emphasized that high growth and development reduce the incidence of civil conflicts (Boswell and Dixon (1990), Muller and Weeds (1990), Gurr (1994)). Fearon and Laitin (2000) argue that the determinants of insurgency are mainly economic, not political. They find that primordialism, nationalism, and cultural or civilizational cleavages have no explanatory power as determinants of either the magnitude or the prevalence of civil wars. They find economic growth, rather than the lack of it, to be the most salient determinant of civil war prevalence. They also assert that a civil war will occur when its opportunity cost is low and that the lack of democracy and ethnic fragmentation are statistically insignificant correlates of civil conflicts.

Evidence provided by Collier and Hoeffler (1998, 2001) shows that ethnic conflicts in Africa are mainly due to poor economic performance. They argue that, civil wars in Africa are fundamentally driven by lack of economic opportunities rather than by political or other grievances such as repression against particular social groups. Findlay (1996) observes that economic growth and effective governance have led to a decline in internal ethnic conflicts in Malaysia since the 1970s while poor economic growth, among other things, in the Philippines and Burma has allowed their internal conflicts to persist.

Apart from economic growth, some have emphasized other economic factors such as inflation, unemployment, and natural resource dependence as contributory factors to ethnic conflicts. Gurr and Duvall (1973) argue that high inflation and unemployment levels induce uncertainty within different societal groups that will lead to ethnic tensions

and conflicts. Franzosi (1989) argues that political strikes vary directly with high levels of inflation and unemployment, although the relationship may be co-relational rather than causal. Balasuriya (1978), Silva (1997), Herath (2002), and Abeyratne (2004) have also emphasized unemployment as the major issue that affected inter-ethnic relations in Sri Lanka. Among those who have argued that developing countries which depend heavily on natural resources face a high risk of civil wars are Collier and Hoeffler (1998, 2001), Berdal and Malone (2000), Fearon (2001), De Soysa (2002), Elbadawi and Sambanis (2002), Collier et al. 2003, and Fearon and Laitin 2003).

Some researchers have looked into the relationship between openness and civil conflicts. Sachs and Warner (1995) argued that the foreign economic liberalization is welfare enhancing. Their cross-national comparison shows that developing countries that are economically open experience higher rates of economic growth and are more likely to avoid ethnic conflict than countries with closed economies. Bussmann and Schneider (2003) find that long-term trade openness reduces the likelihood of armed conflicts. According to them free trade has a conflict-reducing effect and that it can affect the preferences and norms of conflict regulations. Moreover, they did not find any evidence to suggest that the process of trade liberalization lead to an increase in political instability.

Political Factors

There are many studies that explain political factors as the main cause of ethnic conflicts in multi-ethnic countries. Elbawadi and Sambanis (2000) using a large cross-country

panel data set found that the relatively higher prevalence of war in Africa is attributable to high levels of poverty, failed political institutions, and economic dependence on natural resources. They argue that the best and fastest strategy to reduce the prevalence of civil war in Africa and prevent future civil wars is to institute democratic reforms. In subsequent papers, Elbadawi and Sambanis (2002) found that democracy is negatively associated with ethnic conflict and ethnic conflict is positively associated with ethnic fractionalization. Sambanis (2001) argues that identity wars are predominantly due to political grievance rather than lack of economic opportunity. Sambanis also found that living in a bad neighborhood with undemocratic neighbors or neighbors at war, significantly increases a country's risk of experiencing a civil conflict.

Henderson and Singer's (2000) results of a logistic regression analyses corroborate previous findings that the semi-democracies are prone to high risk of civil wars. Their findings suggest that a multifaceted strategy of full democratization and economic development is required to reduce the likelihood of civil war in post colonial states. Similarly Hegre et al. (2001) found that middle-level democracies are more prone to civil war than high level democracies and high level autocracies. According to them, coherent democracies and harshly authoritarian states have few civil wars, and intermediate regimes are the most conflict prone. Reynal-Querol (2001) analyzed the role of political systems in preventing ethnic conflicts. She argues that the establishment of consociational democracies can prevent ethnic wars which originated from religious differences.

Cultural Factors

Some of the researchers cited above have also incorporated socio-cultural factors into their investigations. Horowitz (1985) argued that the relationship between ethnic diversity and civil war is not monotonic: there is less violence in highly homogeneous and highly heterogeneous societies and more conflicts in societies where a large ethnic minority faces an ethnic majority. Easterly and Levine (1997) argued that ethnic diversity has had a particularly negative impact on economic outcomes in Sub-Saharan Africa. Fearon and Laitin (2000), focusing on prevalence and conflict magnitude, found no evidence of a significant association between risk of civil war and the degree of ethnic heterogeneity.

Collier and Hoeffler (1998) using an index of ethno-linguistic fragmentation (ELF) found that more fragmented societies are not more prone to civil wars than the rest, but that the danger of civil war increases when society achieves mid level values of the index. They used the concept of ethnic fragmentation as a proxy for the coordination costs of a rebellion. The argument is that the greater the ethnic fragmentation the greater the coordination costs and the lower the risk of an onset of civil war. Their empirical analysis showed that ELF is actually not a significant determinant of the onset of civil war; whereas ethnic dominance significantly increases the risk of civil conflict.

Ellingsen (2000) and Elbawadi and Sambanis (2000, 2002) have found that ethnically polarized societies have a higher risk of suffering a civil war than homogeneous societies. Elbawadi and Sambanis examined the impact of ethno-linguistic and religious

fractionalization on the probability of violent conflict. They found that the net effect of ELF on the incidence of civil war was an additive sum of its influence on the war onset and war duration. Ethnic fractionalization was positively, robustly, and non-monotonically associated with the probability of war incidence. Reynal-Querol (2002) found that religious divisions are more important than language divisions and natural resources in explaining ethnic conflicts.

3. Analytical Framework

A game theoretic model that Gershenson and Grossman (2000) developed provides a useful starting point for our exercise. Using a contest-success function they presented a framework to examine whether an ethnic conflict between two groups ends or never ends. Instead of their formulation where each group is trying for political dominance we can recast the model within a framework where the majority (MA) group is trying for political unity of the country while the minority (MI) group is trying for political independence. The set of possible outcomes that emerges from this exercise are summarized in Figure 1. In the figure, X_{MA} is the value that the majority ethnic group attaches to retaining political unity of the country in the next period, X_{MI} is the value that the minority ethnic group attaches to gaining political independence in the next period, and the nonnegative technological parameter θ measures the effectiveness of spending by the minority ethnic group in challenging the political option of the majority relative to the effectiveness of spending by the majority ethnic group in defending its political option.

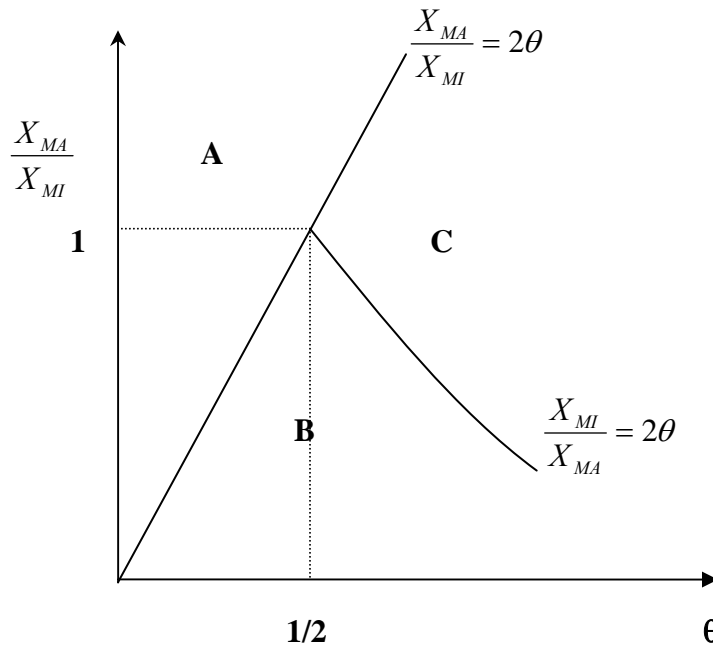


Figure 1: Ethnic peace or conflict

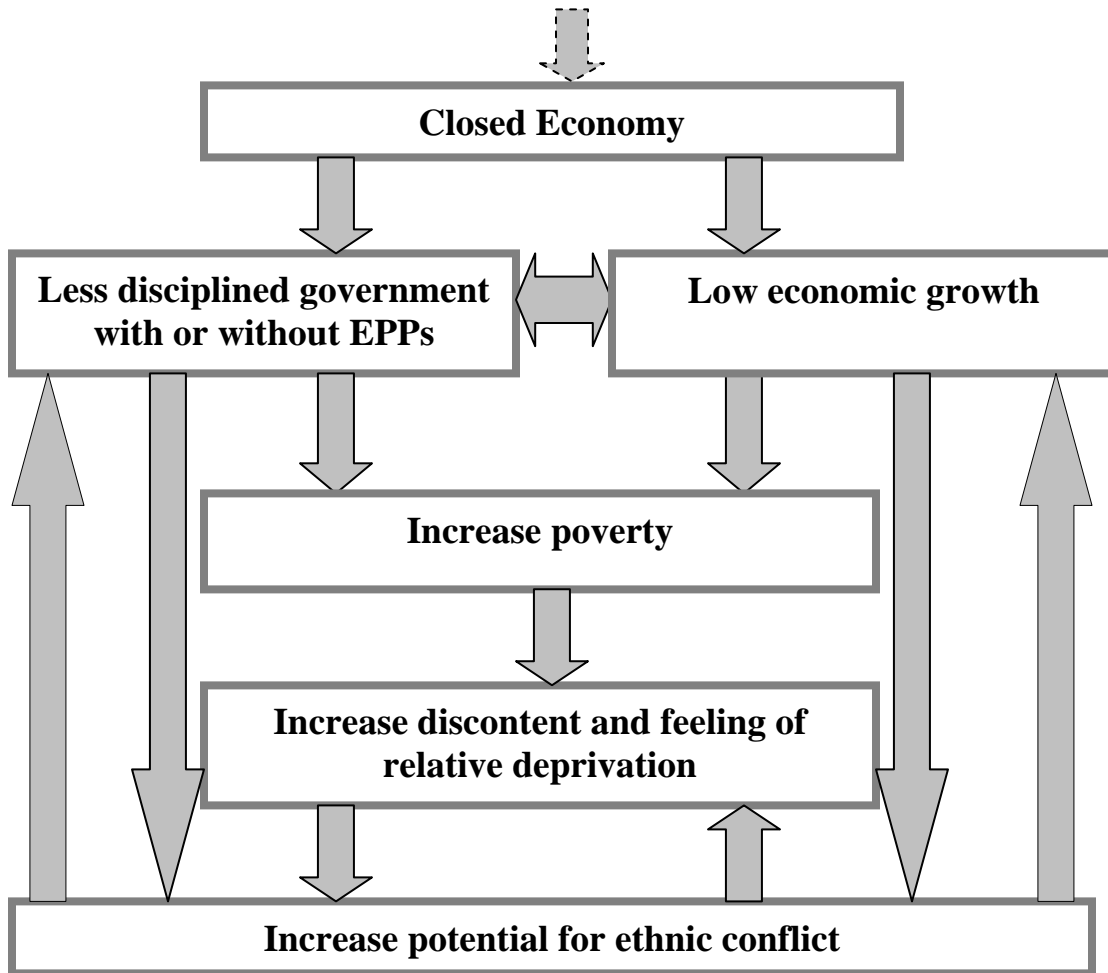
Area A in Figure 1 represents ethnic peace with no conflict. This is achieved when $(X_{MA} / X_{MI}) \geq 2\theta$, which requires X_{MA} to be sufficiently large relative to X_{MI} or θ to be sufficiently small. In this case the minority ethnic group agrees with the majority to stay in political unity. Area B represents ethnic conflict that ends whenever the minority group succeeds in gaining political independence. This happens if $(X_{MA} / X_{MI}) < 2\theta \leq (X_{MI} / X_{MA})$. The first part of the inequality indicates that so long as the majority group holds on to keeping political unity, the conflict will continue because both the value that the minority group attaches to independence (X_{MI}) and its relative technological effectiveness (θ) are large. The second part of the inequality indicates that the conflict ends when the majority agrees with the political-independence option of the

minority. Area C represents a never ending conflict. This happens if $(X_{MA} / X_{MI}) < 2\theta$ and $(X_{MI} / X_{MA}) < 2\theta$, that is when X_{MA} is neither too large nor too small relative to X_{MI} and $\theta > 1/2$. In this case neither ethnic group accepts the political option of the other group.

One problem with the Gershenson-Grossman model is that its implications cannot be tested directly because it centers on quantities that are difficult to measure. The other difficulty is that its static framework does not entail the evolution of the quantities X_{MA} and X_{MI} that may allow for the possibilities of moving from areas B or C to A or from C to B (Figure 1). To extend the model to the framework that we are interested in, we assume that X_{MA} is a positive function of the economic well-being of the majority group and X_{MI} is a negative function of the economic well-being of the minority group. If both the majority and the minority are economically well-off then each group has too much to lose if a conflict arises and the desire to achieve ethnic peace increases. This means the condition for ethnic peace (a high value of the ratio X_{MA}/X_{MI}) can be sustained relatively easily.

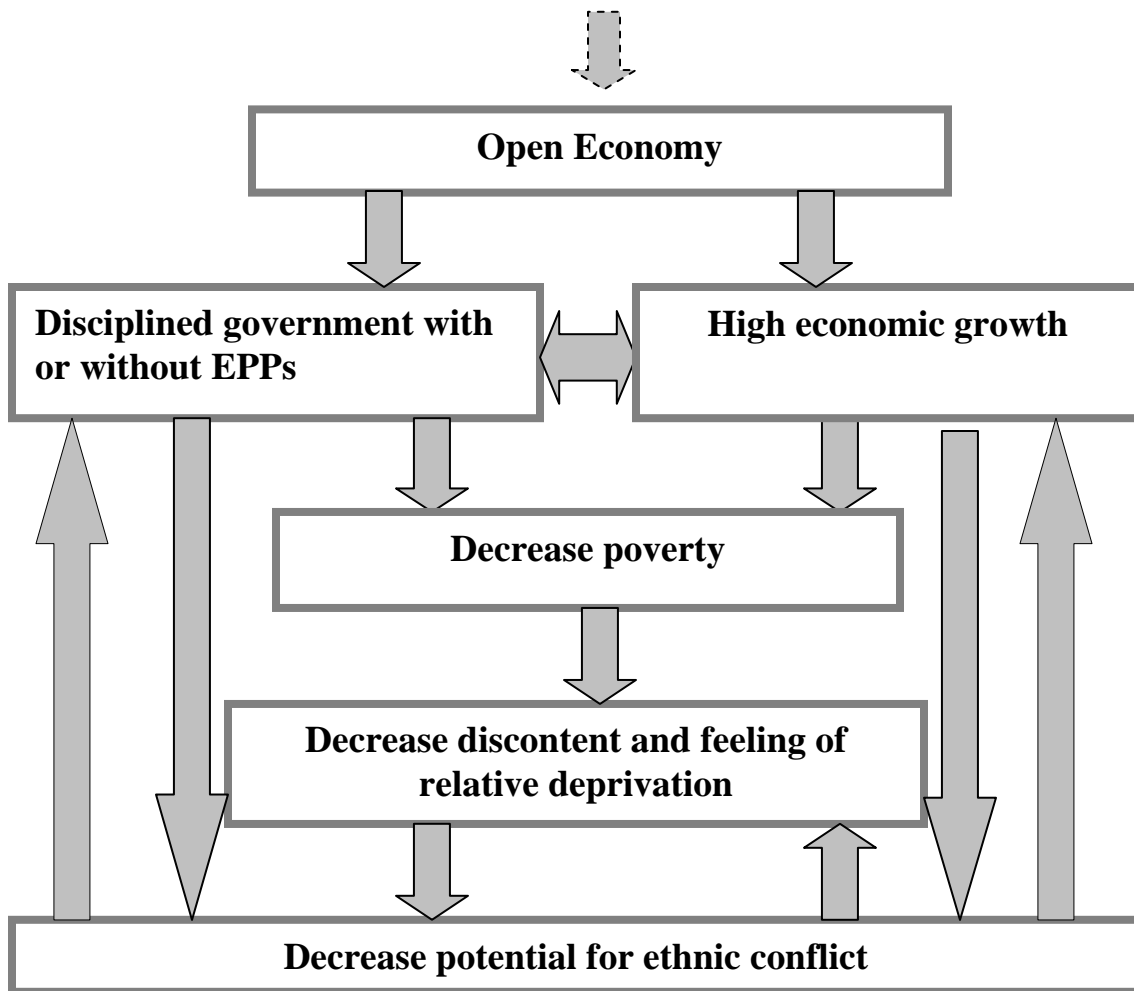
The economic well-being depends on economic growth and development of a country, which in turn depends on effective government policies. The biggest challenge many developing countries face is effective governance. As we have argued in the introductory section, an effective way to bring about effective governance is to keep the country open to foreign trade and investment and let the private sector thrive. The experience of a number of countries indicates that openness is very likely to bring about a disciplined

government regardless of whether it is democratic or authoritarian. Inter-linkages that take place in a closed economy and an open economy are depicted in Figures 2 and 3.



Note: EPP = ethnic preference policies

Figure 2: Closed economy and ethnic conflict



Note: EPP = ethnic preference policies

Figure 3: Open economy and ethnic peace

In the two figures the dotted arrow at the top indicates that a closed economy or an open economy is a result of some policy decision of the government. The government provides the legal and institutional framework for closed or open economies. Although the government sits at the top, we do not consider its behavior to be an exogenous entity. As we have shown in the figures, the behavior of the government is endogenously

determined by what is happening in the economy. Stated in different terminology, the feedback links of the government's policy reaction function depends on the type of economy in operation. In these figures there are three key endogenous variables that we are interested in, economic growth, quality of the governance, and ethnic peace or conflict.

As for Figure 2, we do not have to re-iterate how closed developing economies in the world have failed miserably to generate sufficient growth to uplift the masses from abject poverty levels. These countries also have endured the presence of highly bureaucratic and corrupt governments regardless of whether they are democracies or authoritarian states. Poverty, relative deprivation and discontent especially in the presence of ethnic preference policies become the breeding ground for ethnic tension and conflicts.

The virtuous feedback loop highlighted in Figure 3 shows how a private sector driven open economy acts as a disciplining force on the government. Initially a determined leadership is required to go against vested interests of the bureaucracy and lobby groups and to liberalize the economy and open it to foreign trade and investment. As the country gathers growth momentum the government becomes more and more responsive and will strive hard to provide a stable political environment for the proper functioning of the economy. This may include a whole plethora of measures that will uplift the living standards of the masses. It is also in the self interest of the government officials to pursue such policies because, unlike the closed-economy case, prosperity opens up avenues to enhance their own wealth accumulation through *legal means*. As the economic well being

improves across the ethnic groups, the opportunity cost of rebellious activities increases. Moreover, as the standard of living improves, the demand for democracy increases and the political institutions may become more and more democratic. This allows for increased political participation and, therefore, channeling grievances into non-confrontational forums. Overall, the probability of sustaining ethnic peace is likely to increase substantially in an open economy. In other words, the value the minority group attaches to political independence is likely to decrease substantially, leading to a high ratio of X_{MA}/X_{MI} that was required in the Greshenson-Grossman model to avoid ethnic conflicts.

4. Empirical Analysis

In this section we subject the above formulation to an empirical test by estimating a three equation model to assess how growth, quality of governance, and ethnic conflict respond to openness after controlling for some standard determinants. The three equations for a panel specification are:

Openness and economic growth

$$GROWTH_{it} = \alpha_{0i} + \alpha_1 OPEN_{it} + \alpha_2 QG_{it} + \alpha_3 PCAP_{it} + \alpha_4 HCAP_{it} \\ + \alpha_5 POPG_{it} + \alpha_6 INF_{it-1} + \alpha_7 DEMO_{it} + \alpha_8 ELF_{it} + u_{1it}$$

Openness and quality of governance

$$QG_{it} = \beta_{0i} + \beta_1 OPEN_{it} + \beta_2 GROWTH_{it-1} + \beta_3 INF_{it-1} + \beta_4 DEMO_{it} + \beta_5 POP_{it} + u_{2it}$$

Openness, quality of governance, economic growth and ethnic conflict

$$\begin{aligned} CONFLICT_{it} = & \gamma_{0i} + \gamma_1 OPEN_{it} + \gamma_2 GROWTH_{it-1} + \gamma_3 QG_{it} + \gamma_4 INF_{it-1} \\ & + \gamma_5 POP_{it} + \gamma_6 DEMO_{it} + \gamma_7 DEMO_{it}^2 + \gamma_8 ELF_{it} + \gamma_9 ELF_{it}^2 + u_{3it} \end{aligned}$$

where, for quick reference, GROWTH = GDP growth rate (log first difference of GDP), OPEN = openness, QG = quality of governance, PCAP = physical capital, HCAP = human capital, POP = logarithm of population size, POPG = population growth (log first difference of POP), INF = inflation rate, DEMO = democracy, CONFLICT = ethnic conflict, ELF = ethno-linguistic fractionalization. Note that we use the lagged values of INF in all the equations and GROWTH in the second and third equations to avoid simultaneity problems. A detailed description of these variables, the expected sign of their coefficients and data sources are given below.

We use two measures of openness to assess the robustness of the relationship that we focus on. One is the commonly used trade-GDP ratio, data taken from the Penn World Tables (PWT, Version 6.1) (Summers et al. 2002). The other is a more comprehensive measure called “composite trade openness index” developed by Gwartney et al., (2001). This index closely captures the legal and institutional framework of openness that we have defined as openness in our exercise. It is estimated from the following indicators: revenues from taxes on trade as a share of the trade sector, mean tariff rate, standard deviation of tariff rates, composite tariff rating, difference between the official and black market exchange rate, restrictions on capital transactions with foreigners, and actual size relative to the expected size of the trade sector. Each indicator is given a value from 0 to

10 and the index is set to range from 0 to 10; the larger the value the higher is the openness of a country. As we have argued earlier we expect a positive effect of OPEN on GROWTH and QG and a negative effect on CONFLICT.

Economic growth is measured by the annual growth rate of per capita real GDP taken from the World Bank publication World Development Indicators (WDI). We use a corruption index (taken from the site countrydata.com) to proxy quality of governance (QG). This index ranges between 0 and 10 with zero indicating the most corrupt (lowest quality) and ten the most clean (highest quality) governments. As discussed earlier we expect QG to have a positive effect on GROWTH and a negative effect on ethnic CONFLICT. Following others we use investment/GDP ratio to proxy physical capital (PCAP), data taken from the WDI. In the absence of comparable data across countries, we use the adult literacy rate to proxy human capital (HCAP), data taken from the WDI. Despite its limitations, this is commonly used as a proxy for HCAP in developing countries where a large fraction of the population may lack basic education. In the GROWTH equation population growth (POPG) stands as a proxy for labor force growth. (The population data are also from the WDI.) The expected effect of PCAP, HCAP, and POPG on GROWTH is positive. In the QG equation the effect of population size (POP) on QG is somewhat ambiguous though in general we can expect developing countries with large POP to provide more opportunities for corruption. On the other hand, the larger the POP the more likely is the occurrence of an ethnic CONFLICT (Alesina et al., 2003).

Many developing countries face high inflation rates and the eroding purchasing power of income is a common cause of grievance. Some studies have found INF to have a negative effect on GROWTH (Kormendi and Meguire, 1985; Grier and Tullock, 1989). On the other hand, these studies show that higher inflation rates increase the incidence of corruption (low QG). High and variable inflation is assumed to increase uncertainty about prices and therefore to increase the cost of auditing agents' behavior, resulting in higher corruption (Braun and DiTella, 2000). Studies also have found high and variable inflation to fuel ethnic tension and CONFLICT (Rowlands, 2000). We use the annual inflation rate computed from the Consumer Price Index taken from the WDI.

The indicator variable for democracy (DEMO) was taken from the widely-used Polity IV data set by Marshall and Jaggers (2002). The Polity IV democracy measure uses a 20-point integer scale constructed from two subscales: democracy and autocracy, each is given values in the range 0 and 10. Subtracting autocracy from democracy, as suggested by Polity IV's authors, generates a summary measure that we call DEMO. This varies within the range from -10 (most autocratic) to +10 (most democratic). We added 10 to this measure to bring the minimum value to 0, in order to avoid complications in the construction of the squared term of DEMO. Therefore, the score of DEMO extends from 0 (most autocratic) to 20 (most democratic). Democracy is expected to enhance both sustained growth and the quality of governance (Rivera-Batiz and Francisco, 2002). In the case of ethnic conflicts there is evidence in support of a non-linear (typically an inverted U shape) relationship between ethnic conflicts and democracy. To capture this we include both DEMO and $DEMO^2$ as regressors in the CONFLICT equation.

The variable ethno-linguistic fractionalization (ELF) measures the probability that two randomly drawn individuals from a given country do not speak the same language (Collier and Hoeffler (1998). The commonly used formula to compute this is:

$$ELF = 1 - \sum_{i=1}^N P_i^2$$
, where P_i is the population share of the i th ethnic group in a

country (Fearon, 2002). Thus $ELF = 0$ indicates a totally homogenous society and $ELF = 1$ indicates that everyone belongs to a different ethno-linguistic group (totally fractionalized society). Our data source for this variable is Alesina et al. (2003). As observed by others ELF is expected to have a negative effect on GROWTH emanating from ethnic tensions and conflicts. Its effect on ethnic conflicts is generally observed to be non-linear (typically an inverted U shape) which we capture by using ELF and ELF^2 in the CONFLICT equation. The argument here is that the probability of ethnic conflict is lower in both more homogenous and more heterogeneous societies than in societies with two or three dominant ethnic groups (Ellingsen 2000).

To estimate the parameters of the three equations we use a panel data set of twelve multi-ethnic developing countries over the time period 1980-2000.⁵ We estimated the first two equations with random effects (instead of fixed effects) because the Hausman test favors the random effect specification. Since CONFLICT is a binary variable and obtaining consistent estimates from a non-linear binary panel model with unobserved effects is not straightforward (Hsiao, 2003, Chapter 7) we estimate the third equation as a Logit model

⁵ The cross section includes Bangladesh, Guatemala, India, Indonesia, Kenya, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, Turkey, and Zimbabwe. Our initial focus was Malaysia and Sri Lanka. But these two alone did not provide sufficient sample variation to carry out the test. We, therefore, decided to settle for a smaller cross section (with a greater focus on Asia) with long time series. In a separate qualitative paper we will analyze Malaysian and Sri Lankan cases in detail.

without unobserved effects and a linear probability model (LPM) with fixed effects. The estimation results are given in Tables 1-3.

**Table 1: Dependent variable: Economic Growth
(Random effect specification)**

Independent variable	Openness as Trade/GDP ratio	Openness as Composite index
Openness	0.6256* (0.1608)	0.1563* (0.0344)
Quality of Governance	0.1394* (0.0399)	0.0832* (0.0388)
Physical Capital	0.0386* (0.0071)	0.0350* (0.0068)
Human Capital	0.0121* (0.0024)	0.0077* (0.0029)
Population growth	0.2166* (0.0657)	0.1872* (0.0662)
Inflation	-0.0112* (0.0021)	-0.0100* (0.0020)
Democracy	0.0247* (0.0074)	0.0153* (0.0075)
ELF	-0.3036** (0.1765)	-0.3245** (0.2017)
Constant	3.7246 (0.3094)	3.8083 (0.3076)
R ²	0.5818	0.5985
Adj.R ²	0.5668	0.5765
DW	1.2113	1.2351
Note: N=252. Standard errors in parentheses. * and ** indicate statistical significance at 1% and 5% levels respectively.		

**Table 2: Dependent variable: Quality of Governance
(Random effect specification)**

Independent variable	Openness as Trade/GDP ratio	Openness as Composite index
Openness	0.9921* (0.2465)	0.1463* (0.0467)
Growth	0.3164* (0.1048)	0.3567* (0.1130)
Inflation	-0.0129* (0.0035)	-0.0103* (0.0034)
Democracy	0.0603* (0.0106)	0.0623* (0.0108)
Population	-0.1520* (0.0542)	-0.2140* (0.0530)
Constant	2.0777 (0.9291)	2.5189 (0.9636)
R ²	0.5687	0.5710
Adj.R ²	0.5491	0.5545
DW	2.1230	2.3109
Note: N=252. Standard errors in parentheses. * and ** indicate statistical significance at 1% and 5% levels respectively.		

Table 3: Dependent Variable: Ethnic Conflict

Independent variable	Openness as Trade/GDP ratio		Openness as Composite index	
	Logit model	LPM with fixed effects	Logit model	LPM with fixed effects
Openness	-2.1827* (0.8207)	-0.2663* (0.1237)	-0.3864* (0.1091)	-0.0487* (0.0205)
Quality of Governance	-1.3720* (0.2747)	-0.2082* (0.0313)	-1.4546* (0.2694)	-0.2175* (0.0308)
Growth	-0.1301* (0.0531)	-0.0206* (0.0085)	-0.1069* (0.0472)	-0.0221* (0.0088)
Inflation	0.0302* (0.0139)	0.0048* (0.0017)	0.0354* (0.0136)	0.0085* (0.0021)
Population	0.7301* (0.2481)	0.1617* (0.0467)	0.8000* (0.2622)	0.1926* (0.0490)
Democracy	0.2700** (0.1616)	0.0520** (0.0291)	0.4316* (0.1481)	0.0834* (0.0280)
Democracy ²	-0.0147* (0.0077)	-0.0027* (0.0013)	-0.0224* (0.0070)	-0.0044* (0.0013)
ELF	18.1894* (3.7920)	2.7942* (0.5795)	11.5740* (3.2305)	1.6302* (0.6181)
ELF ²	-17.6627* (3.9121)	-2.7368* (0.5925)	-11.5289* (3.3035)	-1.6430* (0.6246)
Constant	3.5578 (1.9633)	1.0981 (0.3242)	3.2458 (1.0534)	1.1705 (0.2018)
	Log Likelihood = -152.96	R ² = 0.4378 Adj.R ² = 0.3948 DW = 1.9654	Log Likelihood = -162.43	R ² = 0.4215 Adj.R ² = 0.3147 DW = 1.9076
Note: N=252. Standard errors in parentheses. * and ** indicate statistical significance at 1% and 5% levels respectively.				

Discussion of results

The results reported in the three tables are highly affirmative of the basic thesis postulated in this exercise. Openness, after controlling for a variety of other determinants, exerts a highly statistically significant positive effect on economic growth, improves the quality of governance, and reduces the probability of ethnic conflicts. The results are quite robust regardless of the measure used for openness. Moreover, although the magnitudes of the coefficients of openness under the two measures of OPEN are different reflecting the difference in the two measures, the magnitude of the other coefficients remain approximately the same under these two measures. This indicates that the two measures of openness are roughly orthogonal to the other explanatory variables and as a result the effect of openness is measured reasonably accurately regardless of the presence or absence of other variables. As discussed earlier, openness is very likely to work as a disciplining force on both democratic and authoritarian governments, which is the key to bring about policies that are conducive to economic growth, social development, and ethnic peace. Taken together, the results in Table 3 highlight how openness, quality of governance and economic growth exert a highly significant influence in reducing the probability of ethnic conflicts.

It is also worth discussing briefly the role the other variables play in each of our regressions. In the growth equation (Table 1), apart from the standard growth determinants of capital and labor, democracy shows up with a significant positive effect and ethno-linguistic fractionalization (ELF) shows up with a significant negative effect as expected. Inflation also shows a negative effect on growth. The R^2 in the regression is

about 60%, which indicates that our variables do not fully account for the variation in the growth rate. This could be a result of left-out variables or incompleteness of the proxies used to represent the theoretical counterparts.

The results of the quality of governance equation (Table 2) also confirm the expected outcomes. As argued by others, high inflation and large populations in developing countries provide a good cover for corruptive activities. It is interesting to note the positive effect of democracy in improving the quality of governance or reducing corruption. The R^2 in this equation is also close to 60%.

The equation on ethnic conflicts (Table 3) also shows expected results manifesting with statistically significant effects. However, the R^2 of about 40% in the LPM models suggest that the prevalence of ethnic conflicts cannot be fully explained by fundamental variables alone. As we have argued earlier ethnic conflicts may persist for many reasons including vested interests. The results show that high inflation and large population size increase the probability of ethnic conflicts. Of particular interest is the non-linear inverted U shape effect of democracy and ethno-linguistic fractionalization on the probability of ethnic conflict. The estimates of these two variables across all the columns in Table 3 show that the probability of an ethnic conflict reaches the maximum when DEMO and ELF are in their half-way mark. In other words, partial democracies with a dominant minority group are highly prone to ethnic conflicts. Collier and Rohner (2007) observe that poor democratic countries are more prone to conflicts than poor authoritative ones. Although authoritative states are likely to achieve ethnic peace they may entail other human right

abuses. Nevertheless, open economies even with authoritative states may experience faster growth with more responsive governments and may move towards well developed democracies faster than poor states with fragile democracies and ethnic conflicts.

5. Conclusion

Ethnic conflicts have crippled many developing countries. Sustaining ethnic peace is a constant challenge that policy makers have to grapple with, even in developed countries. Getting good and strong leaders to set every thing right is a cry one could hear around the developing world. Since such a dream is far from reality in general, an important question to raise is: “is there a mechanism that will help improve the quality of the leaders and their governance, provide higher growth, and pave the way for ethnic peace.” The basic hypothesis formulated and tested in this exercise is that countries that are open to foreign trade and investment are more likely to succeed in improving the quality of governance, achieving higher growth, and reducing the probability of ethnic conflicts. On important tenant of this formulation is not to treat government as a pure exogenous entity. Economic openness tends to act as a disciplining force on governments and thereby improve the quality of governance.

The results of the regression analysis strongly favor the above hypothesis. Obviously a determined leadership is required to go against vested interests and open the economy to foreign trade and investment and place the private sector in the driving seat of the economy. Once set in motion, openness is likely to generate a virtuous feedback loop between government policies and the socio-economic environment. As the economic pie

gets larger it would be easier to implement other policies that are needed for redistribution, social development and ethnic peace.

It should be noted that openness by itself is not sufficient to achieve full ethnic peace. Collier and Hoeffler (2007) summarize a number of other conditions that have been discussed in the literature. In particular, a general finding, including ours, that partial and fragile democracies are more prone to conflicts than authoritarian states and well-developed democracies deserves a careful consideration. Observations around the world also show that foreign direct investors seek politically stable countries (both democratic and authoritarian) for their investments. To work out a system which provides political stability and to put in place a mechanism (like openness) that disciplines the government is a key priority of the political leadership and responsible citizenry in developing countries.⁶

⁶ East Asian model of single-party dominated governments that provide political stability and highly competitive and open economies that discipline the governments stand out as a good model to emulate in the take-off period.

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