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Research Article

Analyzing the Impact of Political Instability on Myanmar's Financial Sector and Economic Growth

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ABSTRACT

Prior to the February 1, 2021, coup, Myanmar experienced steady economic progress due to moderate political and economic reforms. However, the coup significantly disrupted this trajectory, placing the economy in a precarious state. This study examines the impact of political instability on Myanmar's financial sector and economic growth from 2006 to 2023, with a focus on key macroeconomic factors: Political Stability, Inflation, and Unemployment. Using the Markov Switching Dynamic Regression (MSDR) model, the analysis captures how these variables influence economic growth under different economic regimes. The findings reveal that Political Stability and Inflation positively contribute to economic expansion, while Unemployment has a negative effect. The MSDR model uniquely identifies two distinct economic regimes: recessionary periods, where the effects of these variables are weaker or insignificant, and periods of economic boom, where all factors significantly drive growth. These results highlight the critical role of maintaining political stability, controlling inflation, and reducing unemployment to foster sustainable development. The study provides actionable policy recommendations for Myanmar and offers insights for neighboring economies and international policymakers on managing political and economic crises. Strengthening stability, promoting inclusive growth, and enhancing financial resilience are essential steps toward long-term economic progress.

Keywords: *Macroeconomic Performance, Post-Coup Economy, Political Stability, Markov Switching Dynamic Regression, Myanmar*

Introduction

Background of Myanmar

Situated at the crossroads of South and Southeast Asia, Myanmar stands as the largest nation in Southeast Asia. It has its borders connected to five neighbouring countries: Thailand, China, Laos, Bangladesh, and India. Myanmar's journey to independence commenced on January 4, 1948, following the leadership of General Aung San and the Burma National

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Army, culminating in the liberation from British rule. Despite facing challenges, including the assassination of Aung San by rivals led by U Saw in July 1947, Myanmar achieved sovereignty under the governance of U Nu. Throughout this struggle, the armed forces, known as the Tatmadaw, emerged as pivotal actors, aiding in the nation's quest for freedom. Initially under the Burmese Independent Army, the military in Myanmar garnered admiration and was widely seen as the guardian of the nation during its formative years of independence.

The Military Government to 2011

Burma's single-party militarized government, starting in 1962, under the leadership of General Ne Win, embraced an ideology centred on a centrally planned and isolationist economic model known as the 'Burmese Way to Socialism'. Throughout this era, the economy predominantly relied on agriculture, with underdeveloped secondary sectors largely controlled by state-owned entities (Maung 1998). However, this approach was abandoned when the State Law and Order Restoration Council (SLORC) assumed power in 1988, later rebranding itself as the State Peace and Development Council (SPDC), ushering in a transition towards a market-oriented economy. This shift was not only a pragmatic response to economic challenges but also aimed to bolster state legitimacy (Ford et al. 2016).

Initial reforms associated with marketization chiefly targeted foreign investment, trade, banking, agriculture, and industrial policies. In 1988, the law of the Union of Myanmar Foreign Investment, for instance, incentivized manufacturing industries with tax relief, exemptions, and start up tax holidays while assuring enterprises against nationalization, a practice witnessed in the 1960s (McCarthy 2000). Banking reforms commenced in 1990 with the enactment of laws facilitating the establishment of the Central Bank of Myanmar, (Turnell 2009). Nevertheless, these reforms failed to yield anticipated outcomes; the Central Bank struggled to regulate effectively or initiate monetary policies, while the Myanmar Agricultural and Rural Development Bank fell short in addressing rural credit shortages.

Economically, the regime persisted in prioritizing agricultural exploitation and extractive industries. Developing the agricultural sector remained a cornerstone of its economic agenda (Maung 1998). Additionally, efforts were made to foster the tourism industry through partnerships with foreign investors, aiming to enhance tourism infrastructure (Maung 1998). Although changes in visa regulations led to increased tourist arrivals, the sector continued to lag in development.

Thein Sein and the USDP Government

Myanmar grappled with severe economic challenges until March 2011 when President Thein Sein's government-supported civilian administration assumed power. The new government embarked on revitalising the country's economy, prioritizing foreign investment, trade liberalisation, and the development of labour-intensive industries like garment manufacturing (Tsui 2016). Within its inaugural year, it unveiled a 20 years National Comprehensive Development Plan, envisioning a diversified and sustainable economy fostering inclusive growth (UNIDO 2017). Concurrently, initiatives were undertaken to strengthen Myanmar's financial and telecommunications infrastructure. The Ministry of Finance and Revenue launched a medium-term public expenditure framework aimed at improving revenue management and targeting expenditures (MNPED 2014). Significant policy changes included the adoption of a managed float for the kyat in April 2012 and the removal of withholding taxes on imports. Other reforms included granting formal autonomy to the Central Bank from the Ministry of Finance, permitting private banks to participate in foreign exchange operations (Kubo 2013), and reorganizing the Myanmar Industrial Development Bank into a specialized institution for small and medium-sized enterprises. The Telecommunications Law of 2013 facilitated the abolition of Myanmar Post and Telecommunication's monopoly, leading to the issuance of licenses to two international mobile network operators, thereby improving telecommunications infrastructure and internet accessibility (Thein and Nyo 2017).

These reforms spurred economic growth, with the growth rate increasing from 5.6% in 2011 to 7.0% in 2015 (World Bank 2018). Trade experienced significant growth, with overall merchandise trade increasing from US$18.3 billion in 2011 to US$28.3 billion in 2015, albeit with imports surpassing exports (WTO 2018). Approvals for foreign direct investment saw a sharp rise from US$4.64 billion in 2011–12 to US$9.48 billion in 2015–16 (DICA 2017). Despite these gains, Myanmar's economic foundation remained underdeveloped, heavily reliant on a limited range of agricultural products and lacking in manufacturing diversity and value-added activities (MNPED 2014). Overcoming this reliance was hindered by insufficient infrastructure in transportation, communications, and utilities, a weak private sector, and governmental institutions with limited ability to implement significant reforms.

Aung San Suu Kyi and the NLD Government

The NLD government entered office amid high expectations for a new democratic era, propelled by widespread support for Aung San Suu Kyi. However, the party had paid little heed to economic policy prior to assuming power in February 2016. Subsequently, their economic agenda largely centred on fostering market-based growth and development, albeit with a newfound emphasis on responsible business practices and sustainable development goals. Yet, translating these principles into tangible policies proved challenging for the inexperienced civilian-led government across various policy domains.

Early on, the NLD outlined five key economic domains: fiscal prudence, lean government practices, agriculture revitalization, monetary and fiscal stability, and infrastructure development. This vision was encapsulated in the 12-Point Economic Policy released on July 29, 2016, which emphasized market-oriented strategies and further privatisation efforts (Government of Myanmar 2016a).

Another focal point of their economic reform agenda was the overhaul of investment regulations. The Myanmar Investment Law of 2016 consolidated previous legislation and relaxed protocols for foreign investments, offering additional tax incentives and reducing bureaucratic hurdles (Directorate of Investment and Company Administration 2018). Additionally, the Companies Law of 2017 aimed to enhance corporate governance and protect foreign interests.

Despite these efforts, Myanmar continued to struggle in the World Bank's Doing Business Report, ranking poorly in ease of doing business (World Bank 2020a). Infrastructure development remained a significant challenge, with inadequate power generation, transportation networks, and social infrastructure due to years of neglect in education and vocational training.

The onset of the COVID-19 pandemic posed further challenges, prompting the government to devise the COVID-19 Economic Relief Plan (CERP) to mitigate economic and social impacts, albeit constrained by resource limitations (Government of Myanmar 2020; IMF 2021). The subsequent economic downturn, exacerbated by the pandemic, led to a decline in international trade and GDP growth, particularly affecting sectors like manufacturing, construction, and tourism (World Bank 2021). Despite hopes for recovery in 2021, the promise was dashed by the coup on February 1st, disrupting the country's economic trajectory once again.

After the 2021 Coup, the Military Government

The 2021 coup unfolded as a profound crisis of politics and governance, sending shockwaves through the economy that compounded the existing damage from the COVID-19 pandemic. Employment and food security bore the brunt of the impact, with a substantial decline in total working hours and an estimated loss of 1.6 million jobs, disproportionately affecting women workers (ILO 2022). Spiralling costs of food and essential goods heightened the risk of malnutrition for citizens across the nation, with over 14 million individuals requiring humanitarian aid (United Nations Office for the Coordination of Humanitarian Affairs 2021).

The surge of civil disobedience movements and widespread street protests following the coup inflicted severe economic disruptions,

particularly affecting government services, healthcare, education, transportation, and banking (World Bank 2022). Despite coercive measures by the State Administration Council (SAC) to suppress protests and force businesses to resume operations, the security environment deteriorated significantly, posing grave challenges for business activities.

While select upscale establishments like cafes, restaurants, and shopping centres reopened in major cities in 2022, economic activity remained subdued in non-metropolitan regions (Nikkei Asia 2022a). The persisting disparity in business revival underscores the ongoing economic repercussions of the coup, exacerbating the already fragile state of the country's economy.

Purpose of the Study

(1) To examine the relationship between political instability and economic growth
(2) To analyze the role of sustainable financial stability in supporting long-term economic growth.

The purpose of our study is to examine how political instability affects Myanmar's financial sector and economic growth. This involves investigating the relationships between economic growth and various economic indicators within the financial sector, such as political stability, unemployment, inflation, and trade situation (import of goods and exports of goods). By understanding these dynamics, the study aims to provide insights into the challenges and opportunities facing Myanmar's financial sector amidst political uncertainty and to inform policymakers, investors, and other stakeholders about potential strategies for promoting economic stability and growth.

Theoretical Background

Understanding the intricate interplay between political instability, the financial sector, and economic growth requires a multifaceted theoretical approach. This paper delves into two key theoretical perspectives: Political Economy Theory and Macroeconomics Theory. The political economy theory underscores the integral role of political elites in shaping economic outcomes, particularly in nations where macroeconomic variables play a crucial role in determining overall economic health. Understanding the dynamics between political power and economic processes is essential for comprehending the complexities of national economic development and formulating effective policies for sustainable growth.

Scope of the Study

The study analyzed examined and contrasted how the impact of political instability on economic growth, considering the macroeconomic performance of Myanmar especially in the areas of unemployment, inflation and trade situation (import and export of goods). By examining data spanning from 2006 to 2023, research aims to elucidate the intricate relationship between political instability and economic outcomes.

Review of Related Literature

Over the past decade, scholarly attention has focused on examining the relationship between political instability and economic growth. Several research endeavours (Alberto Alesina et al., 1996; Fosu, 2001, 2003; Ari Aisen and Francisco J. Veiga, 2008) have highlighted the adverse impact of political instability on economic performance across diverse economies. Analyzing specific nations, Rafael Muñoz (2009) utilized the Autoregressive Distributed Lag Model (ARDL) to examine the relationship between political instability and economic growth in Venezuela from 1983 to 2000. His research unveiled that political instability has an adverse effect on economic growth, especially concerning investment. Likewise, Dimitrios Asteriou and Simon Price (2001) investigated this correlation for the United Kingdom across the period from 1961 to 1997, employing the ARCH model, and discovered a detrimental impact of political instability on economic growth.

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period from 1961 to 1997, employing the ARCH model, and discovered a detrimental impact of political instability on economic growth.

In a separate study, Aisen and Veiga (2013) undertook empirical research to understand the influence of political instability on economic growth. Employing the GMM system technique and analyzing data from a sample of 169 countries spanning from 1960 to 2004, they argue that heightened levels of political instability are associated with a reduced growth rate of GDP per capita. Additionally, the authors observed that political instability adversely affects economic growth by impeding productivity growth, stemming from limited accumulation of physical and human capital. Furthermore, they found that economic freedom and ethnic homogeneity contribute positively to economic growth, while democracy may have a minor adverse effect. Moreover, Hasan Kirmanoğlu (2003) investigated the causal link between political instability and economic growth using the Granger causality test across a sample of 19 countries. His findings suggest that in 14 out of the 19 examined countries, there is no statistically significant relationship between political instability and economic growth. Hasan Kirmanoğlu (2003) indicates that political stability positively impacts economic growth in only two countries, while for the remaining three countries, causality operates in the opposite direction.

Therefore, scholarly works concur on the significance of political stability for economic growth, as it fosters the establishment of the necessary framework, draws in private investors, and enables multinational corporations to facilitate economic growth, thereby facilitating the adoption of effective long-term macroeconomic strategies.

In another study, Htet Zeyar (2023) conducted empirical research to explore the impact of political instability on economic growth. Before the coup on 1 February 2021, Myanmar experienced relatively favorable conditions for economic development, characterized by a moderate level of political and economic reform. This study examines the macroeconomic performance of Myanmar to assess the state of the country's economy, particularly focusing on economic growth, inflation, unemployment, trade, and foreign direct investment, utilizing data spanning from 2010 to 2021. The findings indicate that the coup had a detrimental effect on overall economic development, leading to the most severe economic downturn in Myanmar's history. According to data from the World Bank, Myanmar's annual GDP growth rate it remained at 3.2% in 2020. Despite the pandemic-induced challenges such as weakened consumption and investment, disrupted business operations, and shortages in labor and inputs, the economy was projected to grow by 2% in the financial year 2020-2021, thanks to government-led economic recovery initiatives. The GDP growth rate surprisingly deteriorated, and it became the worst period with a -17.8 growth rate in the history of Myanmar. Additionally, the growth rate dropped significantly during political crises, and to -7.6 in 1988, but remained stable during the Saffron revolution. It also somehow showed that massive or public political moments such as the 2021 spring revolution, and the 1988 uprising had greater negative impacts on the economy of Myanmar than other political crises.

And also, the author mentioned the health crisis. The major reasons for economic failure in 2021 can be assumed as the negative outputs of the double crisis; the Covid-19 pandemic, and the coup. As the massive public moments, most of the businesses and banks were closed in the earlier period of the coup leads a decline in the overall production level of the economy and some of them completely closed because they did not have enough resistance and resiliency to continue their businesses since the first wave of Covid-19 in Myanmar. However, the World Bank still predicts that Myanmar's GDP will grow by 2 per cent in 2022 and 2.6 per cent in 2023.

Methods

Conceptual Framework/ Model

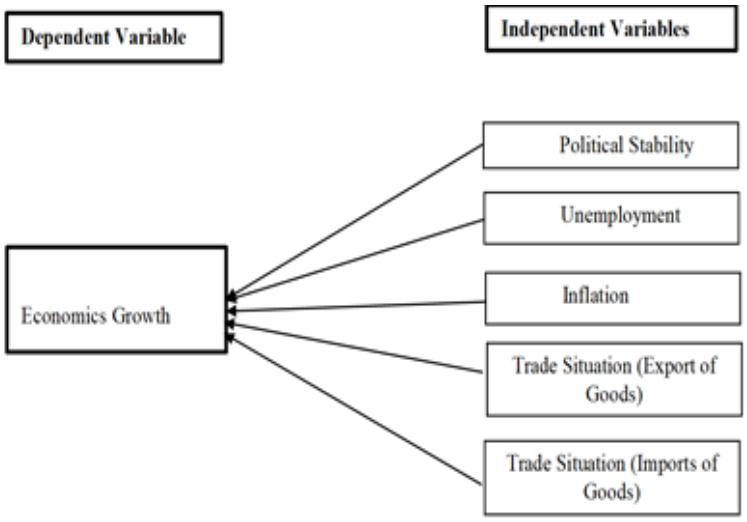

Figure1: Conceptual Framework

The relationship between economic growth and political stability is deeply intertwined. An unstable political environment may instigate uncertainty and diminish investment, impeding economic progress. Conversely, inadequate economic performance may precipitate government collapse and political turmoil. This study considers political stability, unemployment, and inflation and trade dynamics as fundamental components of economic expansion. It is widely acknowledged that the trajectory of economic growth is intricately linked with these factors. Consequently, these variables are anticipated to exert either a positive or negative influence on economic growth.

Description of Variables and Data Source

Regarding the data collection, this research used secondary data extracted from the World Bank's World Development Indicators database, the International Labor Organization (ILO), the International Monetary Fund (IMF) and CEIC database. The source of data included macroeconomic indicators including real GDP annual growth rate, unemployment, inflation, exports of goods, imports of goods and political stability. The data covered a period from 2006 to 2023, to provide a robust analysis of the intricate relationship between political instability and economic outcomes. The authors used Anaconda Navigator software for the analysis of statistical data.

Rationale for Selecting the Markov Switching Dynamic Regression (MSDR) Model

The Markov Switching Dynamic Regression (MSDR) model was selected for this study due to its ability to capture regime-dependent behavior in time series data. Economic growth in Myanmar, particularly in the context of political instability, is likely to exhibit distinct regimes, periods of economic boom and recession where the relationships between key macroeconomic variables (political stability, inflation, and unemployment and trade situation) and economic growth may differ significantly. Traditional linear models fail to account for such regime shifts, leading to biased or incomplete conclusions. The MSDR model, however, allows for the identification of these regimes and provides a flexible framework to analyze how the impact of independent variables on economic growth varies across different economic conditions. This makes the MSDR model particularly suited for studying the complex dynamics of Myanmar's economy, which has experienced significant political and economic

shocks, such as the COVID-19 pandemic and the 2021 coup.

Data Pre- Processing

Before applying the MSDR model, the data underwent several pre-processing steps to ensure its suitability for analysis. Data Cleaning: Missing values were addressed using interpolation or imputation methods, depending on the extent of missing data. Outliers were identified and treated using robust statistical techniques to minimize their impact on the analysis. Stationarity Testing: Given the time-series nature of the data, stationarity was tested using the Augmented Dickey-Fuller (ADF) test. Non-stationary variables were differenced to achieve stationarity, ensuring the validity of the regression analysis. Normalization: To facilitate comparison across variables, the data were normalized using z-score normalization, which standardizes the data to have a mean of zero and a standard deviation of one. Lag Selection: Appropriate lag lengths for the variables were determined using information criteria such as the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC).

Model Assumptions

The MSDR model relies on several key assumptions.

(1) Markov Property: The model assumes that the probability of transitioning between economic regimes depends only on the current state and not on the sequence of events that preceded it. This assumption allows the model to capture sudden shifts in economic conditions.

(2) Regime-Dependent Parameters: The model assumes that the relationships between the independent variables (political stability, inflation, and unemployment) and economic growth vary across different economic regimes (e.g., recession vs. boom).

(3) Normality of Errors: The error terms in each regime are assumed to be independently and identically distributed with a mean of zero and a constant variance. This assumption ensures the reliability of the model's parameter estimates.

(4) Ergodicity: The Markov chain is assumed to be ergodic, meaning that the system can transition between states over time, and the long-run behavior of the system is independent of its initial state.

Markov Switching Dynamic Regression Model (MSDR)

The MSDR model is an extension of the standard dynamic regression model that incorporates the concept of Markov switching. It is particularly useful for modeling time series data that exhibit regime-dependent behavior, such as economic growth in the context of political instability. When the process is in states at time t, a general specification of the MSDR model is written as:

$$Yt = \boldsymbol{\mu st} + \boldsymbol{Xt\alpha} + \boldsymbol{Zt\,\beta st} + \boldsymbol{\varepsilon s} \qquad (1)$$

Where Yt is the dependent variable, μs is the state- dependent intercept, Xt is a vector of exogenous variables with state-invariant coefficients α, Zt is a vector of exogenous variables with state-dependent coefficients βs, and εs is an i.i.d. normal error with mean 0 and state-dependent variance σ^2 s. Xt and Zt may contain lags of Yt.

Markov Regime-Switching Models for Co-integration

Suppose we have two nonstationary time series Ut and Vt with integration order 1, and Yt = Ut - δVt (δ is known, typically people propose a δ and then test the stationary property of Yt). If Yt is stationary, then we say time series Ut and Vt are co-integrated. To test for stationarity, the Engle-Grange method tests the = 0 null hypothesis using the ADF unit root test based on the Error Correction Model (EVM) with lag order K (as compared to 0 in which case it is stationary):

$$\Delta Yt = \mu + \gamma Yt - 1 + \sum_{k=1} \beta i\, \Delta Yt - I + \varepsilon t \qquad (2)$$

Where μ is a constant, βi are auto regression coefficients and εt ~ N (0, Σε). In comparison, the Markov regime-switching model we proposed allows Yt to switch between cointegrated or non-cointegrated regimes in a

$$P_x = \begin{bmatrix} P00 & P01 \\ P10 & P11 \end{bmatrix} \quad (3)$$

Where Yt = Ut − δVt and thus ΔYt = ΔUt − δΔVt . PX is the Markov transition matrix of Xt, with

$$pij = \Pr(Xt+1 = j \mid Xt = i) \quad (4)$$

and initial value X 0. When Xt = 0 the model reduces to model (1) with negatively, while Xt = 1 specifies unit root process for Yt, and thus no cointegration exists for time series Ut and Vt. By obtaining inference of the underlining regimes Xt, regime specific parameters, and segmentation of regime specific data, the model provides much information for further generic analysis and decision making.

The Empirical study and simulation study

By adopting a regime-dependent analysis from the previous studies, the authors constructed model is a Markov Switching Dynamic Regression model (MSDR) and we investigate the impact of political instability affects economic growth. The authors conduct Markovian manner, by introducing the regime indicator variable X_t, regime specific parameters and the Markov transition matrix P_X. For the simplicity of exposition, we assume that $X_t \in \{0,1\}$, with $X_t = 0$ denoting that Y_t is stationary (i.e. *Ut* and *Vt* are cointegrated) at time *t* and *Xt* = 1 meaning non-cointegration. Then the model can be written as:

$$\Delta Y_t = \mu^{(X_t)} + \gamma\, I_{\{X_t=0\}}\, Y_{t-1} \sum_{k=1}^{k} \beta_k^{(X_t)} \Delta Y_{t-i} + \epsilon_t,\ \epsilon_t \sim N(0, \sum_{}^{(X_t)})$$

empirical model, using a Markov switching Dynamic Regression Model (MSDR), which aims to investigate the relationship between the dependent variable, Myanmar's financial sector and economic growth, and the independent variables under different economic conditions. To specify the process in the state (s) at time t, we can write the MSDR model equation for this study as:

$$Y_t = \mu_{st} + X_t \alpha + Z_t \beta_{st} + \varepsilon_s \quad (12)$$

Further assume that the Markov chain s is ergodic with transition probabilities between states given by:

$$Pij = P(St = i) \quad \text{where, } i,j = (1,2) \quad (13)$$

Finally, given the estimated transition probabilities, we will compute the expected duration (D) in each of the two states through the following equation:

$$E(Ds) = 1/(1-P_{ij}) \quad \text{where } i,j = (1,2) \quad (14)$$

Result and Discussion

Ordinary Least Squares (OLS) Regression Analysis

Table 1: OLS Regression Test Results

Independent Variable	Coefficients	Std. Error	t	P>|t|	[0.025	0.975]
Political stability	0.477	0.079	6.015	0.000	0.306	0.649
Inflation	0.226	0.09	2.509	0.026	0.031	0.421
Unemployment	-2.504	0.498	-5.031	0.000	-3.58	-1.429
Exports of goods	-0.015	0.043	-0.364	0.722	-0.108	0.077
Imports of goods	0.007	0.029	0.24	0.814	-0.056	0.07
Dependent Variable			**GDP**			
R Square			0.905			
Adjusted R Square			0.869			
F Statistic			24.78			
Prob (F-Statistic)			3.22e-06			

The OLS regression model, applied to the independent variables (Political stability, Inflation, Unemployment, Exports of goods, and Imports of goods), shows a high level of explanatory power with an R-squared of 0.905. The Statistical Measures showed that F-statistic:

24.78, this tests whether at least one of the predictors is statistically significant. Prob (F-statistic): 3.22e-06, this is the p-value associated with the F-statistic. A very low value (much less than 0.05) indicates that the model is statistically significant.

Key findings from the regression model include the coefficient for political stability is 0.4775, indicating a positive and statistically significant relationship with GDP at the 1% significance level ($p < 0.05$). This suggests that an increase in political stability is associated with an increase in GDP. The inflation variable has a positive coefficient of 0.2260, which is significant at the 5% level ($p<0.026$), indicating that higher inflation is associated with higher GDP, possibly reflecting an overheating economy. Unemployment has a negative and statistically significant coefficient of -2.5044 ($p < 0.001$), implying that higher unemployment rates are associated with lower GDP. Export of goods and Imports of goods, both variables show non-significant coefficients, suggesting that within the examined period, their direct impact on GDP was not statistically discernible. The high R-squared value (0.905) and the significant F-statistic suggest that the model provides a good fit for the data. The OLS results highlight the importance of political stability, inflation, and unemployment in driving economic growth in Myanmar.

Markov Switching Dynamic Regression Model Result

Table 2. Markov Switching Model Results

Regime 0 Parameters						
	Coef	**Std. Error**	**z**	**P>|z|**	**[0.025**	**0.975]**
Const	-0.0036	1.77e-15	-2.05e+12	0.000	-0.004	-0.004
Political stability	-0.2189	3.03e-16	-7.22e+14	0.000	-0.219	-0.219
Inflation	0.1837	7.17e-17	2.56e+15	0.000	0.184	0.184
Unemployment	0.0293	nan	nan	nan	nan	Nan
Exports of goods	-0.0039	nan	nan	nan	nan	Nan
Imports of goods	-0.1024	nan	nan	nan	nan	Nan
Sigma2	4.676e-30	3.05e-11	1.53e-19	1.000	-5.98e-11	5.98e-11
Regime 1 Parameters						
	Coef	**Std. Error**	**z**	**P>|z|**	**[0.025**	**0.975]**
Const	4.3790	2.5e-20	1.75e+20	0.000	4.379	4.379
Political stability	0.2992	3.65e-19	8.2e+17	0.000	0.299	0.299
Inflation	0.1152	9.49e-19	1.21e+17	0.000	0.115	0.155
Unemployment	-3.7395	2.92e-19	-1.28e+20	0.000	-3.740	-3.740
Exports of goods	0.0655	1.09e-18	5.99e+16	0.000	0.065	0.065
Imports of goods	-0.0035	1.09e-18	-3.21e+15	0.000	-0.004	-0.004
Sigma2	1.7464	nan	nan	nan	nan	nan
Regime Transition Parameters						
	Coef	**Std. Error**	**z**	**P>|z|**	**[0.025**	**0.975]**
P[0 - > 0]	0.3333	3.28e-19	1.02e+18	0.000	0.333	0.333
P[1 - > 0]	0.1333	8.19e-19	1.63e+17	0.000	0.133	0.133
DependentVariable			GDP			
AIC			-97.985			
BIC			-83.739			
HQIC			-96.020			
Log Likelihood			64.992			

The Markov Switching Model results indicate two distinct regimes. Regime 0: This regime is characterized by a negative intercept (-0.0036) and mixed effects of independent variables, with some coefficients being non-significant. This regime likely represents periods of

economic recession or stagnation, where the impact of political stability, inflation, and unemployment on GDP is weaker or inconsistent. For example, political stability has a negative coefficient (-0.2189) in this regime, which may indicate that during recessions, even stable political conditions are not sufficient to drive economic growth. Regime 1: This regime has a positive intercept (4.3790) and significant coefficients for all variables, indicating clear impacts of political stability, inflation, unemployment, exports, and imports on GDP. This regime likely represents periods of economic boom, where all factors significantly drive growth. For example, political stability has a positive coefficient (0.2992) in this regime, suggesting that during economic booms, political stability further enhances economic growth. The regime transition probabilities suggest that the model can switch between these regimes, capturing different states of the economic recession or economic boom. The model's fit is good, as indicated by the high log-likelihood and low information criteria values.

The following parameters represent the probabilities of transitioning from one regime to another p[0->0] (0.3333): Probability of staying in regime 0 and p[1->0] (0.1333) the probability of transitioning from regime 1 to regime 0. These transition probabilities suggest that the economy can switch between recessionary (Regime 0) and boom (Regime 1) periods. The low probability of transitioning from Regime 1 to Regime 0 (0.1333) indicates that once the economy enters a boom period, it is less likely to fall back into a recession quickly. The Markov Switching Model results indicated these criteria AIC (Akaike Information Criterion): -97.985, BIC (Bayesian Information Criterion): -83.739 and HQIC (Hannan-Quinn Information Criterion): -96.020 help in model selection, with lower values and the high log-likelihood (64.992) indicate that the MSDR model provides a good fit for the data. The model's ability to capture regime-dependent behavior makes it particularly useful for understanding the dynamic relationship between political instability and economic growth in Myanmar.

Explanation of the Smoothed Marginal Probabilities

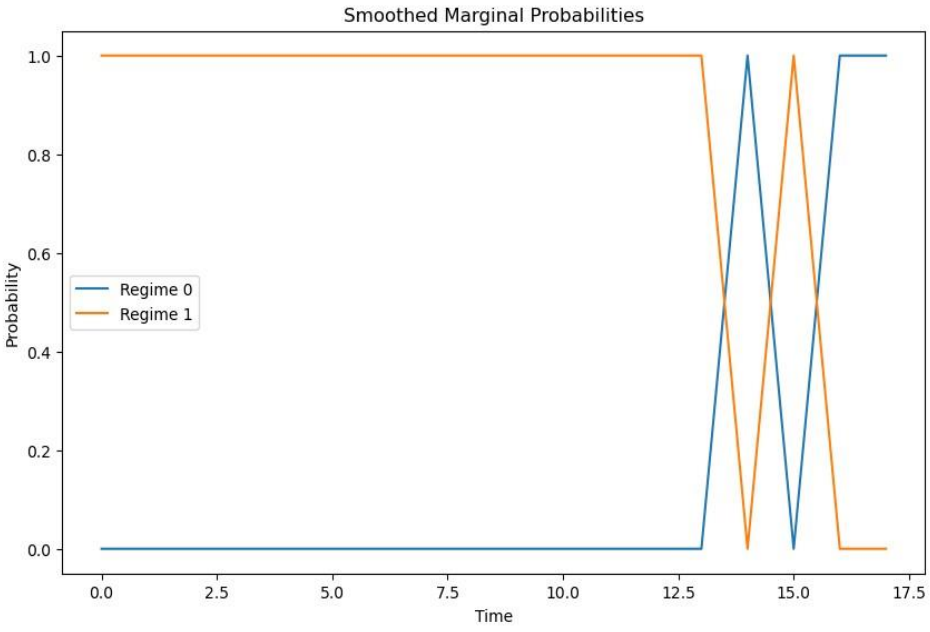

Figure.2

The outputs of figure 2 showed that at the beginning (from time 0 to around 12.5), the probability of being in Regime 0 is 1, indicating that the model is almost certain the data

belongs to Regime 0 during this period. This likely corresponds to a period of economic recession or stagnation. Around time 12.5, there is a sharp transition where the probability of Regime 0 drops to 0, and the probability of Regime 1 increases to 1. This indicates a regime switch from recession to boom. Between time 12.5 and 15, the model switches between Regime 0 and Regime 1 multiple times, showing a period of high volatility or uncertainty. This could reflect a period of economic instability, where the economy is transitioning between recession and recovery. After time 15, the probability stabilizes again, with Regime 0 regaining a probability of 1 and Regime 1 dropping to 0. This suggests a return to a stable recessionary period.

Figure 2 illustrates how the Markov Switching Model identifies different regimes over time and the probability of being in each regime at each observation point. It highlights stable periods and transition phases, offering valuable insights into the dynamic behavior of the dependent variable economic growth (GDP) in response to the independent variables (political stability, inflation, unemployment, export and import of goods). This information can be used to understand and predict economic conditions and make strategic decisions accordingly. The smoothed marginal probabilities provide insights into the periods where the underlying process (GDP in this case) undergoes significant changes. The stable periods reflect consistent behavior that can be associated with a particular regime economic boom or recession. The transition periods can be critical for understanding shifts in economic conditions and for making informed decisions based on the model's regime classifications.

The ability of the MSDR model to identify and switch between different economic regimes is crucial for understanding the dynamic nature of economic growth. In simple terms, regime switching reflects the idea that the economy does not always behave in the same way. During boom periods, factors like political stability and low unemployment significantly drive growth, while during recessionary periods, these factors may have weaker or even negative effects. By capturing these regime shifts, the model provides valuable insights into how economic conditions change over time and how policymakers can respond to these changes.

The Plot "Actual vs. Predicted GDP (MSDR Model)"

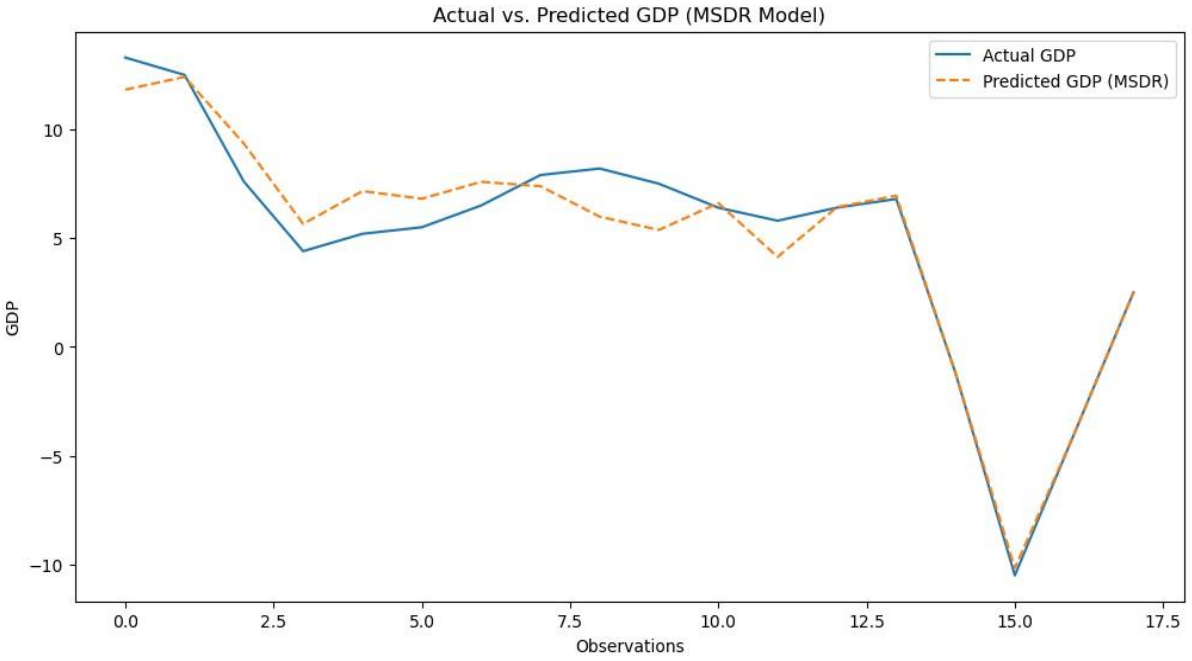

Figure.3

The plot "Actual vs. Predicted GDP (MSDR Model)" compares the actual GDP values with the predicted GDP values generated by the Markov Switching Dynamic Regression (MSDR) model. This comparison is essential for evaluating the model's accuracy and its ability to capture the underlying dynamics of Myanmar's economic growth, particularly in the context of political instability and other macroeconomic factors. The plot displays two lines: the actual GDP line, which represents the observed GDP values over time, reflecting Myanmar's real economic performance during the study period, and the predicted GDP (MSDR) line, which represents the GDP values predicted by the MSDR model. The MSDR model incorporates regime-switching behavior to account for different economic conditions, such as recessionary periods and economic booms.

The plot demonstrates that the predicted GDP values (MSDR) closely follow the actual GDP values for most of the observation period, indicating that the MSDR model provides a good fit for the data. The model effectively captures the general trend and fluctuations in GDP over time. Notably, around observation 15, there is a sharp decline in actual GDP, which the MSDR model successfully predicts. This decline likely corresponds to a significant economic shock, such as the 2021 coup in Myanmar, which had a profound impact on the country's economy. The model's ability to predict this sharp decline underscores its sensitivity to sudden changes in economic conditions.

During periods of economic stability (e.g., between observations 0.0 and 12.5), the actual and predicted GDP values are closely aligned, suggesting that the MSDR model performs well in capturing the consistent behavior of GDP during stable economic conditions. However, between observations 12.5 and 15, the model exhibits some volatility, with the predicted GDP values deviating slightly from the actual values. This period likely represents a transition phase between different economic regimes, such as from recession to recovery, where the economy experiences higher uncertainty and variability. The model's ability to capture this volatility reflects its flexibility in adapting to changing economic conditions.

As an economic significance, the MSDR model's ability to accurately predict GDP across different economic regimes is particularly valuable for understanding the dynamic nature of Myanmar's economy. The model's performance during both stable and volatile periods highlights its usefulness for policymakers, as it can provide insights into how economic growth responds to various factors (e.g., political stability, inflation, unemployment) under different conditions. During Stable Periods, the model's accurate predictions suggest that it can be used to forecast economic growth and inform long-term policy decisions, such as investments in infrastructure or education. During Volatile Periods, the model's ability to capture sudden changes in GDP, such as the sharp decline at observation 15, makes it a valuable tool for crisis management. Policymakers can use the model to anticipate economic downturns and implement targeted interventions to mitigate their impact.

Conclusions

The findings of this study highlight the significant roles of political stability, inflation, and unemployment in influencing Myanmar's GDP, while also revealing the nuanced, regime-dependent impacts of other macroeconomic variables. The positive and significant relationship between political stability and GDP in both the OLS and MSDR models underscores the critical importance of a stable political environment in fostering economic growth. Political stability enhances investor confidence, reduces uncertainty, and creates a conducive environment for economic activities. However, the differing coefficients in the two regimes of the MSDR model suggest that the impact of political stability may vary depending on broader economic conditions. In more volatile regimes, the effect of political stability may be less pronounced due to overriding economic uncertainties.

Inflation's positive relationship with GDP, as indicated by the OLS model, suggests that moderate inflation may coincide with economic growth. However, this relationship requires careful interpretation, as it may also reflect cost-push inflation scenarios where prices

rise due to increased production costs rather than demand-driven growth. In the MSDR model, inflation remains a significant factor in both regimes, indicating its consistent impact on economic performance across different conditions.

The strong negative impact of unemployment on GDP highlights the detrimental effects of joblessness on economic performance. This finding is consistent across both models and regimes, emphasizing the importance of labor market conditions in driving economic output. High unemployment rates reduce consumer spending and lower overall economic demand, thereby contracting GDP.

The evaluation of the MSDR model's forecast accuracy using Mean Absolute Error (MAE), Mean Squared Error (MSE), and Root Mean Squared Error (RMSE) demonstrates its reasonably good predictive performance. The results (MAE: 0.8978, MSE: 1.4553, RMSE: 1.2063) indicate that the model's average errors are relatively small, suggesting its utility in forecasting GDP under varying economic conditions. However, the exact interpretation of these values depends on the scale of GDP and the specific context of the problem.

Recommendations

The findings of this study provide actionable policy recommendations for Myanmar and offer valuable lessons for neighboring economies and international policymakers on managing political and economic crises. The instability in Myanmar, exacerbated by the 2021 coup and the COVID-19 pandemic, has led to disruptions in economic activities, reduced investor confidence, and long-term financial uncertainty. To mitigate these effects and foster sustainable economic progress, policymakers should prioritize the following specific action steps:

1. Strengthening Political Stability

To promote dialogue and reconciliation among political factions to reduce tensions and build a more inclusive governance structure, ensure the independence of key institutions, such as the judiciary and electoral bodies, to enhance transparency and accountability, and establish a transparent legal framework to reduce uncertainty and encourage both domestic and foreign investment.

2. Managing Inflation

Maintain inflation within a stable range through prudent fiscal management and central bank independence, distinguish between demand-pull and cost-push inflation to implement targeted interventions, such as subsidies or price controls, where necessary, and clearly communicate monetary policy decisions to manage inflation expectations and maintain public confidence.

3. Reducing Unemployment

Develop programs to equip the workforce with skills relevant to emerging industries, such as technology and renewable energy, provide financial incentives, such as low-interest loans and tax breaks, to encourage small and medium-sized enterprises (SMEs), and reform labor laws to make it easier for businesses to hire and adapt to changing economic conditions.

4. Strengthening the Financial Sector

Enhance banking supervision and improve transparency in financial transactions to restore confidence in the financial system, streamline business regulations and reduce bureaucratic hurdles to create a more business-friendly environment, and promote the development of non-banking financial institutions to provide alternative sources of credit and investment.

5. Enhancing Trade and Investment

Reduce tariffs and trade barriers to integrate Myanmar into global supply chains and boost exports, invest in transportation, energy, and digital infrastructure to support trade and attract foreign direct investment (FDI), and simplify customs procedures and enhance regional trade agreements to increase economic integration with neighboring countries.

6. Crisis Management and Resilience Building

Establish emergency financial assistance programs and social safety nets to mitigate the impact of economic shocks, reduce dependency on single sources of critical goods by diversifying supply chains and promoting local production, and invest in healthcare infrastructure to better respond to future health crises, such as pandemics.

Suggestions for Future Research

While this study provides valuable insights into the relationship between political instability on Myanmar's financial sector and economic growth, its limitations in data availability may result in gaps, and further research is needed to explore the following areas. Future studies should examine the impact of political instability on specific sectors such as agriculture, manufacturing, and services to identify sector-specific vulnerabilities and policy responses. Also, a deeper investigation into how political instability affects small and medium-sized enterprises (SMEs) and households could provide more targeted policy recommendations to support economic resilience. Future research should evaluate the comparative analysis between Myanmar and other politically unstable economies in Southeast Asia or beyond, which could offer broader perspectives on best practices for managing economic crises.

While the Markov Switching Dynamic Regression (MSDR) model was useful in capturing regime changes, alternative econometric techniques such as machine learning models or structural equation modelling (SEM) could provide deeper insights into causality and policy effectiveness. Addressing these research gaps in future studies can provide a more comprehensive understanding of Myanmar's economic trajectory and support the development of more effective policy interventions.

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