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MEASURING CENTRAL BANK INDEPENDENCE IN MALAWI: THE NEW INDEX OF INSTITUTIONAL QUALITY APPROACH

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Abstract:
This study applied the Index of Institutional Quality (IQ) methodology to measure the level of independence of the Reserve Bank of Malawi (central bank) and examine its impact on inflation. The IQ methodology assesses independence of central banks based on their actual practices. The methodology is suitable for developing countries whose practices do not fully conform to the laws of Banks that are in place. The study finds that the average independence index of the Reserve Bank of Malawi (RBM) is 15.1, which is more than half below the total index value of 36. This clearly shows that the RBM is not convincingly independent. Although the results show an above-average value for the index of monetary policy independence, indications are that the RBM is not free from political pressures as evidenced by below-average values for indices of political and fiscal independence. Using Ordinary Least Square (OLS), the results further show that the low degree of independence by the RBM has contributed to high inflation in Malawi.

Keywords: index of institutional quality methodology, central bank, Reserve Bank of Malawi, central bank independence, inflation

JEL: E01, E42, G38

1. Introduction

The Reserve Bank of Malawi (RBM) was established in 1964 under the Act of Parliament which was passed in July 1964 but became operational in 1965. At the time of its

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establishment, RBM's objectives were limited to issuing legal tender, maintaining foreign exchange reserves, promoting monetary stability, develop the financial system, in addition to being a banker to the Malawi Government. The coming of the IMF-supported financial sector liberalization programs in the 1980s led to the enactment of the RBM Act in 1989. This enactment broadened the mandate and powers of the RBM, granting it more monetary policy operational independence and more financial sector supervisory powers that had hitherto been in the hands of the Ministry of Finance, and led to the abandon of repressive monetary policy tools[ii] in favour of market-oriented indirect monetary policy instruments.[iii] Such a move was aimed at facilitating the conduct of monetary policy in line with the macroeconomic objectives of a manageable and stable inflation rate, high economic growth, and a sustainable balance of payments (BOP) position.

Despite the above reforms, performance of the targeted macroeconomic variables has generally not been satisfactory over the years. Inflation has at most times been in double-digits; current account balance in deficits; and the rate of economic growth far less below the minimum required for poverty reduction and sustainable development. These outcomes raise a number of questions regarding the conduct and effectiveness of monetary policy in Malawi and have thus, motivated growing research interest in this area. So far, the focus has been on validating theories such as exchange rate pass through (e.g. Jombo et al. 2014) and Structuralist and Monetarist theories (e.g. Simwaka et al. 2012). As it is known, these theories were developed on the assumption of a perfect market economy where the role of institutions and government are largely neglected. However, in recent years a body of political economy literature has shown that institutional factors such as central bank independence also play an important role towards the attainment of monetary policy goals, especially the inflation objective. As classified in Eijffinger and De Haan (1996), a central bank attains independence if influence of government in the areas of mainly personnel, financial, and policy matters is excluded or drastically curtailed. Whether such independence is present in the Reserve Bank of Malawi and its associated impact on inflation is something that this paper seeks to investigate.

Theory predicts a negative relationship between CBI and inflation and this has been empirically supported by a number of studies as summarised in Crowe and Meade (2007), and Cukierman (2008), among others. Such a relationship exists because it is assumed that independence insulates central bank policymakers from political

[ii] These are quantitative tools such as credit ceilings and quotas, interest rate caps, and directed lending to candidate sectors.

[iii] Open market operations, Reserve Requirement, and Discount Rate.

pressures and therefore, enables the Bank to achieve its primary objective of price stability. However, due to the diversity of the form which CBI takes, to test the CBI-inflation hypothesis one needs an indicator that measures the extent to which monetary policy is independent of political influence. So far, the bulk of empirical literature has focused on indicators for the legal measure of CBI and the measure for turnover rate of central bank governors. As Klomp and De Haan (2010) point out, legal measures of CBI may not reflect the true relationship between the central bank and government especially in countries where the rule of law is less strongly embedded in the political culture like the case in most developing countries. There can be wide gaps between the formal legal institutional arrangements and their practical impact (Walsh, 2005). Cuikerman et al. (1992) argue that the actual average term in office of the central bank governor may therefore, be a better proxy for CBI for developing countries than measures based on central bank laws. However, as indicated in Klomp and De Haan (2010), this argument is also subject to criticism as sometimes governors may hold office longer simply by being obedient to political leaders.

A major limitation with the traditional approaches to CBI is that the index has been derived using one indicator of central bank independence. The problem with this approach, however, is that the resultant index may not match with the actual practice and therefore, is suboptimal. As suggested in Cuikerman (2004), a better index would be one that combines effects of all aspects of central bank independence applicable to an economy.

In line with Cukierman's proposition, the current study applies Mathew (2012)'s institutional quality approach to develop a CBI for the Reserve Bank of Malawi. The index is derived from combined effects of attributes from Monetary Policy Independence (MPI); Personnel or Political Independence (PI); and Fiscal or Financial Independence (FI). As stated by Mathew , the index is better called an actual or de-facto index rather than a legal or de-jure index because it is based on the actual institutional practices (norms) of the central bank and not necessarily, what is written in central bank laws. Hence, the index is an interpretation of CBI based on those laws, which are put to actual practice and those practices that are not in the law.

The overall objective of this study is therefore, to determine the level of independence for the Reserve Bank of Malawi and determine its driving factors, as well as examine whether there exists a relationship between CBI and inflation. The remainder of the paper is organised as follows: section 2 presents a review of new institutional economics and central bank independence. Section 3 describes the methodology, while section 4 examines the measurements and presents the results of

the econometric analysis. The final section provides concluding comments and policy recommendations.

2. Central Bank Independence: The New Institutional Economics Framework

The theoretical roots of central bank independence are embedded in the New Institutional Economics (NIE), which advocates for analysis of the roles of the state and its agencies, such as central banks, in the market economy. The current study follows the definition of CBI in Eijffinger and De Haan (1996), which is based on the context of institutional relationship between government and the central bank. According to Eijffinger and De Haan, CBI relates to three areas in which the influence of government must be either excluded or drastically curtailed: (i) independence in personnel, (ii) financial, and (iii) independence with respect to policy matters.

A central bank is said to have *Personnel or Political independence (PI)* if the influence of government is partially or fully excluded from central bank's appointment procedures. The level of such independence may be determined by factors such as government representation in the governing body of the central bank and government influence in appointment procedures, terms of office, and dismissal of the governing board of the bank.

Financial Independence or Fiscal Independence (FI) refers to the ability of the central bank can restrict the government from direct or indirect access to central bank credit. Direct credit arises when central bank allows monetization of the fiscal deficit, while indirect credit happens when the central bank participates in the management of government debt in the primary market. Direct credit also takes the form of securitized lending when backed by negotiable securities, and non-securitized lending when not backed by negotiable securities.

Monetary Policy Independence (MPI) refers to the flexibility given to the central bank in the formulation and execution of monetary policy. Debelle and Fischer (1994) distinguish between independence with respect to both goals and instruments. A central bank is considered to have goal independence if it has complete discretion in setting the ultimate goals of monetary policy such as inflation, unemployment, or economic growth.

The governance structure of central banks has two major aspects: corporate governance, and public governance (Oritani 2010). Of these, NIE mainly provides the theoretical framework to study deeply the public governance aspect of central banks. Public governance is understood to be an institutional framework where the public governs the central bank by and through the legislative and executive bodies in a

country. Under NIE, two principal theories guide the analysis of public governance under which the issue of central bank independence is discussed: agency theory and public choice theory. The agency theory mainly discusses issues related to central bank independence and accountability. The theory argues that central banks which have multiple principals have no room to implement biased policies as they are accountable to several principals. By being accountable to several principals, central banks gain some form of independence in implementing prudent policies and this is reinforced in the constitution.

Public choice theory is an aspect of public economics that applies economics to the analysis of the political process and government behavior. This theory considers government as an assembly of many individuals, branches, and organizations with different interests and objectives. The central bank, being an organization with a public mandate, belongs to the government in a broad sense, as do the legislative, executive, and judicial branches. It acts in interplay with the other governmental bodies within a country's governance structure. Under this theory, debate has also centered on supporting the existence and role of central bank in solving the problem of government failure and how to strike the right mix of independence and accountability to ensure that a central performs its functions to best effect.

Nevertheless, the agency theory and public theory underpin four characteristics of NIE namely: transaction costs, state and property rights, bounded rationality, and the role of institutions. Beside the public choice theory and the agency theory, in the wake of Bretton Woods crisis, new institutionalists also developed new theories to prove that advancement of central bank independence could deliver low inflation. Among these, the most significant to be discussed is the time-inconsistency problem of monetary policy. All these theories are analysed in line with the three aspects of CBI.

3. A New Index of Institutional Quality

3.1 Methodology

This paper adopts Mathew (2012)'s new index for central bank independence, the new index of institutional quality methodology, to derive an index of independence for the Reserve Bank of Malawi. This methodology is built on three areas of CBI established by Eijffinger De Haan (1996). The new index[iv] of CBI is constructed as sum of the numerical values assigned to 18 institutional attributes (both in law and in practice) of

[iv] There is no non-arbitrary way of aggregating the various criteria or attributes of CBI to a composite index. The value of the index is subject to interpretation bias, weighting bias, and criteria bias, since, here some kind of subjectivity is unavoidable.

central banks: 6 for Monetary Policy Independence (MPI); 6 for Personnel or Political Independence (PI); and 6 for Fiscal or Financial Independence (FI). Each of the above 3 aspects take a maximum value of 12, thus yielding a maximum aggregated value of 36 for the new index of CBI. This index can also be called a weighted index of CBI with a scale[v] of 0-36, since attributes are weighted unequally. According to Mathew (2012), the new index is better called an actual or de-facto index rather than a legal or de-jure index because the aggregated value is based on the actual institutional practices (norms) of the CBs and not necessarily, what is written in the central bank law. Hence, the index is an interpretation of CBI based on those laws that are put to actual practice and those practices that are not in law. The 18 attributes or criteria used for constructing the new index for CBI and the possible scores attached to sub-groups of each criterion are defined in detail in Mathew (2012).

This study constructs and compares CBIs for the Reserve Bank of Malawi for the sub-sample periods 1964- 1989, 1989- 2010 and 2010- 2014 using attributes for the 3 aspects of CBI outlined above. The sub-samples mainly reflect regimes of the constitution of the Reserve Bank of Malawi. The score assigned to each criterion is aggregated to obtain the value of CBI. The higher the value assigned to each criterion, the higher will be the CBI and therefore, the more independent a central bank is with respect to that aspect. Using Mathew (2012), the categorization and rating of the indicators of CBI are as follows:

A. Monetary Policy Independence (MPI)

A1. The degree of conservativeness of the central bank or independence in setting effective objectives

- The objective of monetary policy is only price stability or price stability is the principal and overriding, long run goal of monetary policy (3 points);
- The objective of monetary policy includes price stability and other aspects like financial stability-both exchange rate stability and banking sector stability (2 points);
- The objective of monetary policy includes price stability, financial stability and other conflicting concerns like stimulating economic growth and employment output stability (1 point);
- The objective of monetary policy is directed to stimulate economic growth and employment with little or no concern for price stability (0 point).

[v] Maximum Score for CBI=36. Monetary Policy Independence (12) + Personnel Independence (12) + Fiscal Independence (12) =36

A2. The degree of Goal or Target Independence

- The central bank alone sets the numerical goals or targets for its objectives such as exchange rates, monetary aggregates, interest rates or inflation (3 points);
- The central bank and government jointly set goals or targets for its objectives, for instance, through a policy targets agreement (1.5 points);
- The government alone sets the targets for the objectives (0 points).

A3. The degree of Instrument Independence

- The central bank alone sets the instruments of monetary policy to achieve its objectives (3 points);
- The central bank and the government jointly set the instruments of monetary policy (1 point);
- The government alone decides on setting instruments (0 point).

A4. General policy conflicts

- The central bank absolutely prevails over the government in case of policy conflicts (1 point);
- The government prevails over the central bank, subject to due process and possible protest from the latter (½ point);
- The government absolutely prevails over the central bank (0 point).

A5. Exchange Rate Policy Co-ordination

- Central bank formulates and implements exchange rate and foreign exchange policy consistent with objectives of monetary policy, bank's view prevails over the government in case of policy inconsistency (1 point);
- Central bank formulates and implements exchange rate and foreign exchange policy on basis of instructions given by the Government, or Government's view prevail over (0 point).

A6. Financial Supervision

- The banking supervisory function is separated from the central bank and entrusted to an autonomous government agency so that it will not impinge on monetary policy (1 point);
- The banking supervision is jointly undertaken by the central bank and separate government agency (½ point);
- The function of monetary policy and banking supervision is combined in a single institution, the central bank (0 point).

Maximum Score for MPI= 12

B. Political Independence or Personnel Independence (PI)

B1. Appointment of the Governor

- The governor ıs appointed by the central bank Board or two different bodies, which really balance one another, respectively nominate and appoint the Governor, for instance, the board or ministry of finance nominates and the legislature appoints (2 points);
- The government both nominates and appoints the governor, for instance, ministry of finance nominates and the cabinet appoints the governor (0 point).

B2. Terms of the Governor

- The term is longer than 5 years (2 points);
- The term is 5 years (1 point);
- The term is 4 years (½ point);
- The term is less than 4 years (0 point).

B3. Dismissal of the Governor

- The dismissal of the governor is possible only in the case of breach of qualification, misconduct, or poor performance; the procedures are very transparent, and within the approval of the legislature (1 point);
- The dismissal of the Governor is possible only in the case of breach of qualification, misconduct, or poor performance, but the procedures are not transparent, and not with the approval of the legislature (½ point);
- Unconditional dismissal of the Governor by the government (0 point).

B4. Appointment of Board Members

- Government appoints not more than half the members of the board; or two different bodies, which really balance one another, respectively nominate and appoint the board members, for instance, the ministry of finance nominates and the legislature appoints (3 points);
- Government appoints more than half or all the members of the board (0 point).

B5. Term of the Board Members

- The term is longer than five years and staggered (2 points);
- The term is 5 years and staggered (1 point);
- The term is 4 years and staggered (1/2 point);
- The term is less than 4 years and staggered (0 point).

B6. The Presence of Government Nominees in the Bank Board

- There is no mandatory participation of government representative in the bank board (2 points);
- There is mandatory participation of government representative in the bank board (0 point).

Maximum score for PI= 12

C. Fiscal Independence or Financial Independence (FI)

Limitations on CB lending to the Government

C1. Limitations on advances (non-securitized lending)

- Central bank advances to the government prohibited (3 points);
- Central bank advances permitted, but with strict limits in terms of absolute cash amounts (2 points);
- Central bank advances permitted with loose and accommodative limits (1 point);
- No legal limits on central bank advances to the government (0 point).

C2. Limitation on securitized Lending

- Central bank advances to the government prohibited (1½ points);
- Central bank advances permitted, but with strict limits in terms of absolute cash amounts (1 point);
- Central bank advances permitted with loose and accommodative limits (1½ points);
- No legal limits on central bank advances to the government (0 point).

C3. Specification of the limits of CB Lending

- Central bank lending defined in absolute currency amounts (1½ points);
- Central bank lending defined in shares of government revenue (1 point);
- Central bank lending defined in shares of government expenditure (0 point).

C4. Maturity of Loans

- The maturity of central bank loans cannot exceed 6 months (2 points);
- The maturity of central bank loans above 6 months but cannot exceed 1 year (1 point);
- No legal limit on the maturity of central bank loans (0 point).

C5. Restrictions on Interest rates

- Central bank lends to the government at market interest rate (2 points);
- Central bank lends to the government at below market interest rates, but positive rates (½ point);
- Central bank lends to the government at zero interest rates (0 point).

C6. CBs participation in the primary market for Government securities

- The central bank is prohibited from buying government securities from the primary market or if not prohibited from buying government securities from the primary market is discretionary or voluntary (2 points);
- The central bank is an active and involuntary buyer in the primary market for Government securities (0 point).

Maximum score for FI = 12.

Subsequently, *maximum score of CBI = MPI+PI+FI= 36.*

4. Analysis of Results

Table 1 provides a summary of the computation of the CBI index for the Reserve Bank of Malawi using the above classification for three sub-sample periods covering 1964-2014. The sub-periods are determined by the regimes of the constitution of the Central Bank of Malawi. From the results, the average CBI index is at 15.1, which is below half of the total level of 36 and lower than that of central banks captured in Mathew (2012) study. The following section will provide an analysis of CBI ındex in different sub-periods.

4.1 Interpretation of CBI Index

A. 1964-1989 Period

An evolution of the 3 aspects of CBI shows that during the period 1964-1989 overall CBI index was 1 and this emanated from personnel independence as both monetary policy independence and financial independence had scores of zero. Personnel independence registered a score of 1 because during this period all the governors completed their tenure of office. About the monetary and financial independence, the results are not surprising since during this period, in carrying out its mandate which, according to section 185 of the Constitution of the Laws of Malawi, was to influence money supply, availability of credit, interest rates and exchange rate in order to promote price stability, economic growth and a sustainable balance of payments position, the RBM was mainly influenced by the Ministry of Finance.

Prior to 1989, RBM was subordinated to the Treasury and it mainly performed roles as a development bank. Therefore, it was not independent in its conduct of monetary policy, let alone instrument independence. The conduct of monetary policy was through direct instruments notably credit ceilings and quotas, interest rate caps, directed lending to candidate sectors, among others. These controls were ostensibly designed to favour parastatals and the elites who engaged in commercial agriculture.

B. 1989-2010 Period

During the period 1989-2010, the overall CBI index improved to 15.8 from 1.0 registered in the period 1964-1989. This improvement was mainly due to gains in Monetary Policy Independence. Specifically, the MPI score improved to 8 out of 12 from zero in the previous period. After the liberalization of the financial sector and granting of independence to the RBM, most of its roles improved. For instance, the central bank adopted the mandate of ensuring price stability and gained instrument independence such as setting monetary targets. With the support of the International Monetary Fund, RBM adopted Monetary Targeting Policy framework in 1994.

As for financial independence, although the score improved from zero in the previous period to 7.2, there have been fluctuations in the score due to several factors notably political business cycles with increased central government borrowing from central bank during the election periods. Secondly, central bank advances to the government also grow during periods of donor aid freeze, for instance, prior to 1994 elections and between 2001 and 2003 when the Poverty Reduction and Growth Facility was withdrawn. These developments reflect time inconsistency and business cycle theories of central bank independence. Besides that, the law allows RBM to finance budget deficits using the Treasury Bills and ways and means advances, which is considered as a major shortfall in as far as central bank independence is concerned.

Furthermore, performance of the RBM on Political Independence (PI) was quite poor during the 1989-2010 period. The PI score wavered between 0 and 1. The score of 1 was obtained when the appointed central bank governor completed his/her tenure of office. However, the poor score is attributed to the fact that that there was too much intervention on bank's managerial issues by the government. This is highlighted both in legal acts and is also evidenced in practice. For instance, between 1988 and 1995 there were changes in central bank governors before the end of their terms of office.

C. 2010-2014 Period

In the period 2010-2014, the overall CBI index slightly dropped to 15.3 from 15.8 despite amendments to the central bank constitution. The drop in the CBI ındex was mainly attributed to the actual practices rather than the law. From 2010 to 2014, the MPI score remained unchanged at 8 as in the previous sub-periods. This notwithstanding, over these years, indications are that RBM lacked independence in implementation of some other policy issues related to monetary policy. For instance, the RBM's exchange rate policy and foreign exchange decisions were formulated and implemented based on instructions from government. Furthermore, the function of monetary policy and banking supervision are combined in a single institution, the RBM. This affects decision in managing price stability and at the same time ensuring financial system stability. Meanwhile, the performance of RBM on Political independence during the 2010-2014 period followed the same pattern as the 1989-2010 period.

The study shows that RBM does not meet many of the indicators for political independence provided by the Institutional of Quality index framework as compared to fiscal independence. The index of fiscal independence however, dropped slightly from 7.1 in the previous period to 6.7 in the 2010-2014 period. This development was mainly due to increase in government debt from the central bank following the freeze of donor support.

Table 1: Measuring CBI and its Various Aspects in Malawi

Years	A Monetary Policy Independence						MPI	B Personnel Independence						PI	C Fiscal Independence						FI	CBI	INF
	A1	A2	A3	A4	A5	A6		B1	B2	B3	B4	B5	B6		C1	C2	C3	C4	C5	C6			
1964-1989	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	16.10
1989	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1.5	1	2	2	2	8.5	16.5	12.45
1990	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1.5	1	2	2	2	8.5	16.5	11.82
1991	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1.5	1	2	2	2	8.5	16.5	12.62
1992	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	0.5	1	2	2	2	7.5	15.5	23.75
1993	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	0.5	1	2	2	2	7.5	15.5	22.77
1994	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	0.5	1	2	2	2	7.5	15.5	34.65
1995	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	83.33
1996	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	37.60
1997	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	9.14
1998	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	29.75
1999	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	44.80
2000	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	29.58
2001	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	22.70
2002	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	14.74
2003	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	9.58
2004	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	11.43
2005	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	15.41
2006	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	13.97
2007	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	7.95
2008	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	1	1	1	2	2	7	16	8.71
2009	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1	1	1	2	2	7	15	8.42
2010	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1	1	1	2	2	7	15	7.41
1989-2010	3	1.5	3	0.5	0	0	8	0	0.64	0	0	0	0	0.64	0	0.86	1	1	2	2	7.1	15.8	21.5
2010	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1	1	1	2	2	7	15	7.41
2011	3	1.5	3	.5	0	0	8	0	0	0	0	0	0	0	0	1	1	1	2	2	7	15	7.62
2012	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	21.27
2013	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	27.28
2014	3	1.5	3	.5	0	0	8	0	1	0	0	0	0	1	0	0.5	1	1	2	2	6.5	15.5	24.43
2010-2014	3	1.5	3	0.5	0	0	8	0	0.6	0	0	0	0	0.6	0	0.7	1	1	2	2	6.7	15.3	17.6

Note: The new index of CBI is constructed as a sum of the numerical values assigned to 18 institutional attributes (both in law and practice) of central banks: 6 for Monetary Policy independence (MPI); 6 for Personnel or Political independence (PI); and 6 for Fiscal or Financial independence (FI). The score assigned to each criterion is aggregated to obtain the value of CBI index that takes a scale of 0-36. Higher the value assigned to each criterion, higher will be the CBI. INF is annual rate of inflation.

4.2 Regression Analysis of Relationship between Inflation Central Bank Independence Index

Using macroeconomic data sourced from RBM publications, a bivariate regression analysis was conducted between CBI index and inflation. Since the study is carried out from a political economy perspective, we assumed that the anti-inflationary impact of CBI may vary depending on the configuration of other political, economic, structural, and institutional features of the setting in which the central bank operates. Consequently, another regression analysis was run, which considered effects of other relevant factors such as GDP, money supply and a dummy variable.

Table 7.2: Regression results

Dependent variable			**DINFL**	
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	29.01763	6.937236	4.182881	0.0003
DNCBI	0.561034	0.583461	0.961563	0.3448
D2F	12.30395	5.908765	2.082321	0.0469
M2	6.07E-11	2.82E-11	2.150298	0.0406
DGDP	-9.001063	3.091119	-2.911911	0.0071
Variable				**Value**
R Square				0.312801
F statistic				3.072485
Significance Value of F statistics				0.033000

5. Interpretation of Results

DNCBI is a first differenced form of CBI index and it is positively related to inflation although the relationship is not significant.

D2F is a dummy variable capturing the CBI developments during the period of liberalisation of the financial sector. The positive relationship means the low level of CBI registered in Malawi contributes to inflation. This outcome is consistent with the findings of Cukierman (2008) and Meade and Crowe (2007). The channel through which this lack of independence contributes to inflation is mainly through contraction of government advances from RBM and the Bank's purchase of government Treasury Bills.

M2 is broad money supply, which as expected, has a positive coefficient, implying that an increase in money supply creates inflationary pressures.

DGDP is the first difference of real GDP and it shows a negative relationship with inflation, thereby confirming predictions by endogenous growth theorists and the classicalists. Malawi is pre-dominantly an agriculture economy, of which maize (the

country's staple food) has a significant weight. A growth in real GDP, which entails high agricultural production, implies low pressures on food prices that lead to a decrease in inflation. The converse is also true.

6. Conclusion

This study attempted to apply the Index of Institutional Quality methodology to measure independence of the RBM. This methodology is supported by theories such as public choice theory, agency theory and time-inconsistency theory under the New Institutional Economics framework. The theories under NIE framework showed that the operations of the central bank at times are not in line with principles of monetary policy independence, political independence and fiscal independence, which in turn affects attainment of monetary policy objectives. As a policy analysis initiative, the study attempted to measure independence of the RBM during the period 1964-2014 through which it was found that the degree of independence was very low, as the average CBI index stood at 15.1 against the total index of 36. Even though the monetary policy independence was above average, indices for political and fiscal independence were both below half of the maximum level of the index. The finding of low degree of independence for RBM confirms early findings by Wessels (2009) who conducted a comparative analysis of CBI in SADC countries and found that RBM was not worth to be classified as independent. This notwithstanding, the index of independence registered a substantial improvement of 15.1 in the liberalization period compared to 1 in the pre-liberalization period.

Further, the study also finds that the low level of RBM independence contributed to high inflation in Malawi during the studied period. It is assumed that the link between RBM independence and inflation is through government advances contracted from RBM and the Bank's purchases of government Treasury bills. Therefore, this study confirms that developing countries with low levels of CBI have high inflation.

The following are some of the policy recommendations drawn from this study. As Malawi is contemplating on transitioning to inflation targeting monetary policy framework, government financing from the central bank should be minimal and this should be enshrined in the law. Emerging economies like Turkey also employed the same strategy and they have succeeded in reducing inflation to single digits since 2003. The curtailing of advancement of funds to central government will ensure that the RBM gains both monetary policy and fiscal independence from the government. Secondly, representation of government officials in the RBM Board of Governors should be revisited to ensure that there is not political interference.

Referrences

1. Crowe, C., and Meade, E. E. (2007). *The evolution of central bank governance around the world.* The Journal of Economic Perspectives, 21(4), 69-90.
2. Cukierman, A. (2004). *Legal, Actual and Desirable Independence: A Case Study of the Bank of Israel.*
3. Cukierman, A. (2008). *Central bank independence and monetary policymaking institutions—Past, present and future*. European Journal of PoliticalEconomy, 24(4), 722-736.
4. Cukierman, A., Web, S. B., and Neyapti, B. (1992). *Measuring the independence of central banks and its effect on policy outcomes.* The world bank economic review, 6(3), 353-398.
5. Debelle, G., and Fischer, S. (1994). *Haw Independent Should a Central Bank*. Facing Monetary Policymakers, 195.
6. Eijffinger, S.C., and De Haan, J. (1996). *The Political Economy of Central-Bank Independence.*
7. Jombo, W., Simwaka, K., and Chiumia, A. (2014). *Exchange Rate PassThrough in Malawi: Evidence from Augmented Phillips Curve and Vector Autoregressive Approaches*. Standard Global Journal of Business Management, 1(2), 34-40.
8. Klomp, J., & De Haan, J. (2010). *Inflation and Central Bank Independence: A Meta-Regression Analysis.* Journal of Economic Surveys, 24(4), 593-621.
9. Mathew, J.T (2012). *Measuring Central Bank Independence in Twenty- Five countries: A New Index of Institutional Quality.* Central Bank of India.
10. Oritani, Y. (2010). *Public Governance of Central Banks: An Approach from New Institutional Economics. Bank of International Settlements*.
11. Reserve Bank of Malawi amendment Act 1989. Reserve Bank of Malawi.
12. Reserve Bank of Malawi (2013). *Financial and Economic Review Volume 45 - Number 3 2013*. Reserve Bank of Malawi.
13. Reserve Bank of Malawi (2014). *Reserve Bank of Malawi Report and Accounts for the Year Ended 31st December 2014.* Reserve Bank of Malawi.
14. Simwaka, K., Ligoya, P., Kabango, G., and Chikonda, M. (2012). *Money supply and inflation in Malawi: An econometric investigation.* Journal of Economics and International Finance, 4(2), 36.
15. Walsh, C. (2005). *Central Bank Independence, prepared for the New Palgrave Dictionary.*
16. Wessels, B. (2009). *The Independence of Twelve Central Banks in the Southern African Development Community.* Witwatersrand Üniversity.