

CENTRAL BANK INDEPENDENCE AND PRICE STABILITY UNDER ALTERNATIVE POLITICAL REGIMES: A GLOBAL EVIDENCE

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ABSTRACT

In this paper, we explore the connection between Central Bank Independence (CBI) and inflation under alternative political regimes. We formulate a predictive model that accommodates CBI in the analysis of inflation and thereafter we regroup the countries based on the choice of political regimes as well as the level of development. We find that CBI has a statistically significant and negative effect on inflation in countries adopting full democratic and partial autocratic regimes; but are statistically insignificant in countries operating full autocratic and partial democratic regimes. The results leading to this conclusion are robust to different levels of development.

Keywords: Central bank independence; Price stability; Democratic regime; Autocratic regime; Panel data analysis.

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I. INTRODUCTION

The world over, central banks are mandated with a rather daunting task of maintaining price stability to which it deploys monetary policy to regulate the value, supply, and cost of money in the economy, in consonance with expected level of economic activity (see Zhang and Clovis, 2010; Cuestas and Harrison, 2010; Kapur, 2013; Hassler and Meller, 2014; Antonakakis *et al.*, 2016; Canarella and Miller, 2017). This in essence acknowledges that central banks are confronted with multiple macroeconomic objectives including external balance and output growth, however, the literature recognizes price stability as the principal objective of the central bank's monetary policy. Nevertheless, scholars have argued that maintaining stable prices is a requisite for achieving other core central bank mandates like raising economic welfare and growth potential in an economy (see Lin and Ye, 2009; Kapur, 2013; Bratsiotis *et al.*, 2015; Kaplan and Schulhofer-Wohl, 2017). The case-study of the Federal Reserve is worthy of mention which see price stability as a prerequisite for the achievement of its other mandates such as full employment (see Wynne, 2008).

In line with the direction of this study, an issue of concern is that the ability of a central bank to commit to its mandate may be influenced by the institutional framework it is positioned, which either enhances or threatens the central bank independence.¹ Theoretically, one could expect that with a fully independent central bank, insulated from political pressures, commitments to monetary policy can be more credible since it is able to resist the pressure to make short-term policy decisions that are at variance with its long-term objective of price stability (see Rogoff, 1985; Walsh, 2005; Bodea and Hicks, 2015; Garriga and Rodriguez, 2020). For instance, a central bank that is subservient to the government may not credibly commit to price stability, especially when governments have discretionary control over monetary instruments and decide to prioritize other policy goals over price stability (see Mas, 1995).² In such a scenario, politicians merely explore monetary policy to produce short-term boosts in employment and output for electoral purposes and thus undermine the central bank's credibility to pursue sound monetary policy goal.

Empirical evidence on the role of CBI in the low inflation mandate of central banks are rather inconclusive and open to further scrutiny as the findings appear to vary for different economic classifications. The extant studies have largely established negative relationship between CBI and the level of inflation³ for the case of industrialized countries (see World Bank, 1992; Cukierman 1992; Lohmann, 1992; Alesina and Summers, 1993; Eijffinger and de Haan, 1996; International

¹ CBI conceptually refers to the freedom of monetary authorities from direct political or government interference in the conduct of monetary policy (Walsh, 2005). It is the ability of the monetary authorities as guaranteed by the act of law to formulate monetary policies void of political or fiscal authority's interference.

² This is what is often described in the literature as time-inconsistency of commitment to price stability (see Barro and Gordon, 1983) where the pledge is to discretion, rather than rules, in the operation of central banks.

³ A number of other studies have examined different dynamics of inflation although without CBI (See, Nghiem and Narayan, 2021; Rizvi and Sahminan, 2020; Narayan, 2019; Salisu, Ndako and Oloko, 2019; Salisu and Isah, 2018; Salisu, Isah, Oyewole and Akanni, 2017; Bathaluddin and Waluyo, 2011)

Monetary Fund, 1999; Berger *et al.*, 2001; Bernhard *et al.*, 2002; Klomp and de Haan, 2010; Hayo and Hefeker, 2010; Arnone and Romelli, 2013). Conversely, there is no such evidence of a general relationship between CBI and inflation in the case of developing economies (see Bagheri and Habibi, 1998; Crowe and Meade, 2007, 2008; Desai *et al.*, 2003; Bodea and Hicks, 2015; Garriga and Rodriguez, 2020). In addition to the varying outcomes of the impact of CBI on the inflation dynamics, the further source of concern is whether the hypothesis of relative effectiveness of CBI in the developed compared to developing countries is due to the system of government in these economies. The motivation for this lies in the arguments that a wide variety of institutional/political factors could influence the nature and magnitude of CBI (see Cukierman, 1994; De Haan and Siermann, 1996; Bagheri and Habib, 1998; Keefer and Stasavage, 2003; Hayo and Voigt, 2008). Surprisingly, there has been little or no attempt to understand whether the inconsistency of the empirical results between the developed and developing countries is due to political regime and level of development. Hence, we evaluate the research question: do political regime and level of development influence the CBI and inflation relation? This constitutes the main contribution of our study.

Consequently, we offer two distinct contributions to the literature on the subject. First, we assess the role of political regime in CBI-inflation nexus. Two notable studies that have also accounted for the role of political regime in the examined nexus are Garriga and Rodriguez (2020) and Kokoszcyński and Mackiewicz-Łyziak (2020). However, in the latter study, the role of political regime is included in the predictive model as an additional determinant of inflation rather than assessing how it can influence the impact of CBI on inflation. In other words, including political regime as another determinant of inflation does not address the question of how political regime can influence the impact of CBI on inflation. While Garriga and Rodriguez (2020) address this question, the analysis is only limited to the developing countries, and therefore, the outcomes are limited to the scope considered. In other words, developed and emerging countries whose level of central bank independence is quite strong (Garriga, 2016) are completely ignored in the study. Thus, we offer a broader perspective where all the available categories of countries are captured in the analysis of the nexus between CBI and inflation. This is the first study to cover an array of these categories of countries (developing, emerging, and developed countries) on the subject while it simultaneously accounts for the role of political regime. Thus, we are able to offer a more representative generalization about the possible role of political regime in CBI-inflation nexus.

The second contribution relates to how the disparities in the state of development among the developed, emerging, and developing countries can influence the impact of CBI on inflation. While both Garriga and Rodriguez (2020) and Kokoszcyński and Mackiewicz-Łyziak (2020) also account for the level of development in the analysis of the CBI-inflation relationship, the variable is only included as an additional regressor in the inflation model. Thus, the question about how this regressor can affect the impact of CBI on inflation is not realized in the two mentioned papers. Again, this is different from what is evident in the literature (including Kokoszcyński and Mackiewicz-Łyziak (2020) and Garriga and Rodriguez (2020) where level of development is included as an additional

regressor in the predictive model of inflation). Including the level of development as another determinant of inflation does not address the question of how the disparities in the state of development can influence the impact of CBI on inflation. Consequently, both political regimes and level of development are captured as intervening variables between CBI and inflation and not as predictors of inflation as done in most studies. We are able to achieve this by regrouping the countries accordingly thus circumventing parameter proliferation of having to create six additional variables (three each) for political regimes and level of development if we were to use interaction terms⁴ (the classification of countries by political regime and level of development).

Meanwhile, empirical results from our study reveal that central bank independence has a negative and significant effect on inflation rate in countries adopting full democracy, but insignificant for countries operating full autocratic system of government. Even after controlling for the role of level of development and outliers, the results remain unchanged. On the other hand, considering the case of countries operating non-perfect autocratic and democratic government, the reverse is observed. In other words, the negative CBI-inflation effect is significant for countries operating partial autocracy, but insignificant for countries operating partial democracy.

The remainder of the paper is organized as follows. Section II explains the data and methodology used in this study. Section III discusses main findings and Section IV concludes our paper.

II. DATA AND METHODOLOGY

A. Data

The dataset employed for this study are annual inflation rates collected from International Financial Statistics (IFS) of the IMF (see <https://data.imf.org/?sk=4C514D48-B6BA-49ED-8AB9-52B0C1A0179B&dsId=1390030341854>) and the Central Bank Independence Index (CBI) obtained from Garriga (2016). The construction of CBI relies on the Cukierman *et al.* (1992) criteria to cypher proxies used to describe the attributes of the chief executive officer of the bank: (1) appointment, dismissal, and term of office; (2) the bank's policy formulation (i.e. who formulates and has the final decision on monetary policy); (3) the role of the central bank in the budget process; (4) objectives and limitations on lending to the public sector. The scores are combined in a single index that ranges from zero (lowest independence) to one (highest independence) (see Garriga and Rodriguez, 2019).

The selected countries are classified into 4 groups: full autocracy, partial autocracy, partial democracy, and full democracy. This classification is derived from the form of government in practice in each of the countries based on the democracy index of the Economist Intelligence Unit (available online at www.eiu.com or https://en.wikipedia.org/wiki/Democracy_Index). For further analysis, we categorize the data into two sub-samples, based on level of development of

⁴ The list countries derived from the classification by political regime and level of development can be made available upon request.

the countries; namely developed and developing countries. For ease of analysis, emerging economies are grouped along with developed one and developing economies remain in a separate group. This grouping is based on the classification of World Economic Situation and Prospects (see WESP, 2019) of the United Nations Conference for Trade and Development (UNCTAD). The data scope ranges from 1990 to 2012 for 176 selected countries. The data scope is guided by the availability of the CBI data only available up to 2012. Interestingly, we do not expect this to affect the results markedly as the classifications of the countries based on form of governance and level of economic development have largely remained the same between 2012 and now.

B. Methodology

When central banks are shielded from political pressures, its credibility is boosted and the problem of dynamic inconsistency is helped mitigated (Bodea and Hicks, 2015b). It is on this basis, that the literature stresses the importance of enforced commitment rules over discretion and emphasizes the need to delegate monetary policy to independent central banks (Rogoff, 1985). In theory, the most prominent benefit of CBI is enshrined in the inflationary bias of government as argued by Kyland and Prescott (1977) and Baron and Gordon (1983). It is noted that government easily gives in to short-term electoral benefit at the expense of long-term price stability. Given the numerous theoretical explanations and solutions for inflation-bias problem, it is widely hypothesized that a direct and negative relationship should be observed between CBI and Inflation. Consequently, several studies have been able to establish this relationship (e.g., Cukierman *et al.*, 1992; Alesina and Summers, 1993; Masciandaro and Spinelli, 1994) while others have observed varying patterns across group of countries (Kokoszcyński and Mackiewicz-Łyziak, 2020) and thus no consensus has been reached in the literature over the direction of the relationship. For this reason, empirical researchers have underlined the need to employ a larger set of panel data to allow for studies to model this relationship across a larger group of countries (e.g., Dincer and Eichengreen, 2014; Kokoszcyński and Mackiewicz-Łyziak, 2020). Furthermore, it is suggested that empirical research attempting to model this relationship in a way that accommodates inter-country differences particularly for political and economic variables (Polillo and Guillen, 2005; Bodea and Higashijima, 2017; Papadamou *et al.*, 2017). Thus, for the empirical analysis, we regroup our datasets in line with their choice of political regime and the level of development.

This regrouping enables us to isolate the role of CBI in inflation dynamics while any endogeneity bias due to the exclusion of other important determinants is resolved in the estimation process. Consequently, we adopt the heterogeneous panel data technique following the work of Westerlund *et al.* (2016). One of the attractions to this technique lies in its suitability for long time-series dimension (T) and its ability to resolve any inherent nonstationarity as well as the associated endogeneity bias. The model has the following form:⁵

⁵ We are grateful to Ditzen (2018, 2019) for providing the relevant codes for the estimation of dynamic panel data models with dynamic common correlated effects. +

$$\pi_{it} = \alpha_i + \delta_i cbi_{i,t-1} + e_{it} \quad (1)$$

$$e_{it} = \lambda_i f_t + \mu_{it} \quad (2)$$

$$i = 1, 2, \dots, N; t = 1, 2, \dots, T.$$

where π_{it} is the annual CPI-inflation series computed as $100 \cdot \log(CPI_{it}/CPI_{i,t-1})$ with CPI_{it} being the consumer price index data for Country i at period t ; $cbi_{i,t-1}$ is the central bank independence series based on the study of Garriga (2016); α_i and δ_i represent the heterogeneous intercept and slope coefficients which are allowed to vary across the units; and e_{it} is the error term. Note that e_{it} is a composite error term comprising an unobserved common factor loading (f_t) accompanied with a heterogeneous factor loading (λ_i) and the remainder error term (μ_{it}) (see the appendix on the definition of various political regimes and levels of development).

From Equation (1), the null hypothesis of no predictability expressed as $H_0: \delta_i = 0$ is tested against the alternative hypothesis of predictability which can either be negative or positive, $H_0: \delta_i \neq 0$ depending on the degree of independence. For the purpose of estimation, we follow the procedure of Chudik and Pesaran (2015) which is also similar in spirit to Westerlund *et al.* (2016). These estimators allow for Common-Correlated Effects (CCE) in the estimation process and ignoring same may lead to biased outcomes.

III. RESULTS AND DISCUSSION

The presentation is divided into sub-sections based on the research objectives. The first objective tests whether monetary policy effectiveness using price stability as a proxy differs between the two extreme systems of government (i.e. full democratic and full autocratic regime). In the second objective, we test whether the outcome will remain the same for countries with partial democratic and partial autocratic regime. The third objective involves testing whether the level of development has a role to play in the nexus. In other words, do we expect developed countries practicing democracy [either full or partial] to perform better [in terms of price stability] than their developing counterparts practicing the same system of government? Similarly, do we expect developed countries involved in autocratic regime [either full or partial] to perform better [in terms of price stability] than their developing counterparts practicing the same system of government. Lastly, we check for the sensitivity of the results to outliers. All these objectives put together constitute the main contributions of the study.

A. Does the Response of Inflation to Central Bank Independence Differ between Full Democratic and Full Autocratic Regime?

We proffer answer to this question using the bivariate predictability model presented in Equation (1) and the dynamic panel common correlated effects estimators (DCCE) by Chudik and Pesaran (2015). Notably, bivariate predictability model has been widely used in the existing literature and has been justified based on its ability to present the direct and unhindered relationship between the dependent and the independent variables (see for example, Westerlund and

Narayan, 2012, 2015; Narayan and Gupta, 2015; Salisu *et al.*, 2018, 2019; Olofin *et al.* 2020). While our classification of countries ensures that countries are homogeneous in terms of the system of government they operate, or their level of development, it may be erroneous to assume that the countries within each group are not actually correlated. Common correlated effects estimators is aptly adopted to capture possible cross-sectional correlation within group, in addition to the heterogeneous effects captured by the regular panel heterogeneous models involving the Pooled Mean Group (PMG) and Mean Group (MG) estimators.

Table 1 presents the result for the CBI-Inflation nexus for full democratic and full autocratic countries. Apparently, the result shows that central bank independence has negative and significant effect on inflation rate for countries adopting full democracy, but has insignificant effect on inflation rate of countries operating full autocratic system of government. In other words, the higher the level of central bank independence in countries operating full democracy as a system of government, the higher the ability of their central bank to maintain price stability. Meanwhile, changes in CBI appear to have no significant effect on the ability of central bankers to maintain price stability under an autocratic government. This is not surprising as any increase in the level of central bank independence under an autocratic government is only a de-facto increase, i.e., inefficient to promote stability. We draw similarity between this result and the work of Kokoszcyński and Mackiewicz-Łyziak (2018) and Agoba *et al.* (2017) who find an inverse relation between central bank independence and inflation. Although, it also contrasts with the findings of Garriga and Rodriguez (2020) where a negative relationship is obtained in some autocratic countries, however, our result is unique as it draws inference for autocratic and democratic group of countries, while their results make inference for developed and developing countries.

Table 1.
CBI-Inflation Nexus for Full Autocratic and Full Democratic Countries

The variable $lcbi$ is the natural log of CBI index. Asterisks ***, ** and * indicate 1%, 5% and 10% level of significant, respectively. See the appendix for the composition of countries involved in FA and FD.

Variables	Full Autocracy (FA)			Full Democracy (FD)		
	Coefficients	Std. Err	P> z	Coefficients	Std. Err	P> z
Constant	-6.0483	38.2901	38.2901	1.0009	0.6455	0.121
$lcbi(-1)$	-50.9804	51.4049	0.874	-6.0427**	2.3560	0.010
R-squared (MG)	0.34			0.64		
No. of groups	42			22		
Obs per group (T)	22			22		
No. of obs	924			484		

B. Does the Response of Inflation to Central Bank Independence Differ between Partial Democratic and Partial Autocratic Regimes?

Furthermore, we examine the case of countries operating a less restrictive autocratic or democratic system of government under partial autocracy and partial democracy, respectively. Results in Table 2 confirm an inverse relation between central bank independence and inflation. However, while this negative effect is significant for countries operating partial autocracy, it is insignificant

for countries operating partial democracy. In other words, an increase in central bank independence under a partial autocratic regime would cause significant reduction in inflation rate and promote price stability. Whereas an increase in central bank independence under a partial democratic regime is a mere de-facto increase; inefficient to promote price stability. This result suggests that a partially autocratic government is more liberal in the management of monetary policy than a partially democratic government. In other words, governments promote real independence of monetary policy management as they move from full autocracy to partial autocracy and retract real independence of monetary policy management as they move from full democracy to partial democracy. This result is similar to the findings of Garriga and Rodriguez (2020) who note that CBI-inflation nexus in some non-democratic countries is negative. Following Jetter *et al.* (2015), this may be because of increase in corruption in countries where democracy is not fully implemented. Under this condition, the ruling class takes interest in the monetary policy management; thus, reduce the efficiency of the central bank independence to inflation rate and promote price stability.

Table 2.
CBI-Inflation Nexus for Partial Autocratic and Partial Democratic Countries

The variable *lcbi* is the natural log of CBI index. Asterisks ***, ** and * indicate 1%, 5% and 10% level of significance, respectively. See the appendix for the composition of countries involved in PA and PD.

Variables	Partial Autocracy (PA)			Partial Democracy (PD)		
	Coefficients	Std. Err	P> z	Coefficients	Std. Err	P> z
Constant	-63.7874**	25.25067	0.012	-14.2885	11.2472	0.204
<i>lcbi</i> (-1)	-279.672**	122.1643	0.022	-45.0025	39.3359	0.253
R-squared (MG)	0.36			0.11		
No. of groups	37			49		
Obs per group (T)	22			22		
No. of obs	748			1034		

C. The Role of the Level of Development

Evidence shows that there is no consensus in the literature on the role of level of development. For example, Agoba *et al.* (2017) find that CBI cannot sufficiently lower inflation in Africa and the developing world. Whereas Kokoszcyński and Mackiewicz-Łyziak (2018) suggest a stronger impact of CBI on inflation for non-advanced economies. In the context of our objective, we further analyze the role of level of development in addition to accounting for the role of system of government. Notably, our results have shown that CBI does not have significant effect on price level stability in a full autocratic system but have negative significant effect on price level stability in a full democratic system. The objective of this section is to investigate whether this result will change if we account for the level of development of the countries involved. Thus, we examine whether the result of the effect of CBI on inflation under full autocratic/full democratic system of government is dissimilar for a developed country and developing country⁶.

⁶ Emerging countries are merged with developed countries as the per capita income of some emerging countries is comparable to that of a developed country.

Table 3 shows the effect of CBI on inflation rate of the developed and developing countries operating full autocratic system of government, while Table 4 shows the effect of CBI on inflation rate of the developed and developing countries operating full democracy. From Table 3, the effect of CBI on inflation rate is statistically insignificant. This is regardless of whether the countries are developed or developing. This suggests that level of development does not matter in the effect of CBI on inflation rate of countries operating full autocratic system. In other words, CBI does not have significant impact on inflation rate of countries operating full autocratic system regardless of whether the country is a developed or a developing country. By implication, the central bank independence of the monetary authority of a country operating full autocratic system of government will be inefficient to maintain price stability.

In addition, evidence from Table 4 shows that the effect of CBI on inflation rate under a full democratic regime is negative and statistically significant for both developed and developing economies. This suggests that variation in the level of development of countries does not matter in the effect of CBI on inflation rate in countries operating full democracy. By implication, the hypothesis that higher level of central bank independence in countries operating full democracy as a system of government enhances the ability of their central bank to maintain price stability holds, irrespective of whether the country operating the full democracy is a developed or a developing country. Generally, our findings contradict that of Kokoszcyński and Mackiewicz-Łyziak (2020) who claims that CBI has a different effect on inflation on different group of countries, especially when grouped by level of development.

Table 3.
CBI-Inflation Nexus for Developed and Developing Full Autocratic Countries

The variable *lcbi* is a measure of central bank independence. Asterisks ***, ** and * indicate 1%, 5% and 10% level of significance, respectively. See the appendix for the composition of countries involved in FA-DE and FA-D.

Variables	Full Autocracy (Dev/Emerg.) (FA-DE)			Full Autocracy (Developing) (FA-D)		
	Coefficients	Std. Err	P> z	Coefficients	Std. Err	P> z
Constant	-49.7163	49.97474	0.320	2.68529	44.9441	0.952
<i>lcbi</i> (-1)	-124.6196	119.020	0.295	-36.2526	57.3197	0.527
R-squared (MG)	0.46			0.33		
No. of groups	7			35		
Obs per group (T)	22			22		
No. of obs	154			770		

Table 4.
CBI-Inflation Nexus for Developed and Developing Full Democratic Countries

The variable *lcbi* is a measure of central bank independence. Asterisks ***, ** and * indicate 1%, 5% and 10% level of significance, respectively. See the appendix for the composition of countries involved in FD-DE and FD-D.

Variables	Full Democracy (Dev/Emerg.) (FD-DE)			Full Democracy (Developing) (FD-D)		
	Coefficients	Std. Err	P> z	Coefficients	Std. Err	P> z
Constant	0.8999	0.69239	0.194	2.0108	2.0108	0.317
<i>lcbi</i> (-1)	-5.0844**	2.4672	0.039	-15.625***	4.97337	0.002
R-squared (MG)	0.65			0.35		
No. of groups	20			2		
Obs per group (T)	22			22		
No. of obs	440			44		

D. Are the Results Sensitive to Outliers?

Recent empirical studies such as Salisu *et al.* (2020) note that the presence of outliers could influence the outcome of an experiment. Outliers in this study are the countries with running inflation in the period under consideration. From the 42 countries operating full autocratic system of government, nine countries (Azerbaijan, Belarus, Guinea, Guinea Bissau, Iraq, Russia, Sudan and Tajikistan) are regarded as outliers in this study given the incidence of running inflation over the period under consideration. The result for the other thirty-three countries, with relatively stable inflation rate, is presented in Table 5. Evidently, the results reveal that central bank independence does not have significant effect on inflation rate of countries operating full autocratic system of government, which mirrors the result obtained when the outliers are included (see Table 1) suggesting that outliers do not matter to our main results. By implication, it indicates that the result that a negative and statistically insignificant relationship exists between CBI and inflation in countries operating full autocratic system is robust, not only to variation in level of development but also to exclusion outliers.

Table 5.
CBI-Inflation Nexus for Full Autocratic Countries (Less Outliers)

The variable *lcbi* is log of CBI, a measure of central bank independence. Asterisks ***, ** and * indicate 1%, 5% and 10% level of significant, respectively. FA-O countries include Afghanistan, Burundi, Cambodia, Cameroon, Central African Republic, Chad, China, Comoros, Congo DR, Congo Republic, Djibouti, Egypt, Equatoria Guinea, Ethiopia, Gabon, Guinea Bissau, Jordan, Kazakhstan, Kuwait, Libya, Maldives, Mauritania, Myanmar, Nicaragua, Niger, Oman, Qatar, Rwanda, Saudi Arabia, Togo, UAE, Venezuela, Vietnam, Yemen and Zimbabwe. O countries include Azerbaijan, Belarus, Guinea, Guinea Bissau, Iraq, Russia, Sudan and Tajikistan.

Variables	Full Autocracy (Less outliers) (FA-O)		
	Coefficients	Std. Err	P> z
Constant	2.906797	6.934018	0.675
<i>lcbi</i> (-1)	-6.88283	8.259524	0.405
R-squared (MG)	-0.01		
No. of groups	33		
Obs per group (T)	22		
No. of obs	726		

IV. CONCLUDING REMARKS

This study investigates the role of system of government in the nexus between Central Bank Independence (CBI) and price level stability. Specifically, it tests whether the effect of CBI on price stability differs between countries operating full autocratic and full democratic systems of government using relevant heterogeneous panel data techniques. It also investigates whether the outcome from these extreme cases can be generalized for the non-perfect autocratic and democratic systems.

Empirical results from this study reveal that central bank independence has a negative and statistically significant effect on inflation rate in countries adopting full democracy, but insignificant for countries operating full autocratic system of government. Even after controlling for the role of level of development and outliers, the results remain unchanged. In other words, CBI has a negative and statistically significant effect on inflation rate of countries operating full democratic system of government, regardless of whether the country is developed or developing, and regardless of whether the country records running inflation (is an outlier) or not. On the other hand, CBI does not have significant impact on inflation rate of countries operating full autocratic system of government regardless of whether the country is developed or developing, and regardless of whether the country records running inflation or not.

Considering the case of countries operating non-perfect autocratic and democratic government, the reverse is observed. In other words, the negative CBI-inflation effect is significant for countries operating partial autocracy, but insignificant for countries operating partial democracy. This result appears to suggest that partially autocratic government is more liberal in the management of monetary policy than partially democratic government. Put differently, governments tend to promote real independence of monetary policy management as they move from full autocracy to partial autocracy and retract real independence of monetary policy management as they move from full democratic to partial democratic. This is an interesting puzzle for future researchers to revisit and may open up debate for the political economy of autocratic regimes. Notwithstanding, future analyses that ignore the role of system of government in the nexus may report biased outcomes.

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Appendix
Table A: List of Important Concepts

Full Name	Definition/calculation	Source(s)
Full Autocracy	Nations operating full autocratic regimes usually involve absolute monarchies or dictatorships. They are also characterized by the following: (i) infringements and abuses of civil liberties; (ii) lack of free and fair elections (if they take place); (iii) control/ownership of the media by the State or the ruling regime; (iv) lack of judicial autonomy; and (v) suppression of governmental criticisms.	www.eiu.com
Full Democracy	Nations operating full democracies enjoy civil liberties and fundamental political freedoms. Under this system of government, there are governmental checks and balances, independence of the judiciary, and independence of the media as well as freedom of speech.	www.eiu.com
Partial Autocracy	Nations operating partial autocratic regimes involve regular electoral frauds, preventing them from being fair and free democracies. This system of government usually exhibits the following: (i) the practicing nations usually apply pressure on political opposition; (ii) lack of independence of the judiciary, (iii) widespread corruption, harassment and pressure placed on the media, and (iv) anaemic rule of law, and more pronounced faults than partial democracies in the realms of underdeveloped political culture, low levels of participation in politics, and issues in the functioning of governance.	www.eiu.com
Partial Democracy	Nations operating partial democracies usually enjoy fair and free and basic civil liberties but may have limited media freedom and minor suppression of political opposition and critics. These nations have significant faults in other democratic aspects, including underdeveloped political culture, low levels of participation in politics, and issues in the functioning of governance.	www.eiu.com
Full Autocracy (Developed/Emerging)	Developed or Emerging economies who practice full autocratic system of government.	
Full Autocracy (Developing)	Developing economies who practice full autocratic system of government.	
Full Democracy (Developed/Emerging)	Developed or Emerging economies who practice full democracy system of government.	
Full Democracy (Developing)	Developing economies who practice full democratic system of government.	
Full Autocracy (Less outliers)	Full autocratic countries less some countries with extreme inflation figus	

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