Measuring Central Bank Independence for Vietnam

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Abstract

Recent instabilities in conducting monetary policy in Vietnam's macroeconomics demand instant preparations for adopting a new framework: Inflation targeting. In fact, the State bank of Vietnam has shown the International Monetary Fund its willingness to adopt this framework over the past 5 years since 2005. In order to prepare for successfully adopting this framework and reaching price stability, firstly, and most importantly, the central bank needs to have a certain degree of independence. In fact, the negative relationship between the degree of central bank independence (CBI) and inflation is found in both industrialised countries and developing countries. In this study, legal central bank independence indices are calculated for Vietnam according to the newest and most popular methods of Grilli, Masciandaro, and Tabellini (1991) and Cukierman (1992). We compare and conclude that the central bank independence index of Vietnam is lower than that of other emerging countries. In these countries, like Vietnam, the Central bank is a member of Government. Suggestions for the State bank of Vietnam in terms of improvements in lending regulations to government, thus, are provided.

Keywords: Central bank independence, inflation targeting, legal institution, monetary policy, Vietnam.

1. Introduction

Several studies have found that in order to lower the inflation rate, the central bank should increase the level of independence in relationship to government. Moreover, a high level of CBI also is the priority requirement for adopting an inflation targeting (IT) framework which the State bank of Vietnam (SBV) plans to implement in the coming years. This study, thus, quantifies the degree of CBI. Then, comparisons are made with other countries which have similarities with Vietnam in economic characteristics and organization of government in order to evaluate the level of CBI of Vietnam. Consequently, the study finds the reasons for the low degree of CBI in this country and for the recent high inflation rate.

Persistent instabilities recently in the inflation rate have posed the question about the ability of the SBV in conducting monetary policy. In spite of using both indirect instruments such as money supply, interest rate and administrative and direct intervention, high instability and persistence still happen, even after a long time of regional or global crisis. It seems that the monetary targeting which is followed by SBV is inappropriate. The bank should start to prepare for adopting a new monetary policy framework. Indeed, the SBV has shown the International Monetary Fund (IMF) its willingness to adopt an IT framework into its monetary policy for the 5 years since 2005.

Following the IT framework, the central bank explicitly commits that the primary goal is a stable inflation rate around an announced target. As a result of adopting IT, several studies (Svensson, 2010; Lin and Ye, 2009; Gonçalves and Salles, 2008; Mishkin and Schmidt-Hebbel, 2007; Batini and Laxton, 2008; Vega and Winkelreid, 2005; Corbo et al., 2001; Kuttner and Posen, 2001) have found improvements to inherent problems in emerging countries, such as reductions in the inflation level, in inflation volatility, and the decline in the persistence of inflation. Moreover, the practice of IT also enhances the credibility, accountability, and transparency of the central bank. These advantages are the reasons for adopting IT in emerging countries.

Preconditions play a prominent role in the literature on IT in emerging countries. Empirically, the IMF (2001) provides certain prerequisites for emerging countries before formal IT adoption. For instance, (i) independence of the central bank; (ii) an absence of fiscal dominance; (iii) a reasonable understanding of transmission channels between policy instruments and inflation; (iv) a good framework for forecasting inflation; (v) a well-developed financial system; (vi) a mandate to achieve price stability; (vii) a reasonable degree of macroeconomic stability; and (viii) transparency policies to build accountability and credibility. In practice, Freedman and Otker-Robe (2010) and De Mello (2008) conclude that central bank independence (CBI) is one of the most significant preconditions for adopting successful IT in emerging countries and this needs to be prepared first. Additionally, several studies show that the central bank's independence is considered to have a link to the inflation rate. Such studies have been conducted by Eijffinger and Van Keulen (1994), De Haan and Kooi (2000), Cukierman et al. (2002), and Jacome and Vazquez (2008). In all cases, there is a negative relationship between the CBI and inflation in both industrial countries and developing countries. The increase in CBI will reduce the inflation rate. Recently, Daunfeldt, Landstrom and Rudholm (2013) studied 131 countries during the 1980-2005 period and found evidence that CBI reforms led to a decrease of 3.31% in countries which experienced a high inflation rate in the past.

At the outset of the introduction of IT, the first focus should be on measuring the independence of the SBV. Different methods for measuring CBI have been presented. For example, by Bade and Parkin (1988), Alesina (1988, 1989), Grilli, Masciandaro, and Tabellini (1991), Cukierman, Webb, and Neyapti (1992) or Cukierman (1992). We introduce the two most recent methods and focus much on the method which is more applied by the author Cukierman (1992). To the best of our knowledge, there is no study which has calculated a CBI index for Vietnam up to now. In our study we then compare the calculated indices with those in other emerging countries in the Asian region that have adopted IT and have had a long preparation period: Indonesia and the Philippines. Subsequently, improvements in the SBV's independence will be suggested.

These Asian countries have been chosen also because of the similarities among the neighbouring countries in terms of economic characteristics, such as domestic production, international trade, and foreign capital flows. Additionally, Indonesia and the Philippines both changed their policy from monetary targeting to IT in the early 2000s. Moreover, more stability in the inflation rate has also been obtained since then in these countries.

Section 2 reviews the literature around the different aspects of CBI. Section 3 mentions the methodologies for measuring CBI. Section 4 demonstrates results and discussion. The conclusion is pointed out in the Section 5.

2. Measuring central bank independence: literature review

Goal CBI vs. instrument CBI

The independence of the central bank is discussed using two main dimensions. The first one contains institutional characteristics while the second dimension stresses that the central bank must be free to use instruments in order to reach the monetary policy goals. Grilli, Masciandaro, and Tabellini (1991) (hereafter GMT) called these two dimensions "political independence" and "economic independence", respectively. More commonly, Debelle and Fischer (1994) introduced these two aspects as "goal independence" and "instrument independence."

Legal CBI vs. actual CBI

According to Cukierman (1992), the degree of CBI is determined by the nature of political and legal institutions as well as by less structured factors such as informal arrangements between the central bank and other parts of government, the quality of the bank's research department, the personalities of key individuals in the bank and other economic policymaking organs. The legal CBI is determined by the charter of the central bank which mentions the central bank's objectives, the procedures for appointment, along with the Governor tenure, the monetary instruments and so on. Actual CBI, as opposed to legal CBI, is obviously hard to quantify because of the above less formal factors. Consequently, the existing efforts to measure the CBI indices mostly focus on legal

CBI, not actual CBI.

Of course, the aggregation of both legal and actual indices will give a better view about the central bank's independence in a country. Empirically, several studies found a high deviation between legal central bank independence and actual independence, especially in developing countries. For instance, Cukierman (2007) takes the various formal and informal institutional factors into consideration, such as the type of exchange rate regime, the ability of the bank to engage effectively in open market operations, and the stance of fiscal policy. Also, he constructed the CBI indices for Israel. He pointed out that substantial changes in the actual independence occurred without many changes to the legal independence.

Taking into consideration the actual CBI, firstly Cukierman (1992) presented the actual average term of office of the central bank's Governor. This indicates that at least above some threshold, a larger turnover of Governors demonstrates a lower level of CBI. Another indicator, secondly identified in Cukierman, is based on responses to a questionnaire on CBI by the specialists on monetary policy and institutions within the central bank. The questionnaire contains 9 questions following 5 groups: (i) legal aspects of CBI; (ii) actual practice when it differs from the stipulation of the law; (iii) monetary policy instruments and the agencies controlling them; (iv) intermediate targets and indicators; and (v) final objectives of monetary policy and their relative importance.

Nonetheless, in all cases of whether legal or actual CBI, Cukierman (1992) concluded that a lower degree of CBI is also associated with a higher mean level of inflation. Cukierman et al. (1992) also demonstrated the two-way causality between inflation and CBI. The lower independence produces higher future inflation, and subsequently, in turn, diminishes the actual level of CBI.

In summary, as common knowledge, legal CBI is preferable in measuring CBI. Firstly, because only written information from the charters is used, it shows the degree of independence that legislators confer on central bank. Secondly, it is easier to measure than the actual CBI method. As a result, the availability of the legal index is appropriate to compare with previous years and across countries. Thus, in this study we demonstrate the legal CBI index as the CBI of Vietnam.

3. Methodology

Several authors give different methods for measuring CBI. Earlier, Bade and Parkin (1988) calculated CBI based on the political independence of the central bank. Political independence is expressed by the institutional relationship between the central bank and the governments with respect to the formulation of monetary policy, the procedure to appoint and to dismiss the Governor, and the financial and budgetary relationship between central bank and governments.

Alesina (1988, 1989) added a fourth criterion into Bade and Parkin's method, namely whether the central bank is obliged or not to buy short-term Treasury facilities. Later, GMT constructed some indices to measure central bank autonomy in 18 countries of the Organisation for Economic Co-operation and Development (OECD). There is one point for each answer. The overall degree of central bank independence is determined by a combination of all political and economic CBI.

Political autonomy or goal independence is defined as the ability of the central bank to set the final objectives of monetary policy. GMT evaluated the political independence of central banks using eight criteria. The first four criteria describe the rules for appointing the Governor and the Board of the central bank. The political independence of the central bank is clearly higher if the appointments are not under the control of the government, and with a longer period.

- The Governor is appointed without government involvement.
- The Governor is appointed for more than five years.
- The Board of directors is appointed without government involvement.
- This Board is appointed for more than five years.

The fifth and sixth criteria are related to the relationship between the central bank governing bodies and the government. The political independence of the central bank is greater if: There is no mandatory participation of government representatives in the board; and if no government approval is required in formulating monetary policy.

Finally, the central bank's constitutional position is clearly strengthened if there are requirements in the charter forcing the central bank to pursue monetary stability amongst its primary objectives; and there are legal protections that strengthen the central bank's position in the event of a conflict with the government.

The economic independence or instrument independence of the central bank is shown by the autonomy in the selection of instruments. The autonomy in choosing the instruments for monetary policy is evaluated by: (i) the influence of the government in determining how much to borrow from the central bank; and (ii) the nature of the monetary instruments under the control of the central bank. If the government can influence the quantity and the conditions under which it borrows from the central bank, it also influences the creation of the monetary base and lessens the economic independence of the central bank.

The first aspect summarizes the government's ease of access to central bank credit. The government can have loans: through direct credit facilities, or through purchasing government securities in the primary market. In the former, economic independence of the central bank is greater if direct credit to the government is: non-automatic, at a market interest rate, explicitly stated as temporary, and limited in amount. In the latter, the central bank does not participate in the primary market, since public debt is considered to have more freedom from implicit or explicit pressures to lend to the government.

The second aspect relates to the nature of the monetary instruments under the control of the central bank. If the central bank does not have control over the discount rate, its ability to determine the general level of interest rates is severely weak. Furthermore, a central bank with no responsibility for overseeing the banking sector or with sharing this responsibility among other institutions is believed as more instrument independence. In particular, the central bank's independence may be weakened if administrative instruments such as portfolio constraints on bank intermediaries or ceilings to private bank loans ease the ability of government to cover its fiscal deficit (Grilli, Masciandaro, and Tabellini 1991).

In order to find instrument CBI or economic CBI, according to GMT's method, a central bank gets one point for each of the following criteria:

(i). There is no automatic procedure for the government to obtain direct credit facilities from the central bank;

(ii). Direct credit facilities to the government are extended at market interest rates;

(iii). The credit is extended on a temporary basis;

(iv). and is of a limited amount;

(v). The central bank does not participate in the primary market for public debt;

(vi). The central bank is responsible for setting the discount rate; and

(vii). The central bank has no responsibility for overseeing the banking sector (two points) or shares this responsibility with other institutional entities (one point).

More detailed, the method of Cukierman (1992) is also applied much more than that of GMT. Cukierman divided 16 variables into four groups.

(i). Variables concerning the appointment, dismissal, and term of office of the Governor (this variable is denoted as CEO).

(ii). Variables concerning the resolution of conflicts between the executive branch and the central bank and the degree of participation of the central bank in the formulation of monetary policy and in the budgetary process (denoted PF).

(iii). Final objectives of the central bank as stated in its charter (denoted OBJ).

(iv). Legal restrictions on the ability of the public sector to borrow from the central bank. Such restrictions take the form of various limitations on the volume, maturity, rates, and width of direct advances and of securitized lending from the central bank to the public sector (denotes LL).

The longer legal term of office implies the executive branch has little legal authority in the appointment or dismissal of the Governor, is classified as more independent on the CEO dimension. As for the PF variable, more independence is identified for the central bank with wider authority to formulate monetary policy and to resist the executive branch in cases of conflict. Considering the OBJ indicator, if the central bank has price stability as the main objective of monetary policy, it is classified as being more independent than if it has a series of additional objectives. Finally, the stricter the limitations on lending from the central bank to the public sector are, the more independent the central bank is to pursue the objective of price stability. The appendix gives more detail in terms of numerical coding for each answer.

Hence, this study concentrates on the both political autonomy and economic independence of the central bank according to the current laws rather than following the actual implementations. Both popular methodologies of Grilli, Masciandaro, and Tabellini (1991) and Cukierman (1992) are used to calculate CBI indices for Vietnam in the next section.

4. Result and discussion

Stemming from the advantages of the legal CBI method, we measure the legal CBI according to the methodology of GMT, and Cukierman (1992) for the case of Vietnam. The results will be compared to those in other research in order to draw a conclusion.

Measuring CBI is based on the current laws. The articles of different laws such as the Law on Organization of the Government, Law on the State Bank of Vietnam, and Law on Cadres and Civil Servants are used to calculate each index. The appendix lists all the answers for different cases. Collating the articles of laws with each item in the appendix, the study found the scores for CBI Vietnam.

4.1. Vietnam CBI index according to GMT methodology

Political CBI index: The requirement in the charter forcing the SBV to pursue monetary stability results in 1 point for Vietnam. It is regulated in Article 4 (1) of the SBV law in 2010.

Economic CBI index: There is no automatic procedure for the government to obtain direct credit facilities from the central bank. According to the law, the SBV only lends to the credit institutions (Article 24). The advances for financing the budget deficit are decided by the Prime Minister (article 26).

A second point is assigned for the market interest rates of direct credit facilities to the government. This is reflected in the bidding transactions of government securities at the SBV (see Circular 19/2004/TT-BTC of the Ministry of Finance). Additionally, a third point is given for the temporary term (maximum of 1 year) for these credits. Finally, a fourth point is given because "the central bank is responsible for setting the discount rate" (Article 12 of the SBV law). To sum up, for the case of Vietnam, the political CBI has been assigned 1 point, and the economic CBI is at 4 points.

4.2. CBI index according to Cukierman (1992)

Generally, according to the first SBV law in 1997, its amended law in 2003, and the newest law in 2010 (effective from 1/1/2011), the main ideas about the independence of the central bank seem not to have changed. The following paragraphs will explain the scores in Table 1. Note that most of the time; the SBV is one of the members of the government.

According to Article 113 of the Constitution issued in 1992, the term of the government is equal to the term of the National Assembly. Additionally, Article 85 stipulates a term of 5 years for each National Assembly meeting. However, in an exceptional case, the term of the National Assembly can be shortened or lengthened, if it is agreed by at least two thirds of the members. At the National Assembly meetings, the Prime Minister submits the appointment and dismissal of Ministers, which include the central bank Governor. Then, the National Assembly votes for approval (article 20(3) of the Government Organization Law). For these reasons, the term of the Governor, to answer the first question is 5 years and *'too'* variable is assigned 0.5 points. The second variable '*app*' is coded with 0.5 points as well.

Considering the third question, Article 20 of the Government Organization Law, problems relating to health and so on are mentioned as other reasons for the appointment or dismissal of Ministers. Moreover, Article 30 of the Law on Cadres and Civil Servants stipulates that 'incapability' is one of the possible rea-

Table 1: The legal CBI of SBV following Cukierman (1992)

Group	Definition of variable	Variable	Numerical codings
CEO	Term of office of CEO in years	*too*	0.5
	Who appoints the CEO	*app*	0.5
	Provisions for dismissal of CEO	*diss*	0.83
	Is CEO allowed to hold another office?	*off*	0
Policy formulations (PF)	Who formulates monetary policy?	*monpol*	0.67
	Government directives and resolution of conflict	*conf*	0.8
	Is the central bank given an active role in the formulation of government's budget?	*adv*	0
Central Bank objectives (OBJ)		*obj*	0.6
Limitations on lending (LL)	Limitations on advances	*lla*	0
	Limitations on securitized lending	*lls*	0
	Who decides the control of terms of lending?	*ldec*	0
	How wide is the circle of potential borrowers from central bank?	*lwidth*	1
	Type of limit when such limit exists	*ltype*	NA
	Maturity of loans	*lmat*	0.67
	Restrictions on interest rates	*lint*	1
	Prohibition on lending in primary market	*lprm*	0
Total			**0.4**

Note: NA means that there is no limit for the lending.
Source: Authors' calculation.

sons for dismissal. As a result, the answer of "dismissal possible only for non policy reasons (e.g., incapability or violation of law)" is coded 0.83 points. No laws prohibit a Governor from holding another office in government. So, zero points are given for variable '*off*'.

In terms of monetary policy, each year, the SBV formulates monetary policy, and submits it to the government, then the government submits it to the National Assembly for final decisions (article 2(5) of the Decree 96 dated 26/8/2008 from the Government). Therefore, monetary policy formulations involve both the government and the SBV. 0.67 points are assigned for the '*monpol*' variable.

The inflation target is decided by the National Assembly. The Prime Minister and the Governor will choose the tools, such as interest rate, exchange rate, reserve requirement ratio, and open market operations in order to conduct National Monetary Policy (article 3(4) of SBV Law). Also, they give solutions for implementing the monetary policy objectives, which are mentioned in the government's regulations. The SBV is one of the members of the government. Hence, the government itself has the final authority over all the issues of policy formulations. 0.8 points is assigned for the *'conf'* variable.

Article 23 (1) of the Budget Law states the rights and responsibilities of the SBV. Accordingly, the SBV coordinates with the Ministry of Finance to plan the strategies relating to the borrowing and repayment of domestic and external debts. Also, in Article 24(2), the SBV also involves the budget planning in its field. However, its role is not an active one in the government's budget. So, the central bank has no influence and zero points have been assigned for the '*adv'* variable.

In terms of the goals of the SBV, according to Article 4(1) of the SBV Law in 2010, the SBV aims to stabilize the value of currency, and contributes in securing the safety of the banking system and the security and efficiency of the national payment system and boosts the socio-economic development in accordance with the socialist orientation. So, the variable about the central bank's objectives receives 0.6 points. This means "the price stability is mentioned alongside other objectives that do not seem to conflict with price stability".

Regarding the limitations on advances, Article 26 of the SBV Law describes the lending advances for the government. These advances are decided by the Prime Minister and do not have any legal limits. "*lla",* and *"lls"* therefore receive zero points. The *"ltype*", thus, has no value.

Considering the control of the terms of lending, i.e. "*ldec",* there is an obligation to repay these advances in the same budget year, however, in exceptional cases, the legislative branch called the Standing Committee of the National Assembly will make the final decisions. Thus, 0 points are given for this variable.

Also, it is stated in the law that only the central budget (not local budgets, State owned enterprises, or the private sector) can borrow from the SBV. "*lwidth"*, thus, receives 1 point. These advances are obligated to be repaid in the current budget year, i.e. are for a maximum of 1 year. Similarly, any government securities the SBV buys have a maximum maturity of 364 days.

The third article in the general regulations of the Circular 19/2004/TT-BTC of the Ministry of Finance stipulates that the SBV is the dealer for the Ministry of Finance in terms of bidding and payment for government securities. Additionally, the SBV can buy stocks after each bidding session. Hence, 0.67 is given for *"lmat".*

The interest rate on government securities, which are bought by the SBV through bidding transactions, is at the market rate. Furthermore, there is no prohibition of the SBV's lending in the primary market. For these reasons, 1 point and 0 points are assigned to the *"lint",* and *"lprm"* variables, respectively.

The legal unweighted CBI (LVAU) index is calculated as a simple average of the coding of the variables. The results is LVAU = 0.4.

4.3. Comparisons and discussions

According to the methodology of GMT, the political CBI is assigned 1 point, and the economic CBI is at 4 points. So, indices of CBI of Vietnam are lower than those of other developing and emerging countries. Results in the calculations of Arnone et al. (2006) for 40 countries using 2003 data for political and economic CBI are 3.4 and 5.8 for developing countries, and 3.75 and 5.5 for the emerging countries, respectively (see Table 2). The aggregate index of Vietnam of 5.0, and consequently is lower than that of emerging and developing countries with 9.25 and 9.20, respectively.

In detail, Table 3 gives the political and economic indices for 22 emerging and developing countries. Vietnam's CBI is only higher than that of South Africa, but lower than 21 other countries.

According to Cukierman (1992), Vietnam's central bank independence index was lower than that of Indonesia and the Philippines at the time before adopting the IT framework. The CBI indices of Indonesia and the Philippines now are 0.63 and 0.51 compared to 0.4 of Vietnam (see in Table 4).

Considering the Central bank of the Philippines (namely Bangko Sentral ng Pilipinas), the new act in 1993 provides higher independence in terms of the central bank objectives and limitations on lending compared to that under the 1948 law (see Table 5). According to Cukierman's methodology, the CBI index increased from 0.39 in the older law to 0.51 in the 1993 law.

In fact, according to Act 23/1999 in May 1999, and Act 3/ 2004 in January 2004 of the Central bank of Indonesia (BI), this index is 0.75 and 0.63, respectively (Artha and De Haan, 2010). The Central bank law of Indonesia has changed frequently since 1953 up until the present. Six laws include the Act 11/1953, Act 11/1955, Act 84/1958, Act 13/1968, Act 23/1999, and the newest, Act 3/2004. Their laws seem to modify especially in terms of the credits to the government. In fact, Act 1968 reduced the independence of the BI mainly because it did not limit the credit to government as did the preceding laws. Then, according to Act 1999, the BI was strictly prohibited from advancing credits to the government and the private sector. Besides, the Bank of Indonesia became more independent as the central bank governor is appointed by parliament and not by the government, while maintaining price stability became the only objective of the Bank of Indonesia (see Alamsyah et al., 2001). As a result, the Act in 1999 provided the highest score

Table 2: GMT indices for emerging economies and developing countries in 2003

	Emerging economies	Developing countries
Political Autonomy	3.75	3.40
Economic Autonomy	5.50	5.80
Aggregate index	9.25	9.20

Source: Arnone et al. (2006)

Table 3: GMT indices in 2003 by country

	Political Autonomy	Economic Autonomy
Emerging countries		
Brazil	4	6
Czech Republic	7	7
Egypt	1	5
India	2	5
Israel	1	5
Mexico	5	6
Peru	3	8
Philippines	5	5
Poland	7	7
Russia	4	3
South Africa	1	3
Tunisia	5	6
Developing countries		
Armenia	7	6
El Salvador	5	8
Guatemala	3	7
Iran	0	6
Morocco	2	6
Nigeria	2	5
Sri Lanka	4	5
Uganda	4	5
WAEMU	4	6
Zambia	3	4

Source: Arnone et al. (2006)

of CBI index.

However, under the current law in 2004, the Bank of Indonesia is allowed to buy short-term government bonds in the primary market. This implies that the Bank of Indonesia can provide credits to the government. Indeed, in article 55(4) of Act 1999, the Bank of Indonesia shall not purchase for itself the state debt securities. While in the Act 2004, article 55(4) stipulated that the Bank of Indonesia is prohibited from

Table 4: CBI indices of Indonesia, Philippines and Vietnam

Countries	Previous Law	Current Law
Philippines	0.39	0.51
Indonesia	0.75	0.63
Vietnam	0.4	0.4

Sources: Artha and De Haan (2010) and Duong Nga (2012).

Table 5: Legal CBI indices of the Philippines in pre-Inflation targeting periods

Group	Definition of variable	Variable	Philippines Act 1948	Philippines Act 1993
CEO	Term of office of CEO in years	*too*	0.75	0.75
	Who appoints the CEO	*app*	0	0.5
	Provisions for dismissal of CEO	*diss*	0.83	0.83
	Is CEO allowed to hold another office?	*off*	0.5	0.5
Policy formulations	Who formulates monetary policy?	*monpol*	0.67	0.67
	Government directives and resolution of conflict	*conf*	0.2	0.2
	Is central bank given an active role in the formulation of government's budget?	*adv*	0	0
Central bank objectives		*obj*	0.4	0.6
Limitations on lending	Limitations on advances	*lla*	0.67	0.67
	Limitations on securitized lending	*lls*	0	0
	Who decides control of terms of lending?	*ldec*	0.33	0.33
	How wide is the circle of potential borrowers from central bank?	*lwidth*	0.67	1
	Type of limit when such limit exists	*ltype*	0.33	0.33
	Maturity of loans	*lmat*	0.33	1
	Restrictions on interest rates	*lint*	0.25	0.25
	Prohibition on lending in primary market	*lprm*	0	1
Total			**0.39**	**0.51**

Source: Duong Nga (2012).

buying government securities on the primary market for its own account, except in the case of short-term government securities needed by the Bank of Indonesia for monetary control operations. Hence, the reduction from 0.75 to 0.63 of the CBI index in the 2004 law is due to the items of limitations on lending (see Table 6).

In summary, to prepare for IT adoption, the above two countries tend to change the articles in their laws in terms of monetary policy objective and the lending of the CB to government. The CBI scores thus significantly increase.

The CBI indices according to either Cukierman or GMT give a similar conclusion. The CBI indices of Vietnam are lower than those in emerging countries. In fact, emerging countries in the Asian region tend to improve their legal regulations, in order to reach a higher independent degree for the Central bank before officially adopting IT.

Regarding Vietnam, to meet the request of

Table 6: Legal CBI indices of Indonesia in pre-IT periods

Group	Definition of variable	Variable	Indonesia Act 23/1999	Indonesia Act 3/2004
CEO	Term of office of CEO in years	*too*	0.5	0.5
	Who appoints the CEO	*app*	0.5	0.5
	Provisions for dismissal of CEO	*diss*	0.83	0.83
	Is CEO allowed to hold another office?	*off*	1	1
Policy formulations	Who formulates monetary policy?	*monpol*	1	1
	Government directives and resolution of conflict	*conf*	1	1
	Is central bank given an active role in the formulation of government's budget?	*adv*	0	0
Central bank objectives		*obj*	0.6	0.6
Limitations on lending	Limitations on advances	*lla*	1	1
	Limitations on securitized lending	*lls*	1	0.67
	Who decides control of terms of lending?	*ldec*	1	0.33
	How wide is the circle of potential borrowers from central bank?	*lwidth*	0	0
	Type of limit when such limit exists	*ltype*	1	0
	Maturity of loans	*lmat*	0	0.67
	Restrictions on interest rates	*lint*	0.25	0.75
	Prohibition on lending in primary market	*lprm*	1	0
Total			**0.75**	**0.63**

Note: NA means that the no limit for the lending.
Source: Cukierman (1992) and Artha and Haan (2010).

adopting IT, also, the State bank Law should supply more rights to the central bank especially in advance, securitized lending to government, and the terms of lending as well.

5. Conclusion

Inflation targeting is the newest monetary policy framework in the world. The practice of IT has been chosen by both advanced countries and emerging countries. All of these countries have experienced a transition period in which the preparations for preconditions have been implemented. Practically, Central bank independence is the most important condition for successfully adopting IT and needs to be prepared firstly.

The SBV's recent efforts relating to transparency are remarkable. In particular, in July 2012 they published for the first time overall data about the performance of the banking system. Moreover, the new central bank law which regulates the main objective of the inflation rate for monetary policy also came into force in early 2011. However, the right of the SBV in terms of lending to government is still little.

In order to prepare for successfully adopting this framework and reaching price stability, firstly, and most importantly, the central bank needs to have a certain degree of independence. Several studies found that in order to lower the inflation rate, the central bank should increase the level of independence in relationship with government. Moreover, high CBI also is the priority requirement for adopting an Inflation Targeting framework which the State bank of Vietnam plans to implement in the next years.

This study, thus, quantifies the degree of CBI. Measuring CBI is based on the current laws. The articles of different laws such as Law on Organization of the Government, Law on the State Bank of Vietnam, Law on Cadres and Civil Servants are used to calculate each index. The legal central bank independence indices are calculated for Vietnam according to the newest and most popular methods of Grilli, Masciandaro, and Tabellini (1991) and Cukierman (1992). Then, the comparisons with other countries, which have similarities to Vietnam in economic characteristics and organization of government, are used to evaluate the level of the CBI of Vietnam. Consequently, the study finds the reasons for the low degree of CBI of this country and for the recent high inflation rate.

The lower level of central bank independence in Vietnam compared to other emerging and developing countries is the main obstacle to the adoption of IT, and may be the reasons for the high instability of price levels. Hence, the improvements to give a stronger prerogative for the SBV against Government in terms of lending are necessary in order to reach the stability in price levels in the medium and long-terms.

APPENDIX

Legal variables and their coding

Group	Definition of variable	Variable		Numerical codings
CEO	Term of office of CEO in years	*too*	1. too $\geq$ 8	1
			2. 8>too $\geq$ 6	0.75
			3. too=5	0.5
			4. too=4	0.25
			5. too<4	0
	Who appoints the CEO	*app*	1. CEO appointed by CB board	1
			2. CEO appointed by council composed of members from executive and legislative branches as well as from CB board	0.75
			3. CEO appointed by legislative branch (Congress, king)	0.50
			4. CEO appointed by executive branch (council of ministers)	0.25
			5. CEO appointed through decision of one or two members of executive branch (e.g., prime minister or minister of finance)	0
	Provisions for dismissal of CEO	*diss*	1. No provision for dismissal	1
			2. Dismissal possible only for nonpolicy reasons (e.g., incapability or violation of law)	0.83
			3. Dismissal possible and at discretion of CB board	0.67
			4. Dismissal for policy reasons at legislative branch's discretion	0.50
			5. Unconditional dismissal possible at legislative branch's discretion	0.33
			6. Dismissal for policy reasons at executive branch's discretion	0.17
			7. Unconditional dismissal possible at executive branch's discretion	0
	Is CEO allowed to hold another office?	*off*	1. CEO prohibited by law from holding any other office in government	1
			2. CEO not allowed to hold any other office in government unless authorized by executive branch	0.5
			3. Law does not prohibit CEO from holding another office	0

Policy formulations	Who formulates monetary policy?	*monpol*	1. CB alone has authority to formulate monetary policy	1
			2. CB participates in formulation of monetary policy together with government	0.67
			3. CB participates in formulation of monetary policy in an advisory capacity	0.33
			4. Government alone formulates monetary policy	0
	Government directives and resolution of conflict	*conf*	1. CB given final authority over issues clearly defined in the law as CB objectives	1
			2. Government has final authority only over policy issues that have not been clearly defined as CB goals or in case of conflict within CB	0.8
			3. In case of conflict final decision up to a council whose members are from CB, legislative branch, and executive branch	0.6
			4. Legislative branch has final authority on policy issues	0.4
			5. Executive branch has final authority on policy issues, but subject to due process and possible protest by CB	0.2
			6. Executive branch has unconditional authority over policy	0
	Is central bank given an active role in the formulation of government's budget?	*adv*	1.Yes	1
			2.No	0
Central bank objectives		*obj*	1. Price stability mentioned as the only or major goal, and in case of conflict with government CB has final authority to pursue policies aimed at achieving this goal	1
			2. Price stability mentioned as the only goal	0.8
			3. Price stability mentioned along with other objectives that do not seem to conflict with price stability (e.g., stable banking)	0.6
			4. Price stability mentioned with a number of potentially conflicting goal (e.g., full employment)	0.4
			5. CB charter does not contain any objectives for CB	0.2
			6. Some goals appear in the charter, but price stability not one of them	0

Limitations on lending	Limitations on advances	*lla*	1. Advances to government prohibited	1
			2. Advances permitted but subject to limits in terms of absolute cash amounts or to other types of relatively strict limits (e.g., up to 15% of government revenues)	0.67
			3. Advances subject to relatively accommodative limits (e.g., advances can exceed 15% of government revenues or are specified as fractions of government expenditures)	0.33
			4. No legal limits on advances; their quantity subject to periodic negotiations between government and CB	0
	Limitations on securitized lending	*lls*	1. Not permitted	1
			2. Permitted but with strict limit (e.g., up to 15% of government revenue)	0.67
			3. Permitted and the limits are loose (e.g., over to 15% of government revenue)	0.33
			4. No legal limits on lending	0
	Who decides control of terms of lending?(1)	*ldec*	1. CB controls terms and conditions of government borrowing from it	1
			2. Terms of CB lending specified in the law, or CB given legal authority to set these terms	0.67
			3. Law leaves the decision about the terms of CB lending to government to negotiations between CB and executive branch	0.33
			4. Executive branch alone decides the terms of CB lending to government and imposes them on CB	0
	How wide is the circle of potential borrowers from central bank?	*lwidth*	1. Only central government can borrow from CB	1
			2. Central and state government as well as all political subdivisions can borrow from CB	0.67
			3. In addition to the institutions mentioned under 2 public enterprises can borrow from CB	0.33
			4. CB can lend to all of the above as well as to the private sector	0
	Type of limit when such limit exists	*ltype*	1. Limit specified as an absolute cash amount	1
			2. Limit specified as a percentage of CB capital or other liabilities	0.67
			3. Limit specified as a percentage of government revenues	0.33
			4. Limit specified as a percentage of government expenditures	0
	Maturity of loans	*Lmat*	1. Maturity of CB loans limited to a maximum of 6 months	1

		2. Maturity of CB loans limited to a maximum of one year	0.67
		3. Maturity of CB loans limited to a maximum of more than one year	0.33
		4. No legal upper bounds on the maturity of CB loans	0
Restrictions on interest rates (2)	*lint*	1. Interest rate on CB loans must be at market rate	1
		2. Interest rate on CB loans to government cannot be lower than a certain floor	0.75
		3. Interest rate on CB loans cannot exceed a certain ceiling	0.50
		4. No explicit legal provisions regarding the interest rate on CB loans	0.25
		5. Law stipulates no interest rate charge on government's borrowing from the CB	0
Prohibition on lending in primary market	*Lprm*	1. CB prohibited from buying government securities in primary market	1
		2. CB not prohibited from buying government securities in primary market	0

Note: (1) Terms of lending concern maturity, interest amount of loans subject to the relevant legal limits. (2) The rationale for the classification of this variable is that minimum rates are likely to have been devised in order to discourage borrowing at the Central bank while maximum rates are probably meant to facilitate borrowing at the Central bank. But the requirement of a minimum rate is classified below "market rates", since minimum rates, when they exist, are usually lower than market rates.

Source: Cukierman (1992).

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