

Chapter 2

Review of Literature and Conceptual Framework

The purpose of this chapter is to present a literature review that provides the theoretical and empirical underpinnings of the conceptual framework that is going to be tested in this dissertation. The chapter is divided into two sections. First, the literature review -- which includes reviews of standard macroeconomic theory, the literature on the miracle of growth, the literature on the determinants of output, the philosophy of sufficiency economy, and reviews of the determinants of levels of development -- is presented. This literature and empirical review provides the theoretical basis for the conceptual framework. Second, the conceptual framework is developed.

2.1 Literature Review

2.1.1 Standard Macroeconomic Theory

Many theoretical and empirical studies in the field of standard macroeconomics have addressed the important question of the exact causal relationship among such macroeconomic variables as gross domestic product, the money supply, technological innovation, the interest rate, the price level, the exchange rate, the wage rate, employment, population and the savings rate. Different schools of thought, such as Classical Economists, the Keynesians, the Monetarists, the new Classicals, the new Keynesians and the New Growth Theorists, have provided different explanations about the relationship among these variables (shown in **green** in figure 2.1). For example, Keynes believed that effective demand plays a pivotal role in determining output. While acknowledging that a positive monetary shock will increase economic activity and the price level, he emphasized fiscal over monetary policy as being more important to the economy.

The monetarist school provides a different explanation: that the money supply is the primordial factor in determining national income. Friedman and Schwartz (1971) studied the relationship between money supply and output, and the implications for effective application of monetary policy in the USA. They advocated a Central Bank policy aimed at keeping the supply and demand for money at equilibrium in order to adjust for differential growth rates of productivity and demand. Their conclusion was that monetary policy was effective and could explain and compensate for fluctuations in output.

Keynesians, Monetarists and the New Classicals agree that fluctuations around the trend are caused by nominal demand events such as monetary shocks, not real supply shocks such as technological breakthroughs. However, Nelson and Plosser's (1982) attempted to answer whether fluctuations have a permanent component found that real factors such as the labour supply and technological innovation both determine output in the long run and act as substantial sources of disruption to the economy. It is important to note that the labour supply is a double-edged sword in terms of policy to increase GDP per capita, since the growth in consumption needs of the population and the increase in the workforce to supply those needs are highly correlated.

Since the mid-1980s, "New" or "Endogenous" Growth Theory has emerged to criticize the neo-classical growth model. In the neo-classical view, the long-run growth rate is exogenously determined by either assuming a savings rate (the Harrod-Domar model 1948, 1957) or a rate of technical progress net of depreciation and population growth (Solow model, 1956). As a result, the Solow model (1956) introduced the concepts of "effective" labour, capital "deepening" and capital "widening." However, the savings rate, population growth rate, and rate of technological progress remain exogenous and unexplained. Endogenous growth theory emphasizes that economic growth results from increasing returns due to new knowledge. As a partial correction to these problems, the Hayami-Ruttan model (1971) endogenized technical and institutional change as a response to changes in relative factor prices.

2.1.2 Literature on the Miracle of Growth

Instead, a wide range of development models (Harrod-Domar 1948,1957, Lewis 1960, Todaro 2000, Fei-Ranis 1961, Solow 1957, Kelley-Williamson-Cheetham 1972, etc.) have been proposed as a corrective to ill-functioning or absent factor and output markets. The Solow model (1957) in particular isolates total factor productivity growth as the measure of unexplained or “miraculous” development enjoyed by certain of the 10-11 regions of the world into which the low- and middle-income economies can be classified. Indeed, when labour, land, and capital are measured by undifferentiated macroeconomic aggregates in the Solow model, a handful of economics, such as the four East Asian Tiger Economies (Hong Kong, Singapore, South Korea and Taiwan) and the African Lion (Botswana) appear to have enjoyed mysterious social and cultural advantages that make it virtually impossible for other developing economies to catch up. This thesis was supported by studies (e.g. Kawai 1994, King and Levine 1994, Sarel 1997, Drysdale and Huang 1997, Dowling and Summers 1998) that seemed to show that total factor productivity played a significant role in the success of the Tigers. If this thesis is true, no universal model for even the developing economies could be possible.

In the mid-1990s, however, other empirical studies (e.g. Krugman 1994 and Young 1995) began to challenge this fatalistic interpretation. They explained that capital accumulation or increases in factor inputs of labor and capital alone, once corrected for participation rates, educational levels, and investment rates, statistically cause East Asian growth without resort to a large unexplained residual. Rispens (2009), extending the time period of analysis, determined that the rapid growth in four East Asian Tiger Economies was mainly driven by human and physical capital for the period 1960-2000. This is why, despite low total factor productivity estimates in comparison with the developed world, East Asian growth remains much higher than that of other newly industrializing countries.

2.1.3 Literature on the Determinants of Output

It is therefore conceivable that a universal macroeconomic model, if completely specified, could be used to explain growth in all economies of the world. If so, then understanding the causal relationship among gross domestic product and macroeconomic, political and social indicators becomes the critical challenge for economists, researchers, and policy makers because such relationships both point to appropriate policy and measure its effectiveness. However, several studies (King 1974, Farr *et al.* 1998, Lambsdorff 2003, Josten 2003, Pellegrini and Gerlagh 2004, Czabanski 2008, Younis *et al.* 2008, Aixalá and Fabro 2009, Yu *et al.* 2009, Detotto and Otranto 2010, Kogid *et al.* 2010, Ahmed and Suliman 2011, and Adhikary 2011) have separated the impact of macroeconomic and social indicators on output and led to either misspecification error or unexplained fluctuations in output. Therefore, in the present study we progressively include macroeconomic, regional and socio-political indicators and attempt to develop a universal explanation of which factors play significant roles in determining output.

1) Macroeconomic Indicators

A vast empirical literature (e.g. Ambler 1989, Masih and Masih 1996, Odusola and Akinlo 2001, Yu *et al.* 2009, Kogid *et al.* 2010, Ahmed and Suliman 2011, Adhikary 2011) has investigated the contributing factors which determine gross national product in developed and developing countries. Several macroeconomic variables were used, notably the money supply, interest rate, exchange rate, inflation rate, saving rates and the balance of trade (variables in **green** in figure 2.1). The brief review below suggests possible convergence in the applicability of the standard model among OECD, Asian, African, Latin American, and Eastern European nations.

OECD countries: Previous studies in the OECD region have focused upon such monetary variables as the money supply, interest rate or exchange rate as potential determinants of national income. For example, Ambler (1989) studied the impact of the movement in monetary variables upon in Canada and found that increases in the money stock relative to nominal income raised spending and output in

the short run. The observed stationarity of Canadian velocity implies that money affects only price in the long run. Andres and Hernando (1997) studied the correlation between growth and inflation in the OECD. This study found that there are negative correlations between inflation and output growth in the long-run. However, the analysis of causality gives less clear-cut results, but it is also noteworthy that causality from inflation to growth is always significant and never positive. Kalyoncu *et al.* (2008) studied the effect of currency devaluation on output level of 23 OECD countries for the period 1980-2005. The results are mixed and suggest that in the long run, output growth is affected by currency devaluations in nine out of 23 countries. In six out of nine countries, depreciation exerts a negative impact on output growth; however, depreciation improves output in three countries.

Asia: In a similar vein, Masih and Masih (1996) discerned the dynamic causal chain (in the Granger (1988) temporal sense rather than in the structural sense) linking real output to money, the interest rate, inflation and the exchange rate in the context of a small Asian developing economy (Indonesia). Their findings have clear policy implications for any accommodative and/or excessive monetary expansion since the latter is likely to be dissipated in terms of relatively higher levels of such nominal variables as prices, exchange rates or interest rates rather than real output. Yu *et al.* (2009) applied a monetary function to explain fluctuations in output in Bangladesh. They found that real depreciation, a higher real stock price, a lower real federal funds rate, and increases in aggregate world output all increased real output. A non-significant ratio of government consumption spending to nominal GDP suggests that expansionary fiscal policy may not be effective.

Moreover, fluctuations in Asian output may come from either the saving rates or population growth. For example, Canlas (2003) explored the effects of changes in the saving rate, population growth and human-capital growth upon real GDP in the Philippines. The results showed that the saving rate has a positive effect, population increase a negative effect, and human-capital improvement no significant effect upon growth. In addition, the relationship between output and foreign trade or foreign direct investment has become an important issue in recent years. Kogid *et al.* (2010) investigated the relationship and causal patterns of several determinant factors

upon economic growth in Malaysia from the year 1970 to 2007. The results showed that the combined determinant factors caused economic growth in the short run. However, only consumption expenditures and exports played a significant role in determining economic growth.

FDI and trade are of interest to all developing economies, and Asia is no exception. Adhikary (2011) examined the linkage between FDI, trade openness, capital formation, and economic growth rates in Bangladesh over a period 1986 to 2008. He demonstrated a long-run equilibrium relationship between GDP growth rates and the explanatory variables with unidirectional casual flows. The volume of FDI and level of capital formation have a significant positive effect on changes in real GDP; while trade openness unleashes a negative but diminishing influence on GDP growth rates.

Taking Asia as a group, Hsiao and Hsiao (2006) examined the Granger causality relations linking GDP, exports, and FDI by using time-series and panel data from 1986 to 2004 for eight rapidly-developing East and Southeast Asian economies. The panel data causality results revealed that FDI has unidirectional effects on GDP both directly and also indirectly through exports, and that there also exists bidirectional causality between exports and GDP for the group.

Africa: In Africa as well, Odusola and Akinlo (2001) measured the effect of devaluation on output and inflation in Nigeria (1970.1-1995.4) by applying restricted vector auto-regression. Quarterly values of real GDP, money supply (broad money), the official exchange rate, the parallel or black-market exchange rate, price and lending rates were used. The results showed that in the short run, depreciation has a contractionary impact on output but that the result reverts in the long-run. Ahmed and Suliman (2011) investigated the long-run and short-run relationship between the money supply, real GDP and the price in the Sudan (1960-2005). Co-integration analysis established that real GDP, the money supply and CPI were co-integrated, suggesting a long-run inter-relationship. However, a causality test showed that money did not cause real GDP.

Latin America: Focusing on the effects of expected and unexpected monetary growth on output in Latin America, Edwards (1984) studied the short-run impact of inflation in Brazil, Chile, Colombia, Mexico and Peru. Explicit incorporation of the relationship between fiscal deficits and money creation led to varying results across countries. While for Chile and Brazil no evidence was found of a positive relationship between monetary policy (expected or unexpected) and growth; for Colombia, Mexico and Peru a positive relationship was found between growth and unexpected monetary policy. Ansari and Ahmed (2007) further established a unidirectional causality from money to output in Mexico, implying monetary policy effectiveness.

Eastern Europe: Eastern Europe has not traditionally been considered a “developing” region. But for Russia, Ukraine, Belarus, and Kazakhstan as well, Starr (2005) used time-series methods to analyze the effect of changing monetary policy variables such as the money supply, interest rate and exchange rate on output and price in the short run. The results revealed that monetary policy affected only price but not output, except in Russia where changing the interest rate also changed output.

From the above regional studies we may conclude that different regions provide divergent determinants of output and lead to different policy implications. The use of regional intercept and slope-shifting dummies in the remainder of this thesis is therefore warranted.

2) Social and Political Indicators

Several empirical studies suggest that the above “standard” macro variables, although statistically significant, are insufficient to explain growth. Higher levels of social well-being, as measured by a wide range of social and political indicators (variables in **blue** in figure 2.1) should also induce higher levels economic performance and per capita product. One of the earliest such studies was King (1974), who analyzed the correlation between seventeen social indicators and economic growth for twenty countries in two bench-mark years 1951 and 1969. Although the results pointed to a positive correlation between social variables and economic growth, the degree of correlation was low at that dawn of the development era. A

review of the more recent literature on health, education, gender equality, school enrolment, life expectancy (positive social indicators), the crime rate, loss of political freedoms and the corruption index (negative political variables) is therefore germane to the present study.

Education/human capital formation: Many macroeconomic theoretical models incorporate human capital either through extensions of the Solow neoclassical growth model (Solow 1956, 1957) or through endogenous growth equations, as developed by Romer (1986), Lucas (1988) and others. Moreover, the evidence suggests that human capital is the most important factor to explaining economic growth. For example, Barro's 1991 study used data for 98 countries from 1960 to 1985 and related the real growth rate of GDP per capita to initial human capital, as proxied by school enrolment rates for 1960, and a large set of other potential determining variables. It found that output growth was significantly and positively determined by both primary and secondary school enrolment, in the presence of other determinants. Barro's study also revealed how human capital variables were significantly correlated with lower levels of net fertility and larger levels of physical capital investment. Graff (1995) examined the role of human capital in explaining economic growth in some 114 countries from 1965 to 1985. Generally, the results showed the accumulation of human capital, physical capital and technological progress all to be significant determinants of the growth process. The results held for individual economies as well. For instance, Asteriou and Agiomirgianakis (2001) used cointegrated regressions to explore the long-term relationship between formal education and GDP in the Greek economy. This study finds a significant relationship between primary, secondary and higher education enrolments and GDP per capita.

Political freedom: Freedom is conceptualized as the civil liberties and political rights that the general population can enjoy in influencing public policy. In many studies, the Freedom House indices have been used as measures of freedom. For example, Farr *et al.* (1998) analyzed the causality relationships between economic and political freedom and per capita income using a sample of 98 countries and five-yearly data for the period 1975–1990. They employed the global index of political freedom (sum of the indices of political rights and of civil liberties) of Freedom House as well as the economic freedom indicators of the Fraser Institute. Their results

suggest both that economic freedom and per capita income are endogenously related, and that economic freedom indirectly “causes” political freedom through its effect on economic growth. Similarly, Aixalá and Fabro (2009) studied the direction of causation and interrelationships among key institutional dimensions (economic freedom, civil liberties and political rights) and economic growth using the Granger methodology with panel data for 187 countries and five-yearly observations for the period 1976–2000. Their results showed that political rights precede growth, while there exists a two-way causality linking economic and civil liberties with growth. Younis *et al.* (2008) also found a close negative relationship between various factors of political instability and economic growth in ten Asian economies during 1990–2005.

Corruption: In terms of the impact of corruption on economic growth and development, several studies reveal that the main characteristic of many developing countries is weak public institutions, including high levels of corruption. Moreover, the impact of corruption on economic growth is a subject of much debate in the academic literature. Most studies agree that corruption is bad (Lambsdorff 2003, Pellegrini and Gerlagh 2004). However, some papers find that corruption may be beneficial (Mironov 2005). Lambsdorff (2003) concluded that corruption reduces capital productivity in a panel of countries. Pellegrini and Gerlagh (2004) found that the impact of corruption on economic growth acts by reducing the ratio of investment to GDP and the country’s openness. Mironov (2005) analyzed the effect of corruption on economic growth in 141 countries from 1996 to 2004. The result showed that “bad” corruption, or corruption which is associated with poor institutions, has a negative effect on GDP growth. However, residual corruption, or corruption which is uncorrelated with other governance characteristics, was positively correlated with GDP growth, capital accumulation and productivity growth in countries with poor institutions. Akçay (2002) examined the impact of corruption on economic growth across 54 developing and developed countries for the period of 1960–1995. International Country Risk Guide’s (ICRG) corruption index (averaged 1982–95) was used to be corruption variable. The empirical results suggest that there is a statistically significant negative relationship between corruption and economic growth. Aisen and Veiga (2011) determined the effects of political instability on economic growth

using the system-GMM estimator for linear dynamic panel data models on a sample covering up to 169 countries, and 5-year periods from 1960 to 2004. Their result showed that political instability reduces GDP growth rates significantly through physical and human capital accumulation.

Crime: Criminology has a significant impact upon society in that it diverts monies into the non-taxable hidden economy, causes disfigurement and death of workers, discourages the motivation to work or invest, and incurs the high social costs of judges' salaries, jury duty, and incarceration. Czabanski (2008), Detotto and Otranto (2010) and Josten (2003) further note that crime acts like a tax on the entire economy by discouraging domestic and foreign direct investments, restricting capital accumulation, reducing the competitiveness of firms, reallocating resources according to non-market signals, and creating uncertainty and inefficiency. Italy has been chosen by several previous authors to test the macroeconomic impacts of crime. For example, Peri (2004) employed a large time-series data set (from 1951 to 1991) to show that annual per capita income growth is negatively affected by murders, after controlling for other explanatory variables in Italy. Detotto and Otranto (2010) used a state-space model and an impulse response function to evaluate the short-run and long-run effects of crime on the Italian economy using monthly data from January 1979 through September 2002. When intentional homicides were used as the crime activity indicator, the results showed that crime negatively impacts economic performance, especially during recessionary periods of the business cycle. This suggests that our model should test for interaction terms between socio-political and economic indicators.

2.1.4 Sufficiency Economy Philosophy

This thesis is inspired by the Sufficiency Economy Philosophy in that several of its component concepts and principles will be employed to consider the impact of social-political indicators on economic output.

The Sufficiency Economy Philosophy, bestowed by His Majesty the King Bhumibol Adulyadej to the people of Thailand, highlights a balanced way of living. After the economic crisis of 1997, His Majesty reiterated and expanded upon his philosophy in remarks made in December 1997 and 1998. His Majesty the King once said:

“Sufficiency economy” is a philosophy that stresses the middle path as the overriding principle for appropriate conduct by the populace at all levels. This applies to conduct at the level of the individual, families, and communities, as well as to the choice of a balanced development strategy for the nation so as to modernize in line with the forces of globalization while shielding against inevitable shocks and excesses that arise. “Sufficiency” means moderation and due consideration in all modes of conduct, as well as the need for sufficient protection from internal and external shocks. To achieve this, the application of knowledge with prudence is essential. In particular, great care is needed in the utilization of untested theories and methodologies for planning and implementation. At the same time, it is essential to strengthen the moral fibre of the nation, so that everyone, particularly political and public officials, technocrats, businessmen and financiers, adhere first and foremost to the principles of honesty and integrity. In addition, a balanced approach combining patience, perseverance, diligence, wisdom and prudence is indispensable to cope appropriately with the critical challenges arising from extensive and rapid socio-economic, environmental and cultural changes occurring as a result of globalization.” (Quoted from Mongsawad, 2010: 127)

The implementation of the Sufficiency Economy Philosophy consists of three main features which are moderation, reasonableness and self-immunity under two underlying conditions of integrity and knowledge. All five of these concepts are then subject to balance. Moderation means decision on doing business or living

should be within their ability and potential. The decision should also be based on reasonableness which means to resolve the problem by apply knowledge with due thoroughness and prudence. Moreover, this decision should not be exploited another person or environment. Another feature is self-immunity which is implied preparation ourselves for deal with internal and external effects within the uncertainty situation in the future. In addition, the two conditions (integrity and knowledge) are required. The individual or business unit uses knowledge included wisdom, prudence and consideration to utilizes theories and methodologies for apply in their business or way of life. Moreover, the knowledge should be used with integrity which includes honesty, tolerance and attempt.

Sufficiency Economy Philosophy can apply to not only the individual level or business unit level but also national level. The government or policy maker of each country should emphasize balance and sustainable development and prepare the countries to ready for the changes in all aspects such as economic, social, environmental and technological knowledge by applying the three main features which under two underlying conditions .

2.1.5 Determinant of Level of Development

In accordance with the World Bank's income-based country classification scheme, gross national income (GNI) per capita -- the most common measure of the overall level of economic activity -- is often used as a summary index of the relative economic well-being of people in different nations. However, Ozturk (2008) argued that using only an income indicator is insufficient for identifying a country's development level. He suggested adding more indicators such as the human development index (HDI), women's involvement in government and national parliaments, and trade development factors.

This argument is the same as that of Todaro and Smith (2009) who suggested that development must be conceived of as a multidimensional process involving major changes in social structures, popular attitudes, and national institutions; as well as the acceleration of economic growth, the reduction of inequality and the eradication of poverty.

The Human Development Index (HDI) is the one indicator that was suggested to measure the level of development. Developed by the Pakistani economist [Mahbub ul Haq](#) in 1990, the HDI had the explicit purpose “to shift the focus of development economics from national income accounting to people centered policies”. Anand and Sen (1994) have suggested the classification of all countries into three groups: low, medium and high levels of human development. According to Ranis (2004), there clearly exists a strong connection between economic growth and human development. In one direction, economic growth provides the resources to permit sustained improvements in human development. In the other, improvements in the quality of the labor force are an important contributor to economic growth.

Other indicators such as the Gender-adjusted Human Development Index (GHDI), the Inequality-adjusted Human Development Index (IHDI), the Gender Inequality Index (GII), and the Multidimensional Poverty Index (MPI) have been proposed by the United Nations Development Program. Meanwhile, others have advanced women’s involvement in national politics, the level of freedom, the rate of school enrolment, and life expectancy as alternative measures level of development. For example, Fukuda-Parr (1999) discussed social development from a gender perspective. In his study, a measure of women’s involvement in national politics -- the proportion of seats held by women in national parliaments -- is evaluated as an indicator of a country’s development levels.

Meanwhile, Todaro (2000) emphasized that the underdeveloped country is that which has low levels of living (absolute poverty, poor health, poor education and other social services), low self esteem (low respect, honor, dignity) and limited freedom (freedom of choice). Goldsmith (1997) suggested that the greater the economic rights of people, the more they will contribute to human development. Esposito and Zaleski (1999) also noted the positive influence of economic freedom on the quality of life across nations. Oi (1999) suggested that human capital develops as a result of economic freedom.

2.2 Conceptual Framework¹

In light of the literature cited, our conceptual framework (figure 2.1) is predicated upon the notion that output and price at equilibrium are determined by aggregate supply (real sector) and aggregate demand. On the supply side in the steady state, the levels of population growth and the savings rate ultimately determine aggregate output. Monetary variables influence the savings rate, which, along with foreign direct investment, provides the capital for aggregate investment.

On the demand side as well, financial policy plays a pivotal role in determining output and price levels through monetary policy instruments, whose impacts are transmitted through the money and asset markets. We further consider the external sector by assuming that there are trading and financial links with other economies. Finally, we take into account the effects on output of such social indicators as freedom, corruption, and the crime rate.

¹ Our conceptual framework is similar to Masih and Masih (1996), Chaudhry et al. (2005), Dritsaki and Adamopoulos (2005) which estimated the dynamic interrelation among macroeconomic variables such as gross domestic product, interest rates, level of price and exchange rates. Moreover, we also similar framework with Hsing(2005) and Hsieh (2006) who has examined output determination based on an extended IS-MP-AS model.

As for the link between labour supply and corruption, the more labour supply there is, other things equal, the lower the probability of finding a job through regular market channels, and the more desperate workers will have to seek jobs through personal networking, bribes, and/or corruption. The fewer government and non-government managers there are with respect to this vast labour supply, the more tempting corruption becomes for the manager. Meanwhile, political freedoms also tend to be reduced with an oversized labour supply (for example, in China). Jobless people with no freedoms or means of bribing those in power will resort more easily to crime. So a vicious cycle links several of these variables.

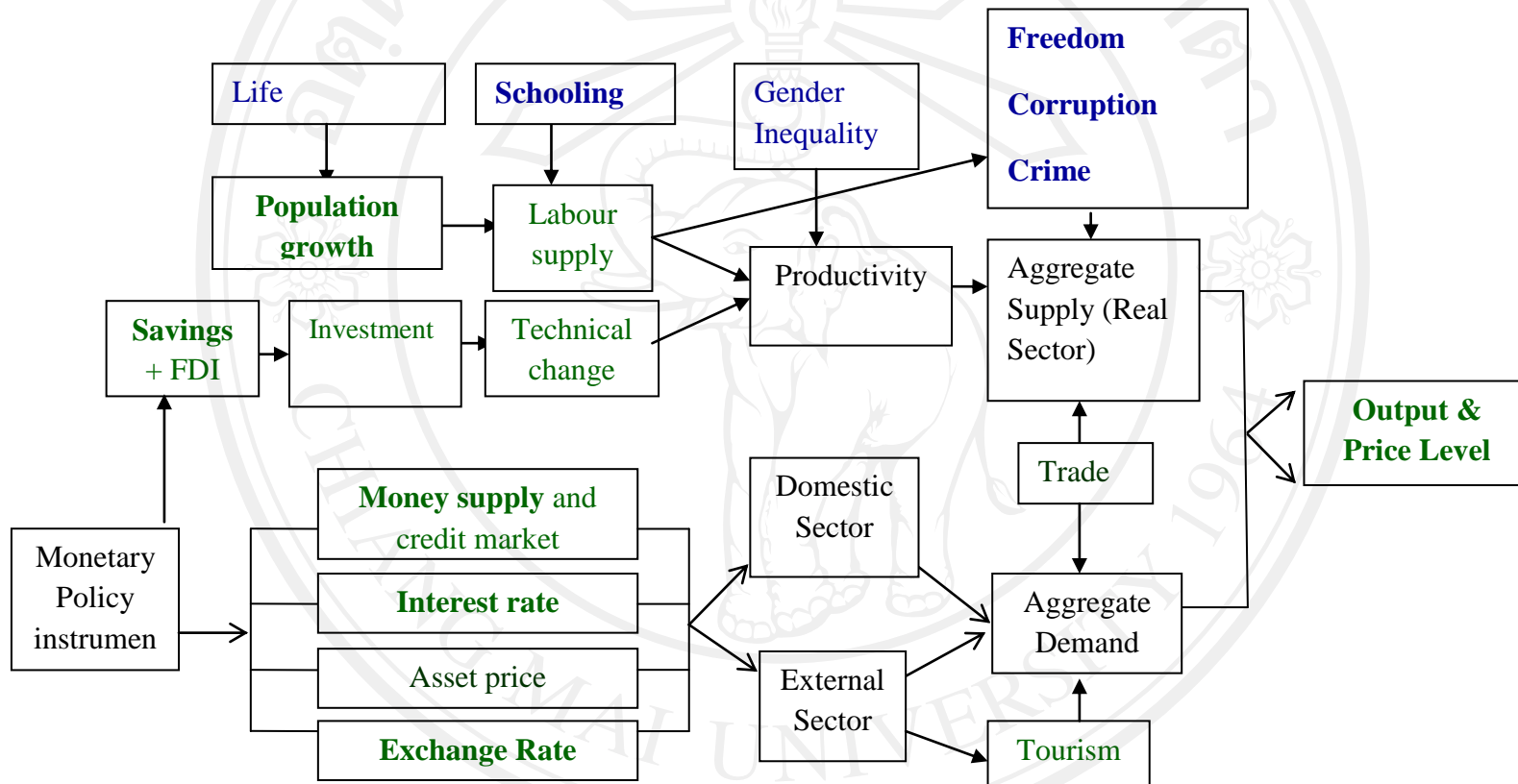


Figure 2.1 Conceptual Framework