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Political democratization, economic liberalization, and growth volatility

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ABSTRACT

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This study empirically investigates the effects of political and economic liberalization on growth volatility using a difference-in-difference method for a sample of 158 countries over the 1970–2005 period. The results show that, when examined separately, economic liberalization leads to a significant reduction in volatility while democratization is not followed by a decrease in growth volatility. For countries that undertake only one liberalization, opening up the economy to international trade reduces volatility in growth; becoming a democracy, on the other hand, seems to increase macroeconomic instability. For countries that implement both political and economic liberalizations, no statistically significant effect on volatility is detected. These results serve to provide additional support for the policy recommendation that developing countries should liberalize their economy first and then consider political liberalization. *Journal of Comparative Economics* **xxx** (xx) (2011) xxx–xxx. Stetson University, 421 N. Woodland Blvd., Unit 8301, Deland, FL 32723, United States.

1. Introduction

Over the last three decades many countries have gone through political and economic liberalizations, and a large literature has been devoted to their effects on economic development. A number of researchers including Barro (1996), Przeworski and Limongi (1993, 2000), Rodrik (2000), Tavares and Wacziarg (2001), De Hann and Sturm (2003), and Papaioannou and Siourounis (2008) have studied the question of whether becoming a democracy promotes economic growth, but with mixed results. Sachs and Warner (1995) and Wacziarg and Welch (2008), among many others, have focused on the growth effect of trade liberalization, and find that trade openness are beneficial for economic growth. Nonetheless, the hypothesis of a positive relationship between trade liberalization and growth is being challenged by authors such as Kneller et al. (2008). In a recent paper, Giavazzi and Tabellini (2005) examine the joint effects of both political and economic liberalizations, and conclude that the sequence of reforms matters: countries that open up the economy to international trade first grow faster than countries that become a democracy first. This implies that a country should first liberalize the economy and then consider political liberalization.

Economic development, however, requires sustainment. Many developing countries have suffered from substantial growth volatility (Acemoglu et al., 2003; Loayza et al., 2007; Koren and Tenreyro, 2007), which also harms growth itself (Ramey and Ramey, 1995). Policy makers need to take output volatility into account when considering the reform sequence. Trade openness can help economic growth, but it may be associated with greater macroeconomic volatility (Easterly et al., 2000; Kose et al., 2003). Democratization may have an ambiguous effect on growth, but it may be conducive to economic

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stability.[1] The existing literature on growth volatility thus appears to suggest that there is trade-off associated with the sequence of liberalizations.

In view of this complication, the current paper seeks to shed light on the effect of political and economic liberalizations on growth volatility, and examines whether there are joint effects and whether the sequence of reforms matters in terms of promoting economic stability. This study is also motivated by a main shortcoming of the volatility measure used in previous studies, in which volatility is proxied by the standard deviation of the annual growth rate of real GDP per capita over a long time period such as 10 years. As pointed out by Yang (2008) and Malik and Temple (2009), such a measure masks substantial year-to-year volatility and hence may confound the volatility effects. In addition, over the last 30 years the world has seen a decline in growth volatility (Prasad et al., 2003; Malik and Temple, 2009), failure to control this time effect properly may lead to a spurious negative association between democracy and volatility.

The method employed for this study is the same difference-in-difference estimation adopted in Giavazzi and Tabellini (2005), but with the dependent variable replaced by a measure of growth volatility, which is captured by the five-year moving standard deviation of real GDP per capita growth rate. The difference-in-difference technique has been used in the microeconometric literature to estimate the effect of an intervention or a treatment, and it compares the economic outcome, before and after the treatment, of the affected group with that of the unaffected group, i.e., the control group. Previous work using such an estimator in the context of macroeconomics also includes Slaughter (2001), Kneller et al. (2008) and Wacziarg and Welch (2008). In this paper, the political and economic liberalizations are considered "treatments", policy reforms implemented in some countries but not others, and then the economic volatility of the liberalized countries is compared, before and after the liberalization, with performance of the countries that do not liberalize (or fully liberalized) throughout the sample period to identify the causal effects of the liberalization. This estimation exploits both the time series and cross sectional dimensions of the data, and allows us to circumvent many of the endogeneity problems that have plagued the existing studies. As it provides a simple but effective approach to establish causality, we may obtain new information concerning the relationship between regime changes and economic volatility.

The results show that, when examined separately, economic liberalization leads to significant reduction in volatility while democratization is not followed by decrease in growth volatility. For countries that undertake only one liberalization, opening up the economy to international trade reduces volatility in growth; becoming a democracy, on the other hand, seems to increase macroeconomic instability. For countries with both political and economic liberalizations, no statistically significant effect on volatility is detected, and the sequence of liberalizations does not appear to make a difference. Overall, these results provide support for the proposition that a country should open up the economy first and then consider becoming a democracy.

In what follows, Section 2 describes the data and methodology used in this study, Section 3 examines the effect of political and economic liberalizations on growth volatility separately, while the effect of the multiple liberalizations is investigated in Section 4. The final section concludes.

2. Data and methodology

2.1. Data

The sample consists of 158 countries where data for GDP growth volatility and at least one of the liberalization indicators are available during the period 1970–2005. Following Acemoglu et al. (2003), 1970 is chosen as the first year because by this time most of the countries have been independent, which should be more relevant for the study of the effect of institutional changes. The list of countries is provided in Appendix A, along with their liberalization dates.

The dependent variable is growth volatility, measured by the standard deviation of real GDP per capita growth rate. In contrast to previous work computing volatility over a fixed time period such as 20 years or 5 years (e.g., Acemoglu et al., 2003; Kose et al., 2003, Bekaert et al., 2006; Yang, 2008), this paper measures volatility over a five-year moving window. Such a moving standard deviation measure has been used in studying the stock market volatility (see, for example, Arestis et al., 2001), and though not perfect, serves our purpose well since we intend to compare the differences before and after the liberalization on a yearly basis and countries do not liberalize at the same time.

The data for real GDP per capita growth are from World Bank World Development Indicators (2007). Of the 152 countries that have both the growth and political liberalization data available, the average growth volatility is 5.28, with a minimum of 1.42 (France) and a maximum of 21.52 (Liberia).[2]

The variables of interest are the two indicators of political and economic liberalizations. Political liberalization is captured by the event of becoming a democracy. Following Persson and Tabellini (2003) and Giavazzi and Tabellini (2005), this paper defines a country as democracy if it has strictly positive values of the polity2 variable in the Polity IV database (Marshall and Jaggers, 2007). This data source covers all independent countries with a total population of 500,000 people in 2007 (162 countries in 2007). The polity2 index measures political regime by using the polity score, which ranges from −10 (strongly

[1] A number of channels have been suggested in the literature for democracy to reduce growth volatility, including institutional constraints (Weede, 1996; Henisz, 2000; Nooruddin, 2003; Acemoglu et al., 2003), greater decision-making diversification (Sah, 1991), greater willingness to cooperate and compromise (Rodrik, 1999, 2000) and voters' preference of risk avoidance (Quinn and Woolley, 2001).

[2] 158 countries are used in this study as some countries without political liberalization data are included in the trade liberalization data set and vice versa.