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The Impact of Recent Political Change on Economic Growth in Myanmar

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Abstract

This study estimates the causal effect of the political change process, using a current constitutional referendum on economic growth in Myanmar. To analyze the impact of the political change process, this thesis compares the trajectories of the actual and counterfactual gross domestic product (GDP) per capita after the referendum using the synthetic control method. This thesis calculates the counterfactual GDP per capita using country-level panel data from 2002 to 2013 with Myanmar as the treated country and East and South Asian, Pacific, and sub-Saharan African developing countries as the control group. The main result suggests that there is a causal effect of the political change process towards the GDP per capita in Myanmar, but the synthetic analysis does not show evidence of a causal effect on per capita foreign direct investment and trade per capita.

Keywords: Political change, Synthetic Control Method, GDP per capita, Treated country, Control Countries

Introduction

Many reform measures have been undertaken in countries around the world. Especially, many countries transformed to democratic system to expect the fulfillment of their own macroeconomic objectives or/and to exploit the economic growth. However, the impact of democracy on the economic growth of a country is controversial and the effect of democracy on economic growth is different from country to country. According to scholars' findings, there is a positive or negative relationship between democracy and economic growth.

Counting on merits of democracy, the Republic of the Union of Myanmar has accelerated its political reform recently. As the effects of

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democracy are country specific, it is worth studying how the political change in the Republic of the Union of Myanmar affects its economic growth, having the constitutional referendum of 2008 as an additional motivation. In addition, there is no quantitative analysis of the impact of the political change on economic growth although numerous studies focus on the impact of political change in Myanmar only in qualitative term.

Therefore, this study aims to contribute to literature by quantitatively analyzing the impact of political change in Myanmar on its economic growth.

Reform Process in Myanmar

Over more than two decades, the history of Myanmar experienced two types of political system, military government and parliamentary democracy. The first type evolved from a socialist government to military government, which, in turn, evolved into parliamentary democracy.

From 1962 to 1988, Myanmar was under the socialist government (Burma Socialist Programme Party (BSPP)). In the late 1980s, Myanmar's economic condition encountered serious problems. In August 1988, the continued economic problems due to the increasing price of rice and the demonetization of the currency led to countrywide anti-government riots (Kubo, 2013). As a result, the BSPP collapsed in 1988.

In September 1988, the military government took direct power under the name of the State Law and Order Restoration Council (SLORC) because of the political unrest. Myanmar experienced an unexpected political reform from military government to parliamentary democracy. In August 2003, SPDC declared the "Roadmap to Democracy," a draft for political reforms. After announcing the Roadmap, the regime convened within the National Convention (NC) between 2004 and 2007 to implement a new constitution. In September 2007, anti-government actions occurred such as Buddhist monks leading demonstrations. In 2007, SPDC faced external pressures, such as the combined effect of western sanctions and criticism from the international community that led to the development of the country's political system. Therefore, on February 9, 2008, to overcome the difficulties of the political situation, the SPDC stated that a constitutional referendum would be held in May.

This constitutional referendum is the final blueprint of the country's new constitution, thus leading Myanmar's political change. National referendum is a significant step for Myanmar's political development (Asia perspective 2010). Moreover, SPDC held a general election in 2010. The Union Solidarity and Development Party (USDP) won the election and the parliamentary government transferred power in March 2011. Myanmar's political system was transformed from the military government to parliamentary democracy. From 2011, the parliamentary democratic government carried out a series of political, economic, and administrative reforms in Myanmar.

The country's transition has progressed considerably along the Government's framework of the Four Waves of Reforms are political and democratic reform, socio-economic reforms, governance and administrative reforms and private sector development. In pursuit of political reforms, National League for Democracy (NLD) party was allowed to enter into by-elections. The National Human Rights Commission has been established and the New Labor Law allowed for the formation of unions and strikes. The Government had forged a cease-fire and signed peace agreements with most ethnic minorities and armed groups. In the second wave, priority is allocated to reforming fiscal and monetary policies, financial sector development, efficient use of external assistance, foreign investment and trade. It also includes anti-corruption laws, unification of currency exchange rates, foreign direct investment law and taxation. Then, the foreign direct investment law was promulgated. Targets of good governance and clean government have been implemented in the third wave of reform process. As a fourth wave, the government prioritized private sector development. As a result, Myanmar's GDP grew at 5.3%, 6.0% and 6.3% respectively during 2011 and 2013.

Methodology and Analysis

There are numerous scholars that analyzed the impact of political change on economic growth with different findings, Using econometric techniques, numerous scholars analyzed the impact of political change on economic growth with different findings. Some scholars have found that democracy has a positive impact, while others argued that it is a negative impact on economic growth. Some scholars have found that democracy has a positive impact, while others argued that it is a negative impact on

economic growth. Masaki and van de Walle (2014) estimate the effect of democracy on economic growth using cross-sectional annual time-series data which include 43 SSA countries over the period 1982–2012, using pooled random (RE) effects and fixed effects (FE) models. Their study shows that democracy is positively related to economic growth, but regime transitions and economic growth are negatively related.

Rachdi and Saidi (2014) use FE and RE and the generalized method of moments system approaches to analyze the effect of democracy on economic growth in 17 MENA countries during 1983–2012. They conclude that democracy has a robust and negative impact on growth. Rodrik and Wacziarg (2005) observe a positive effect of major democratic transitions on economic growth in the short run. They use data from 1950 to 2000 for 154 countries and FE regressions. Moreover, some researchers find that political instability is directly related with low investment in Nigeria and lack of governance to low per capita income (Mba and Chukwu, 2013).

Tavares and Wacziarg (2001) suggest that a positive or negative impact of democracy on growth is indirectly related to other factors. However, they find that the overall effect is a moderately negative impact on economic growth. Additionally, Barro (1996) concludes that, if some of the variables such as maintenance of the rule of law, free markets, small government consumption, high human capital, and the initial level of real per capita did not change, the overall effect of democracy was a weakly negative one on economic growth.

Regarding the political change of Myanmar, a number of qualitative studies have studied the political change and transition of Myanmar. However, a quantitative analysis on the impact of Myanmar's political change has not been studied to the best of my knowledge. Some of the observers and researchers (Cook and Minogue 1993; Ardeth and Maung 2008; Kyaw 2012; Jones 2014; Bünthe and Dosch, 2015) discuss the causes of political change in Myanmar. On the other hand, there are studies that analyze the situation of Myanmar economy from the perspective of transition economies (Turnell, 2011; Kubo, 2013; Mieno, 2013).

It is difficult to choose the methodology in estimating the causal effect of “rare” events on the local economy, such as the impacts of revolution on the national economy, of a significant disaster on regional employment, of political change on the economy, and, thus, standard statistical methods cannot be applied on occasion. In order to make use of

these standard statistical methods, treatment and control groups are required, along with a sufficient sample size for both groups. For the impact of the political change process on the economy, there may be too many control countries such as other developing countries, while there is only one treatment country, Myanmar. Therefore, a standard statistical method cannot be used to estimate the effect of the political change on economic growth.

However, to estimate the impact of the economic system on economic growth, one of the classical methods, the comparative case study approach, can be applied. In this approach, at least two very similar regions except the economic system are needed and the difference between treatment and control is just treated or not. A typical example is the comparison between North and South Korea because they were the same country before World War II and separated afterwards. In this case, the comparative case study method can estimate the impact of the economic system. Nevertheless, it is difficult to find such similar regions.

To analyze the impact of political change in economic growth, Synthetic Control Method (SCM) is applied. To estimate the causal effect, GDP per capita is used as the outcome variable and FDI per capita, trade per capita, export per capita, import per capita, population density, and land area and United Kingdom colonial link dummy are used as other economic predictors. The SCM was developed by Abadie and Gardeazabal (2003) and Abadie, Diamond, and Hainmueller (2010 and 2014), and it is now widely used to estimate the impact of the economic system. In this approach, a systematic statistical method is provided to construct treatment and control regions. The treatment country or region is already known. According to above scholars, they suggested using variables from comparison units rather than a single unit to construct control groups with similar characteristics of the interest event or intervention before political reform.

In this analysis, the annual country-level panel data from 2002 to 2013 are applied. Panel data is useful to create the synthetic condition of Myanmar after reform period using the variables from both Myanmar and control countries before reform period. In this analysis, treated year is 2008 because Myanmar held the constitution referendum in 2008 which led to be the democratic progress of Myanmar. In this analysis, before political reform period is 2002–2008 which is included the treated year and after political reform period is 2009–2013.

The counterfactual or synthetic Myanmar is constructed as a weighted average of potential control countries in the donor pool which included a sample of East and South Asian, Pacific, and SSA developing countries. Developed countries are not included in this analysis because they have different characteristics from Myanmar. Moreover, China and India are also excluded because they are too large to compare to other developing countries. Additionally, some developing countries were also not included because of data unavailability during the studied period.

To estimate the impact of political change on economic growth, the outcome variable uses GDP per capita (Y_{jt}) in country j at time t . The economic growth, proxied by the GDP per capita, is obtained from the International Monetary Fund World Economic Outlook (WEO) Database. GDP per capita is measured in current USD.

It is also required to choose other economic predictors in order to forecast the trend for economic growth in Myanmar and to create a suitable synthetic representation of the country. To capture the trajectory of economic growth before the reform period, this thesis uses another set of economic predictors, such as FDI per capita, trade per capita, export per capita, import per capita, population density, land area, and United Kingdom colonial link dummy. The colonial link with United Kingdom is used because Myanmar was colonized by the UK.

Panel data for 2002 to 2013 is used and weighted average for counterfactual countries is applied. Then, the Placebo test is applied to check the significance of the result. According to the placebo test, if the effect of the process of political change on GDP per capita in treated country is strong, the difference between the country's and its' counterfactual GDP is larger than the difference between each control country and its respective counterfactual.

$$\hat{\alpha}_t = Y_{1t} - \sum_{j=2}^{J+1} W_j Y_{jt}$$

where, W_j = weight

$\hat{\alpha}_t$ = the estimator of a causal effect after the reform period

Y_{1t} = outcome of the treatment country after reform

Y_{jt} = counterfactual or synthetic of donor or control countries after reform period

The estimator of a causal effect after the reform period is the difference between actual GDP per capita of the treatment country and weighted average of donor or control countries. In the synthetic control method, there are different weights among control countries. A control country which is similar to the treatment country uses a large weight, while different countries use a smaller weight.

For choosing the weight, it is necessary to use information from other variables. Assume there are "m" types of variables in the data set. For example, in the GDP per capita data set, I use variables such as FDI per capita, trade per capita, export per capita, import per capita, population density, land area, and United Kingdom colonial link dummy. As such, the average before reform values in each donor or control country can be obtained:

$$X_{jm} = \sum_{t=1}^{T_0} X_{jtm},$$

where X_{jtm} = unit j's value of variable m in country j at period t.

It is necessary to calculate the average value of variables before the reform period, when the economy is not affected by the political reform. Subsequently, I define the similarity as a similar control variable. Before the reform period information can be used to estimate the impact of political change on economic growth after the reform period. The weight is chosen to minimize the prediction error:

$$\sum_m v_m \left(X_{1m} - \sum_j W_j X_{jm} \right)^2,$$

where v_m is a weight that reflects the relative importance of variable 'm'.

v_m is chosen to minimize the square of the prediction error before reform period. v_m is a weight for variables which helps determine Y. Different weights are used according to the importance of the value. If v_m is determined, ' W_j ' is determined according to the minimization of this error.

If W_j is determined, the error between actual and counterfactual GDP per capita can be calculated. Then, if W_j is correctly chosen, this gap must be small. After political reform, a difference should exist between actual and counterfactual GDP per capita, while the sum of the square gap is minimized:

$$\sum_{t=1}^{T_0} \left(Y_{1t} - \sum_{j=2}^{j+1} W_j Y_{jt} \right)^2,$$

While trends for actual and counterfactual GDP per capita must be different after the reform period before reform period, actual and counterfactual GDP per capita must be similar. In this analysis, two different types of weight are needed. The first type of weight is a weight for the outcome (Y) and the other is a weight for a variable (X). In SCM, v_m captures the importance of variable 'X' to determine the outcome 'Y' and ' W_j ' captures the similarity of countries. I choose a different v_m depending on whether this gap is small or. To minimize the square of prediction error before political reform, v_m is chosen. Root mean square prediction error measures the magnitude of the gap in the outcome variable of interest between each country and its synthetic control. SCM compares a weighted average of comparison countries' outcomes to the outcomes over time in Myanmar. To study the impact of political change, the treatment is different between treatment and control countries, but other characteristics are similar.

Main Findings

Based on SCM and finding of previous studies, Myanmar is a treated country and East & South Asian, Pacific, and sub-Saharan African (SSA) developing countries are considered the control group. These countries are similar with Myanmar, treated country. Then counterfactual GDP per capita for Myanmar is constructed.

According to the placebo test, the effect of the process of political change on GDP per capita in Myanmar is strong, thus the difference between Myanmar's and its' counterfactual GDP is larger than the difference between each control country and its respective counterfactual.

Figure 1 illustrates the trends of GDP per capita for Myanmar and counterfactual or synthetic Myanmar. Before the reform, trends for actual and synthetic GDP per capita are slightly different during 2002–2003 because of the private bank crisis in Myanmar in this period. The impact of the process of political change is described the difference between actual and synthetic GDP per capita. The difference between actual GDP per capita and synthetic GDP per capita can be seen more obviously after the political reform. The after reform gap between actual GDP per capita and synthetic GDP per capita captures the impact of political change. Therefore, the gap between actual and synthetic GDP per capita after the political reform reveals that there is a causal effect of the political change process on GDP per capita in Myanmar.

Figure 2 shows the result of the placebo test. The yellow line represents the estimated gap between actual and synthetic GDP per capita. The gray lines indicate the gap of GDP per capita between each control country and its' counterfactual GDP. According to the result, the estimated gap for Myanmar after the reform is relatively large compared with the gap for each control country. Thus, the result is significant.

Political reforms may impact GDP by means of two mechanisms. These two channels are through FDI and trade. In other words, one of the possible explanations of a causal effect is through FDI and international trade. However, the synthetic analysis does not show evidence of a causal effect on FDI per capita and trade per capita. Before process of political change, if there was no any other specific event, the study period can be extended and the result will reveal to be more obvious, as seen in the previous studies.

Conclusions

According to the empirical result, there is a gap between GDP per capita trends of actual and counterfactual or synthetic Myanmar after the reform. This gap shows that there is a causal effect of the process of political change on economic growth of Myanmar in terms of GDP per capita. As a result, economic growth in Myanmar improved after the reform period. However, this analysis cannot find evidence of a causal effect on FDI per capita and trade per capita. Therefore, it is concluded that the democratization process is important to improve economic growth in Myanmar. During the study period, a number of policy reforms are implemented in order to pursue economic growth. Moreover, Myanmar can

exploit opportunities of accelerated economic growth during political change.

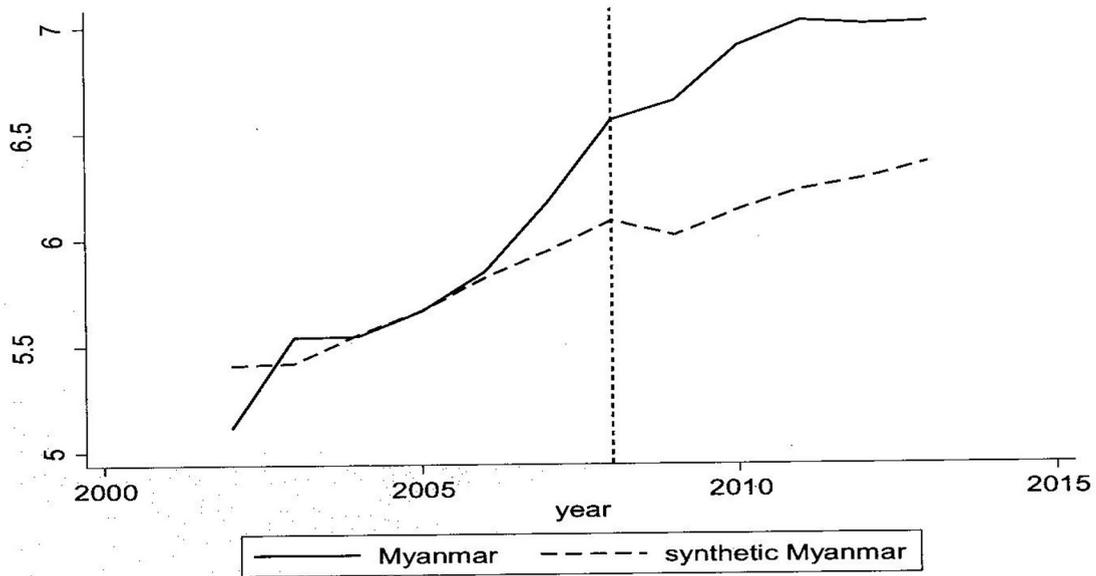


Figure 1. GDP per capita trends for Myanmar: Myanmar and synthetic Myanmar

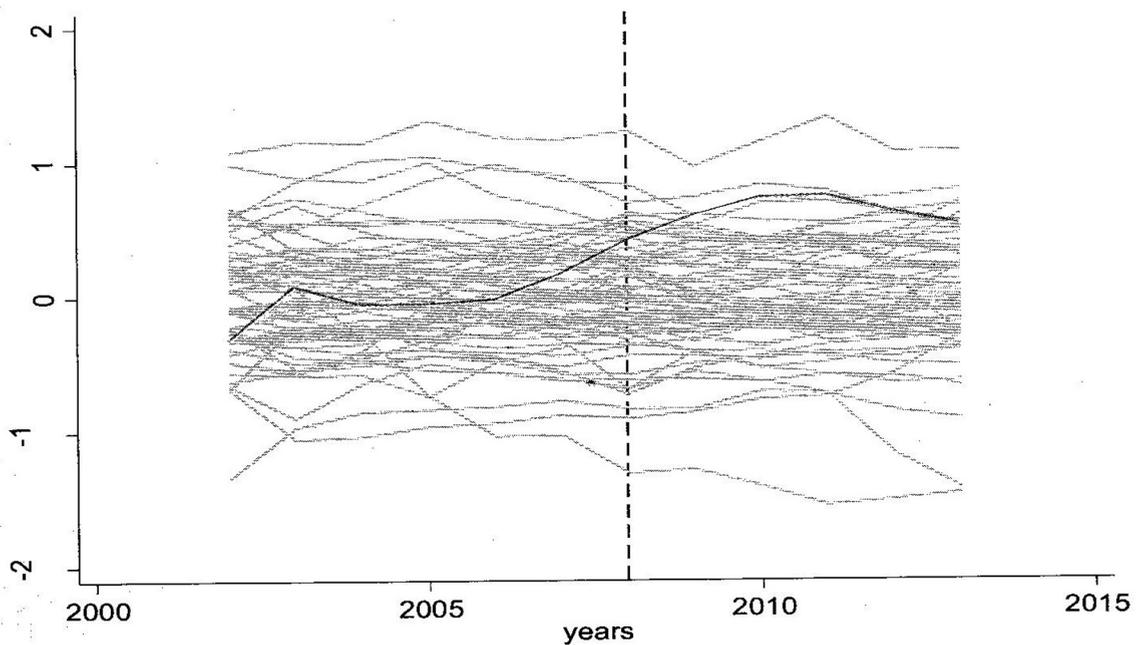


Figure 2. Result of Placebo Test

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Appendixes

Table 1. Variables, description, and sources

Variables	Description	Sources
GDP growth	per capita GDP growth: logarithmic per capita GDP	IMF, World Economic Outlook
Trade per capita	(Export + Import)/Population	United Nation trade database and World Development Indicator
Export per capita	Export / Population	United Nation trade database and World Development Indicator
Import per capita	Import / Population	United Nation trade database and World Development Indicator
Population density	Midyear population/ Land area (km ²)	World Development Indicator
Land area (km ²)	Country's total area	World Development Indicator
Colonial linkage	Colonizers of the country for a relatively long period of time	CEP II database

Table 2. Synthetic weights for Myanmar (GDP per capita)

Country	Country – Weight	Country	Country – Weight
Angola	0	Mauritania	0
Bangladesh	0.005	Mauritius	0
Benin	0	Mongolia	0
Botswana	0	Mozambique	0
Burkina Faso	0	Namibia	0
Burundi	0	Nepal	0
Cabo Verde	0	Niger	0
Cambodia	0	Nigeria	0.195
Cameroon	0	Pakistan	0
Central African Republic	0	Palau	0
Chad	0	Papua New Guinea	0
Comoros	0	Philippines	0
Côte d'Ivoire	0	Republic of Congo	0
Democratic Republic of the Congo	0.631	Rwanda	0
Eritrea	0	Samoa	0
Ethiopia	0	Senegal	0
Fiji	0	Sierra Leone	0
Gabon	0	Solomon Islands	0
Ghana	0	South Africa	0
Guinea	0.042	Sri Lanka	0
Guinea-Bissau	0	Sudan	0
Indonesia	0	Swaziland	0

Country	Country – Weight	Country	Country – Weight
Kenya	0	São Tomé and Príncipe	0
Kiribati	0	Tanzania	0
Lao PDR	0	Thailand	0
Lesotho	0	Togo	0
Liberia	0	Tonga	0
Madagascar	0	Uganda	0
Malawi	0.127	Vanuatu	0
Malaysia	0	Vietnam	0
Maldives	0	Zambia	0
Mali	0	Zimbabwe	0
Marshall Islands	0		

Table 3. Means of predictors before political reform

Predictors	Myanmar	Synthetic
FDI per capita	6.121	12.230
Trade per capita (ln)	4.775	4.739
Export per capita (ln)	18.110	17.808
Import per capita (ln)	17.705	17.745
Population density	76.122	68.999
Size (ln)	13.390	13.945

Table 4. List of control countries

Angola	Chad	Guinea-Bissau	Malaysia	Nepal	Samoa	Tanzania
Bangladesh	Comoros	Indonesia	Maldives	Niger	Senegal	Thailand
Benin	Côte d'Ivoire	Kenya	Mali	Nigeria	Sierra Leone	Togo
Botswana	Democratic Republic of the Congo	Kiribati	Marshall Islands	Pakistan	Solomon Islands	Tonga
Burkina Faso	Eritrea	Lao PDR	Mauritania	Palau	South Africa	Uganda
Burundi	Ethiopia	Lesotho	Mauritius	Papua New Guinea	Sri Lanka	Vanuatu
Cabo Verde	Fiji	Liberia	Mongolia	Philippines	Sudan	Vietnam
Cambodia	Gabon	Madagascar	Mozambique	Republic of Congo	Swaziland	Zambia
Cameroon	Ghana	Malawi	Namibia	Rwanda	São Tomé and Príncipe	Zimbabwe
Central African Republic	Guinea					