
AUTHOR

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Introduction

Financial globalization has prompted both industrialized and emerging economies to undertake reforms in meeting varied and diverse challenges that financial markets bring to the table. Crucial are the roles which central banks play as “market-stabilizing” institutions (Rodrik and Subramanian, 2003) capable of not only obtaining the trust of the national government and the business sector on the one hand, but also gaining and keeping the trust of the general public on the other. Most central banks have embarked on establishing their autonomy from national governments as well as improving their own governance mechanisms to meet the price stability objective. Central banks became independent a few years after the publication of the paper explaining the dynamic inconsistency in macroeconomic policy by Kydland and Prescott (1977), which called for long-term commitment by the central bank and the conduct of monetary policy devoid of influence from governments.

Central bank independence is important for monetary authorities and this independence was further emphasized as a crucial ingredient for inflation targeting (IT) economies. Ever since New Zealand’s adoption of IT as its new monetary policy framework,1 a number of industrial and emerging economies have joined the bandwagon. The goal of price stability has become a permanent fixture in most countries, with an independent monetary authority as the well-established feature of the contemporary monetary order (Cukierman, 2006). In this regime, other goals, such as sustained economic growth and low unemployment rate, are considered as “by-products” or subsequent outcomes of an inflation-targeting framework (Allen, Baumgartner, and Rajan, 2006).

In the past, in many advanced as well as emerging economies in the post-Second World War period, economic development was seen as a crucial part of the central bank’s responsibilities. Epstein (2007) recently suggested that there should be a return to the historical norm of central bank policy: wherein goals such as employment creation and rapid economic growth should join

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1 Under section 8 of the Reserve Bank of New Zealand Act of 1989, the bank should formulate and implement monetary policy with the intention of achieving price stability by the year ending December 1992. It is executed under the policy targets agreement between the finance minister and the governor.
the goals of attaining price and financial market stability. The notion of the central bank as an active institution in economic development has been further echoed by Dr. Joseph Stiglitz, who said that inflation targeting should be “abandoned.” The simple fact that the current rate of price increases in oil and food, as well as the fact that inflation in developing nations are imported from the United States and other oil-producing countries, would render an inflation–targeting central bank as “not credible” and “powerless” in reducing domestic inflation at stable levels.

Dr. Edmund S. Phelps, the 2006 Nobel Prize winner in economics, emphasized that the inflation–unemployment relationship is not only an issue of macroeconomic modeling but also of governance involving the government institutions which formulate structural policies. The emphasis on “human values” behind innovations and dynamics of institutions as well as making the “golden rule” (the ethic of reciprocity) as an endogenous policy variable were Phelps’ most notable contributions to modernist perspectives on economics.

Economic freedom, or the ability to make use of market mechanisms, can be regarded as a “substitute” for Adam Smith’s invisible hand. Economic efficiency shall only be possible if the incentives for sound performance exist and are not disrupted by the state or failure of competition. Banaian and Luksetich (2001), for example, emphasized that countries that are more economically free are more inclined to provide central bankers autonomy in pursuing their goals. Moreover, countries with higher degrees of economic freedom were more likely to impose strict limits on central bank lending to the government.

A number of studies appear to support the notion that a higher level of central bank independence leads to lower and benign inflation (Bade and Parkin, 1988; Grilli, Mascianandaro, and Tabellini, 1991; Cukierman, 1992; Arnone, Laurens, Segalotto, and Sommer, 2007). Interestingly, though, Cornwall and Cornwall (1998), Fuhrer (1997), and Kilponen (1999) found that a higher level of central bank independence could also lead to a higher unemployment rate. These two separate findings suggest that the Phillips curve principle postulated by Mankiw (2007) was valid in saying that society faces a short-run trade-off between inflation and unemployment.

This study seeks to evaluate whether institutional dynamics such as economic freedom and human values affect the independence and governance of central banks, as well as contribute to low inflation and/or low unemployment rates. Moreover, the study also seeks to determine whether a central bank should exclusively focus its energies on pursuing price stability or if it should include employment generation as a complementary policy objective for central banks in the Asia-Pacific region.

Inflation and Unemployment

The trend of inflation and unemployment rates over the period 1991-2005, as well as the current status of inflation–targeting countries under the Asia-
Pacific region, are shown in Table 1. Countries such as New Zealand and Australia had higher inflation rates but considerably lower unemployment rates. In stark contrast, a number of emerging market economies in the Asia-Pacific region had lower inflation rates but higher unemployment rates. These trends appear to support the notion of a short-run trade-off between inflation and unemployment as represented in the Phillips curve (Mankiw, 2007).

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<thead>
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<td>4.48</td>
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<td>15.00</td>
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<td>2.25</td>
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<td>15.08</td>
<td>0.30</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Notes: Selected Asia Pacific countries. Average Inflation and Unemployment calculations by researcher.
* Countries which sought Technical Assistance from the IMF.
** Countries which did not seek Technical Assistance from the IMF.

Work Values and Economic Freedom: Institutional Dynamics

Phelps (2005) argues that the degree of dynamism in the economy hinges on two dimensions: 1) the development of key economic institutions such as corporate law and corporate governance, the population's preparation for business life, and the development of financial instruments such as the stock market; and 2) economic culture such as the entrepreneurial spirit, and the people’s capabilities of problem-solving, skill mastery and discovery. A nation’s culture ultimately makes a difference for economic performance in all its facets—productivity, prosperity, and personal growth.

Phelps and Zoega (2007) modeled economic growth and productivity under
the variables of entrepreneurship, culture and trade openness using a cross-section panel data analysis of OECD countries following the “catch-up model” formulated by Nelson and Phelps (1966) that the level of human capital—in terms of educational attainment—affects growth more than labor absorption. Findings revealed that tertiary education and trade openness contribute to total factor productivity growth while the presence of labor unions does not. Also, measures for economic culture and openness were found to perform much better than the institutional variables under the study. To account for the impact of economic culture, components such as the values for achievement, initiative, interest, obedience, competition and the importance of work in life were derived from the World Values Survey (WVS).

In another paper, Hayo (1998) used survey data from European Community members over the period 1976-1993. Based on the analysis, the existence of a culture of aversion towards inflation was embedded in low-inflation countries. In the survey’s evaluation on the importance of price stability, people living in countries with low inflation records appeared to be more sensitive to an increase in the actual inflation rate than people in higher-inflation countries. Thus, for central bank independence to have a deeper meaning, a strong public consensus on the need to achieve price stability is required. In this case, the values and attitudes people have with respect to the economic phenomenon of inflation determine the strength of the public consensus on the price stability goal.

Redek (2004) analyzed the impact of institutions on economic growth in 26 transition economies. Using different measures of economic freedom from the Fraser Institute, Freedom House and the Heritage Foundation as control variables in assessing the economic performance of transition economies, he found that a higher level of overall freedom leads to higher economic growth rates and, consequently, higher per capita output.

Banaian and Luksetich (2001) studied the relationship between political freedom, economic freedom and inflation rates with central bank independence. Findings reveal that the term of office of a central bank governor and the structure of conflict resolution mechanism are associated with lower inflation rates. In general, economically free societies are more likely to adopt the necessary institutional relationships that are associated with lower inflation, while politically free societies are less likely to adopt an institutional mechanism that promotes price stability. Thus, economic freedom goes to an increased probability of having price stability as the central bank objective, while political instability can become a root cause for inflationary episodes.

Other research papers such as that of Abenoja (1995) suggested that to enhance the independence index, a component which estimates work and output performances of a central bank’s research department is needed to reflect the component of “human capital” to the index of central banking independence. Interestingly, Posen (1995, 1998) has argued that a nation’s culture and tradition of monetary stability play a significant role in effecting the consensus relationship between central bank independence and inflation rates. He spearheaded the argument on the causality regarding inflation levels and central bank independence. The correlation between these levels could alternatively be explained by another factor—the culture and tradition of monetary stability in a country.
Price Stability – Employment Generation Nexus

The Phillips curve illustrates the idea that a negative or an inverse relationship exists between inflation and unemployment (Abel and Bernanke, 2005). In the short run, a central bank focusing exclusively on price stability will increase unemployment, while a central bank focusing exclusively on employment generation will increase inflation.

First and foremost, economic stability includes price stability, which ensures that a currency preserves its purchasing power and retains public trust. It also includes a stable financial system embodied by a sound financial market and a deep degree of capitalization. This is the responsibility of central banks – for their monetary policy actions ensure control of the price level over the medium and long term (Papademos, 2007).

Central Bank Independence and Governance

The concept of central bank independence is often attributed to Kydland and Prescott (1977) who examined the dynamic inconsistency of economic policy. The incentive of policymakers to promote surprise inflation is constrained by the behavior of rational agents, creating an economy with inflationary bias (Halcon and De Leon, 2004). Thus, an important aspect of any policy reform is to make it credible over a longer time horizon, emphasizing the need for time consistency in both fiscal and monetary policies.

The degree of central bank independence refers to the bank’s capability to formulate and implement its monetary policy in pursuit of a given mandate or primary objective (Abenoja, 1995). It is viewed in consensus as separating the monetary authority from the affairs of the national government mainly to avoid seigniorage (Abel and Bernanke, 2005). Thus, a relationship is formed between the central bank on the one hand and the national government and the general public on the other.

In a recent working paper, Crowe and Meade (2008) stressed that more independent central banks also tend to be more transparent, while transparency is also positively correlated with measures of national institutional quality. Also, enhanced transparency practices are associated with the private sector making greater use of information provided by the central bank.

As the literature on central banking independence expanded, various measures and indicators have also been developed to facilitate empirical analysis. Most indices of independence focus on the legal and political components. Others attempt to capture in addition interest rate setting, deficit financing and foreign currency management under central bank independence. The diversity in definitions and measurement methodology for central banking independence and governance (Figure 3) has led to mixed results in research relating these indicators to inflation, unemployment, or economic growth.

Lybek (2004) has emphasized that, in the literature, “autonomy” is sometimes preferred to the frequently used “independence,” since “autonomy” entails operational freedom, while “independence” indicates a lack of institutional constraints. In this research undertaking, however, both “autonomy” and “independence” are treated equally.
With this diversity of indicators in mind, Ahsan, Skully, and Wickramanayake (2006) devised an index which illustrates clear demarcations of properties that a central bank should strive for using data for the Asia-Pacific countries. They constructed a Central Bank Independence and Governance (CBIG) index from specific questions similar to the indices that were developed by Cukierman (1992), Grilli, Mascianandaro, and Tabellini (1988, 2000) as well as central bank governance indicators from Van der Cruijsen and Eijffinger (2007). A high level of CBIG index denotes a high level of independence for a central bank. The overall CBIG index can be broken down into six major sub-indices (See Appendix 2 – CBIG Index construction):
• **CBIG_L (Legal)** – This measures the legal strength of the governor’s power under the legislative structure. Cukierman et al. (2002) found no relationship between inflation and legal CBI in former socialist countries in the 1990s; but after the liberalization from communist rule has transpired, the relationship became significant.

• **CBIG_P (Political)** – Measures the level of government intervention in the affairs of the monetary board. Ideally, central banks should be insulated from government influence as higher independence reduces election-induced cycles in output and unemployment (Clark et al., 1998).

• **CBIG_A (Accountability / Transparency)** – Measures the extent of public disclosure and communication of central bank decisions and activities to the general public, the business sector, and the national government.

• **CBIG_S (Stability of Prices)** – Measures whether the central bank maintains price stability as its primary objective or other goals are being taken into consideration.

• **CBIG_E (Exchange rate policy)** – Measures the autonomy of central banks to manage their respective currencies. De Souza (2002) found that central bank autonomy is associated with a more stable exchange rate and lower inflation.

• **CBIG_M (Monetary policy / Deficit financing)** – Measures the level wherein a central bank exhibits a non-obligation to finance government budget deficits. Neyapti (2003) identifies that large budget deficits lead to inflation.

Ahsan, Skully and Wickramanayake (2006) estimated their constructed CBIG with inflation among thirty-six (36) Asia-Pacific central banks using regression analysis involving panel data. Results reveal that, with the exception of the foreign exchange rate policy component, all CBIG indices exhibit negative and significant relationships with inflation. Thus it was inferred that a negative relationship exists between inflation and the legal, political, accountability, deficit financing, and price stability components of central banking independence and governance.

**Data Sources**

The dataset used in the analysis was obtained from the following sources:

1. **Work Value Tendencies** – components for achievement, initiative, interest, obedience (following orders) and importance of work in life were derived from the results of the World Values Survey (http://www.worldvaluessurvey.com/). Thirteen (13) Asia-Pacific countries were covered.  

2. **Economic Freedom** – the scores were sourced from the 2008 Index of Economic Freedom database maintained by the Heritage Foundation, which provides the components, elements and methods of deriving the ten (10) economic freedoms (http://www.heritage.org/Index/); but for this research, nine (9) components are covered.  

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4 Australia, Azerbaijan, Bangladesh, China, India, Indonesia, Japan, Kyrgyzstan, New Zealand, Philippines, South Korea, Taiwan, and Vietnam.

5 Labor freedom was introduced into the economic freedom index beginning only in 2005. Thus, labor freedom index was excluded as the researcher computed for the average of the 9 economic freedoms for the period 2005.
3. Inflation and Unemployment Rates – data for Asia-Pacific countries were sourced from the statistical database system maintained by the Asian Development Bank (ADB) (http://www.adb.org/statistics/sdbs.asp). Data for Japan, Australia and New Zealand were gathered from the OECD statistical database (http://stats.oecd.org/wbos/Index.aspx?usercontext=sourceoecd). Data on inflation were readily available while unemployment data were basically limited since some countries were taking the unemployment data from census surveys.  

4. Index of Central Bank Independence and Governance – the data covering Asia-Pacific countries were sourced from the index computations made by Ahsan, Skully, and Wickramanayake (2006). They had initially computed for the CBIG indices of thirty-six (36) Asia-Pacific central banks which were derived from central bank laws, amendments, web sites, annual reports, circulars, media releases and published papers, as well as the Morgan Stanley Central Bank Directory. The resulting dataset covers twenty-five (25) Asia-Pacific central banks after matching country availability with economic freedom indices, inflation, and unemployment data.

5. Dummy variable for Inflation Targeting – thirteen (13) out of the twenty-five (25) Asia-Pacific central banks in this study are under an inflation-targeting regime, or are planning to implement inflation targeting in the future (refer back to Table 1).

Econometric Techniques

Simple Correlation Analysis. Using data from the World Values Survey, the overall CBIG and Economic freedom indices as well as inflation and unemployment data, correlation was done to determine the degree of association between any two variables of interest. It is important to note that correlation does not imply causality – rather it only measures the degree of variation having either a positive or a negative association (Danao, 2002).

Pooled Least Squares Regression. To determine the impact of inflation and unemployment on central bank independence components, panel data regression is used. Panel data methods make use of more information, allow for more variability, less collinearity among variables, provide more degrees of freedom, and more efficiency (Baltagi, 2001).  

The pooled data series were used to test the relationship between inflation rate and the unemployment rate on the one hand with the central bank independence and governance index, the economic freedom index, and the inflation targeting dummy variable on the other. The pooled least squares regression shall be utilized in two stages, namely: 1) bivariate analysis, and 2) multivariate analysis. A pooled least squares model generally takes the following form:

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6 A transformed inflation rate, TINF = inf/(1+inf), and a natural logarithm of unemployment rate (LNUNP) were computed and used so as to ameliorate potential heteroskedasticity for inflation (Cukierman, 1992) and unemployment (Kilponen, 1999). Also, standard deviations were computed and used so as to reflect the 3-year short-run dispersion of inflation and unemployment rate fluctuations (Hasan and Mester, 2008). The transformed inflation, the natural logarithm of unemployment rate, and its standard deviations all reflect a dynamic property of analysis.

7 One caveat under this estimation procedure is the persistence of heteroskedasticity and the potential of obtaining simultaneity bias upon modeling for fixed or random effects (Danao, 2002).
wherein $Y$ is the dependent variable, $X$ is the independent variable, $\alpha$ is the common constant term, $\beta$ is the coefficient estimator, $\varepsilon$ is the random error term, subscript $i$ defines 1, 2…N cross-section country units, while subscript $t$ defines time periods.

The bivariate relationship will be analyzed using the pooled estimation equation:

$$Y = \beta_0 + \beta_1 \text{CBIG}_k + \varepsilon_i,...$$  \hspace{1cm} (1)

where: $Y =$ dependent variables [inflation (INF), transformed inflation (TINF), unemployment (UNP), natural logarithm of unemployment (LNUNP)],

CBIG = [Legal, Political, Accountability/Transparency, Stability of Prices, Exchange Rate Policy, Monetary Policy/Deficit Financing, Overall CBIG] of country $k$,

$\varepsilon_i =$ Random error term.

The bivariate analysis produced 14 models for inflation and 14 models for unemployment, with each model indicating direction of causation and statistical significance of coefficient estimates.

The multivariate relationship shall be examined using the following pooled estimation equations:

$$Y = \beta_0 + \beta_{1-6} \text{CBIG}_k + \varepsilon_i,...$$  \hspace{1cm} (2)

$$Y = \beta_0 + \beta_{1-6} \text{CBIG}_k + \beta_7 \text{EcoFree}_k + \beta_8 \text{DTarget}_k + \varepsilon_i,...$$  \hspace{1cm} (3)

where: $Y =$ dependent variables [INF, TINF, STDINF, UNP, LNUNP, STDUNP],

CBIG = [1-Legal, 2-Political, 3-Acc/Trans, 4-PStab, 5-ForEx, 6-MonDef] of country $k$,

EcoFree = Economic Freedom Index of country $k$,

DTarget = Dummy for Inflation Targeting of country $k$,

$\varepsilon_i =$ Random error term.

The multivariate analysis produced six (6) models based on Equation 2 without control variables, as well as six (6) models based on Equation 3 with economic freedom and the inflation targeting dummy as control variables.

Pooled least squares regression was conducted using EViews. Since cross-sectional time series data can be prone to the problem of potential heteroskedasticity in residuals, each pooled regression was estimated with White heteroskedasticity-consistent standard errors and covariance method for the inflation and unemployment variables.

### Table 2

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<th>CORRELATION</th>
<th>CBIG</th>
<th>Inflation</th>
<th>Unemployment</th>
<th>Eco Freedom</th>
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<tr>
<td>Achievement</td>
<td>0.1873</td>
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<td>Initiative</td>
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<tr>
<td>Obedience</td>
<td>0.0183</td>
<td>-0.1167</td>
<td>0.2945</td>
<td>0.3120</td>
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<tr>
<td>Important in Life</td>
<td>-0.0473</td>
<td>0.5251*</td>
<td>0.4633*</td>
<td>-0.3616</td>
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Notes: Researcher’s calculations using correl command in Excel spreadsheet.
* - significance at .05 level, obtained using SPSS Version 12.0
Empirical Findings

Correlation Analysis. In order to statistically determine the strength and direction of the association or relationship between two variables, a simple correlation was performed using all the favorable responses (achievement, initiative, job interest, obedience and work being valued as very important) and they were correlated with the overall CBIG index, the economic freedom index, as well as the actual inflation and unemployment rates – forming a simple correlation matrix (see Table 2).

From the correlation matrix it can be observed that achievement and economic freedom index have a relatively significant positive association, while the perception of work as being “very important” in life also possesses a relatively significant positive association with the actual inflation and unemployment rates. In terms of direction (positive or negative), achievement, initiative, interest in job and obedience were positively associated with the overall CBIG index, while the perception of work as being “very important” in life was negatively associated with the overall CBIG index. In relation to actual inflation rates, the first four work value tendencies showed a negative association while the last work value was relatively positive. In relation to unemployment figures, all five of them exhibited positive associations. In terms of the economic freedom index, the first four work value tendencies showed a positive association while only the last characteristic (view of work as being “very important” in life) followed a negative direction. Thus, based on the results of simple correlation, the first four work value tendencies (achievement, initiative, interest, and obedience) appear to be positively associated with the overall CBIG and economic freedom indices, potentially lower actual inflation rates, but could potentially increase actual unemployment rates.

Pooled Least Squares Regression: Multivariate Analysis

To further examine the relationship and significance of inflation and unemployment with the CBIG indices, multivariate analysis was done also via pooled least squares regression. This was done using all three inflation and unemployment variables, along with the six (6) sub-indices excluding the overall CBIG index. The the first series of multivariate regressions did not involve control variables. Relating CBIG indices with inflation variables, three observations can be drawn: 1) the accountability/transparency component was negative and significant in all regressions using the three inflation variables; 2) the foreign exchange policy component was positive and significant; and 3) inflation results were mixed, consistent with past studies that the consensus on the inverse relationship between CBIG indices and inflation is still subject to further evaluation (see Table 3).
### Econometric Results - Pooled Regression (Multivariate - Without Control Variables) Using Eviews 4.0

#### Table 3

<table>
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<th>Variables</th>
<th>STDEV</th>
<th>INFLATION RATE</th>
<th>TRANS RATE</th>
<th>UNEMPLOYMENT STDEV</th>
<th>NAT LOG RATE</th>
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<td><strong>C (Common Constant)</strong></td>
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<td>6.076697**</td>
<td>3.944316**</td>
<td>4.249179**</td>
<td>4.761170**</td>
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<td>CBIG (Legal)</td>
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<td>-1.008896</td>
<td>1.042086</td>
<td>0.592902</td>
<td>1.198540</td>
</tr>
<tr>
<td>CBIG (Political)</td>
<td>1.253457</td>
<td>-1.111469</td>
<td>0.472968</td>
<td>0.553147</td>
<td>0.383850</td>
</tr>
<tr>
<td>CBIG (Accnt / Transp)</td>
<td>-2.277121*</td>
<td>-1.186730</td>
<td>-1.844560</td>
<td>-0.246115</td>
<td>-1.010762</td>
</tr>
<tr>
<td>CBIG (Price Stability)</td>
<td>-1.738754</td>
<td>0.443389</td>
<td>-1.196727</td>
<td>-2.482373</td>
<td>-2.049659</td>
</tr>
<tr>
<td>CBIG (Exchange Rate)</td>
<td>1.191726</td>
<td>3.101427**</td>
<td>3.252305**</td>
<td>1.207989</td>
<td>2.385752*</td>
</tr>
<tr>
<td>CBIG (Mon. / Def Fin)</td>
<td>1.690252</td>
<td>-1.838634</td>
<td>1.036894</td>
<td>1.294230</td>
<td>3.783518**</td>
</tr>
<tr>
<td><strong>Total Panel (unbalanced observations)</strong></td>
<td>316</td>
<td>323</td>
<td>323</td>
<td>273a</td>
<td>291</td>
</tr>
<tr>
<td><strong>R-Squared</strong></td>
<td>0.042185</td>
<td>0.058944</td>
<td>0.025538</td>
<td>0.041180</td>
<td>0.086422</td>
</tr>
<tr>
<td><strong>Prob. (F-Statistic)</strong></td>
<td>2.268186*</td>
<td>3.298839**</td>
<td>1.380249</td>
<td>1.904070</td>
<td>4.477600**</td>
</tr>
</tbody>
</table>


* Under STDEV unemployment, there are only 22 cross-sections / 3 were dropped in lieu of insufficient observations

#### Table 4

<table>
<thead>
<tr>
<th>Variables</th>
<th>STDEV</th>
<th>INFLATION RATE</th>
<th>TRANS RATE</th>
<th>UNEMPLOYMENT STDEV</th>
<th>NAT LOG RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C (Common Constant)</strong></td>
<td>3.767156**</td>
<td>1.722900</td>
<td>3.546785**</td>
<td>2.099560*</td>
<td>0.211504</td>
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<tr>
<td>CBIG (Legal)</td>
<td>0.663090</td>
<td>-0.734840</td>
<td>1.694888</td>
<td>2.225111*</td>
<td>4.007452**</td>
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<tr>
<td>CBIG (Political)</td>
<td>-2.179942*</td>
<td>-1.458909</td>
<td>-1.654212</td>
<td>-0.335030</td>
<td>-0.146713</td>
</tr>
<tr>
<td>CBIG (Accnt / Transp)</td>
<td>-0.619090</td>
<td>-1.465751</td>
<td>-2.746899**</td>
<td>-0.542693</td>
<td>-3.715533**</td>
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<tr>
<td>CBIG (Price Stability)</td>
<td>-0.140489</td>
<td>0.874150</td>
<td>-0.940951</td>
<td>-0.321844**</td>
<td>-2.844708*</td>
</tr>
<tr>
<td>CBIG (Exchange Rate)</td>
<td>2.329392*</td>
<td>3.425255**</td>
<td>4.179486**</td>
<td>0.541899</td>
<td>4.021074**</td>
</tr>
<tr>
<td>CBIG (Mon. / Def Fin)</td>
<td>0.066406</td>
<td>-2.431858*</td>
<td>-1.414103</td>
<td>2.116204*</td>
<td>2.367452*</td>
</tr>
<tr>
<td>Economic Freedom</td>
<td>-3.185600**</td>
<td>1.661574</td>
<td>-2.732071**</td>
<td>2.116204*</td>
<td>3.743545**</td>
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<tr>
<td>Dummy (Inflation Targeting)</td>
<td>-1.077270</td>
<td>0.141773</td>
<td>-0.597984</td>
<td>1.701551</td>
<td>3.203244**</td>
</tr>
<tr>
<td><strong>Total Panel (unbalanced observations)</strong></td>
<td>246</td>
<td>251</td>
<td>251</td>
<td>213a</td>
<td>224</td>
</tr>
<tr>
<td><strong>R-Squared</strong></td>
<td>0.223320</td>
<td>0.077950</td>
<td>0.217180</td>
<td>0.129391</td>
<td>0.209597</td>
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<tr>
<td><strong>Prob. (F-Statistic)</strong></td>
<td>8.518110**</td>
<td>2.557345*</td>
<td>8.392365**</td>
<td>3.789837**</td>
<td>6.968639**</td>
</tr>
</tbody>
</table>


* Under STDEV unemployment, there are only 22 cross-sections / 3 were dropped in lieu of insufficient observations
Relating CBIG indices with unemployment variables, two interesting observations were drawn: 1) the accountability/transparency component possesses a negative relationship with unemployment; and 2) the price stability component was negatively related with all the three unemployment variables. This result validated Epstein’s (2007) argument: that the unemployment rate could be a complement for inflation rates under increased CBIG indices. The negative relationships on the price stability objective and the accountability / transparency components of CBIG on both inflation and unemployment variables show that Phelps’ claim (2006) was correct: that the inflation and unemployment relationship is also a matter of institutions and governance mechanisms which formulate structural policies. The positive relationship with the legal, political, exchange rate and monetary policy components only goes to show that an increase in these CBIG components could possibly lead to an increase in the rate of unemployment.

The next series of multivariate regressions would involve control variables such as economic freedom and a dummy variable for inflation targeting countries (see Table 4). Under multivariate analysis with control variables, three (3) observations were drawn: 1) inclusion of control variables improved the overall statistical significance of both inflation and unemployment proxy variables; 2) inclusion of the economic freedom index improved the inflation–unemployment trade-off, especially in terms of the standard deviation proxy variables which represent the short-run fluctuations for both inflation and unemployment rates; and 3) the addition of the dummy variable for inflation targeting further enhanced the significance levels for unemployment figures. The latter result was rather surprising, for the inflation-targeting dummy was supposed to enhance the significance levels for inflation figures. Instead, it also followed the negative relationship between CBIG and inflation. The positive relationships obtained from unemployment figures only reflected the inflation-unemployment trade-off, with the implication that countries focusing exclusively on inflation should be wary about increases in the unemployment rate in the short run, especially those countries that have implemented inflation targeting as the monetary policy framework.

Conclusions and Recommendations

**Work Value Tendencies and Economic Freedom.** With the exception of the view of work as being “very important” in life, the components of achievement, initiative, interest in job and obedience showed a low but positive correlation with the overall CBIG index and the economic freedom index. Under multivariate pooled least squares regression, economic freedom had clearly boosted the importance of the CBIG indices in explaining the inflation and unemployment variables. This is consistent with the findings of Banaian and Luksetich (2001) that economically free societies adopt institutional structures to promote lower inflation.

**Implications for Inflation–Targeting Central Banks.** Asia-Pacific central banks under the inflation–targeting framework should not worry too much for two reasons: 1) central bank independence is widely recognized in the region as an institutional requirement not only for successful inflation control
but also for creating a credible monetary authority insulated from national government influence; and (2) the inflation–targeting framework uses a comprehensive set of information to accurately calibrate adjustments in policy interest rates–wherein part of the comprehensive set of information are the developments in output and the rate of unemployment. In addition, there is now also greater acceptance of the idea that good governance of institutions, as well as having incentive structures, are important preconditions for growth and development (North, 1990). Also, even if monetary policy actions cannot directly address the unemployment situation, central banks should nevertheless keep a constant and close watch on any unusual or sudden increase in unemployment rates (Tetangco, 2005).

The following are recommended for future monetary policy actions and research undertakings:

• **Practice of monetary policy** – the credibility of monetary policy rests upon the central bank’s capability to deliver on its mandate. Thus, institutional factors – such as work dynamics and economic freedom – are also considered as important in the central bank’s capability to reduce the unemployment rate, and to a lesser extent, bring down and stabilize the inflation rate.

• **Further research can be possibly made as follows:** 1) Performing factor analysis and imputing the principal components into the models of inflation and unemployment along with the CBIG indices would be desirable to actually determine the “causality” of work value tendencies as a possible control variable; 2) The exclusion of the foreign exchange policy component from the CBIG indices. Instead, a control variable could be included that measures the efficiency of central bank independence and governance under various exchange rate arrangements (fixed, floating, dollarized, managed float, dirty float) and degrees of central bank intervention under the foreign exchange market; and 3) Increasing the number of sample countries in the Asia-Pacific, expanding the time frame to monitor periods of structural changes, and expanding the number of countries covered under the world values survey and the indices of economic freedom would make the research undertaking more comprehensive and robust.

**References**


