

Chapter 1

Introduction

1.1 Principle and Rationale of the Study

The ten countries of the Association of Southeast Asian Nations (ASEAN) can be roughly divided into four groups: developed country—Singapore: wealthy developing country—Brunei Darussalam; intermediate developing countries—Indonesia, Malaysia, Philippines, Vietnam and Thailand; and less developed countries—Lao, Myanmar and Cambodia. In 2009, nominal gross domestic product (GDP) of ASEAN countries is the tenth highest in the world—USD 1.45 trillion. Note that this value does not include the data from Myanmar and Brunei Darussalam, which are not available. Moreover, ASEAN population of 580 million is the third largest in the world, following only China and India (*Table 1.1*).

Table 1.1 GDP and population ranks (2009)

Country	GDP (millions USD)	Country	Population (thousands)
1 United States	14,119,000	1 China	1,331,460
2 Japan	5,068,996	2 India	1,155,348
3 China	4,985,461	3 ASEAN	580,993
4 Germany	3,330,032	4 United States	307,007
5 France	2,649,390	5 Brazil	193,734
6 United Kingdom	2,174,530		
7 Italy	2,112,780		
8 Brazil	1,594,490		
9 Spain	1,460,250		
10 ASEAN	1,454,133		
World	58,259,785	World	6,775,236

Source: the data is from the World Bank.

By the year 2015, ASEAN plan to establish the ASEAN Economic Community (AEC), which will transform ASEAN countries into a single market and production base. Additional to ASEAN's goal of stable, prosperous and equitable economic development, AEC aims to have free movement of goods, services, investment, skilled labor, and freer flow of capital (AEC Blueprint, 2011). On the last aspect, financial activities including the capital markets and stock exchanges will be integrated with one another (Samboh, 2011).

Recently, as a move toward stock market integration, ASEAN has launched the ASEAN Exchanges Project which provides a new joint website promoting ASEAN's 210 blue chip equities—named ASEAN Stars—to global investors. The ASEAN Exchanges Project combines seven stock exchanges from six member countries: Singapore Stock Exchange (SGX), Bursa Malaysia or Malaysia Exchange (MYX), the Philippines Stock Exchange (PSE), Indonesia Stock Exchange (ISX), Hanoi Stock

Exchange (HNX), Ho Chi Minh Stock exchange (HOSE) and the Stock Exchange of Thailand (SET) (Sambh, 2011). This will allow ASEAN to become more attractive as a market to raise fund as well as to invest in (Denpasar, 2011).

The ASEAN Exchanges Project is likely to boost investment in stock exchanges in the region. From this projection, a question arises: will this project and the integration of ASEAN stock exchanges in 2015 contribute to achieving ASEAN's main goal of improving regional economic growth as well as income distribution? To answer this question, it would be helpful to investigate the impact of stock exchange development on economic growth and income distribution in ASEAN countries.

Table 1.2 presents ASEAN countries' average data on real GDP per capita expressed as purchasing power parity (GDPCAP), the market capitalization ratio (MCR) defined as market capitalization over GDP, and the Gini index of income inequality during 1988-2009. These three variables reflect economic size, stock market size relative to economic size, and income inequality, respectively. Note that the period is chosen based on data availability and that data from Myanmar are not available.

Relative ranks of all nine countries, and of six countries with stock markets—excluding Lao since the data for the newly opened LSX is not available—are computed. The ranks for MCR and GDPCAP are from the highest to the lowest while the ranks for Gini are from the lowest (the best income distribution) to the highest.

Table 1.2 Average GDPCAP, MCR and Gini, and relative ranks (1988-2009)

Country	GDPCAP (\$)	Overall Rank	Rank of 6	MCR	Rank of 6	Gini index	Overall Rank	Rank of 6
Brunei Darussalam	48,974	1		N/A		N/A		
Singapore	34,490	2	1	1.62	1	42.5	5	3
Malaysia	9,729	3	2	1.58	2	45.6	7	5
Thailand	5,601	4	3	0.52	3	43.7	6	4
Indonesia	2,810	5	4	0.22	5	38.5	3	2
The Philippines	2,612	6	5	0.48	4	N/A	N/A	N/A
Vietnam	1,576	7	6	0.12	6	36.8	2	1
Lao	1,322	8		N/A		33.1	1	
Cambodia	1,163	9		N/A		40.8	4	
ASEAN	12,031			0.76		40.1		

Note: data used for computation is from World Development Indicators and Global Development Finance (WDI GDF).

From the table, the countries can be roughly divided into three groups regarding per capita income: countries with GDPCAP above \$30,000 (Brunei, and Singapore); countries with GDPCAP between \$5,000-\$10,000 (Malaysia and Thailand); and countries with GDPCAP below \$3,000 (Indonesia, Philippines, Vietnam, Lao, and Cambodia). On the side of income distribution, it can be seen from the table that Gini indices are relatively lower in the countries which have relatively low income per capita and small or no stock exchange. Moreover, the countries with a large stock exchange relative to economic size seem to have relatively high income per capita compared to the countries with small or no stock exchange.

More specifically, among the countries with stock exchanges, Singapore and Malaysia have the highest MCRs. They both also have relatively high GDPCAP and Gini indices which implies high inequality. For Thailand and Philippines, the stock markets are about half the size of the economy. Thailand's GDPCAP of \$5,601 is a

little more than twice than that of the Philippines (\$2,612). Gini for Thailand is relatively high while that of the Philippines is not available. For Indonesia and Vietnam, MCR and GDPCAP are 0.22 and 0.12, and \$2,810 and \$1,576 respectively. The Gini indices are relatively low; 38.5 for Indonesia and 36.8 for Vietnam.

In *Figure 1.1* to *Figure 1.6* time-series data of nominal GDP and market capitalization are examined to find possible correlations in the behaviors of the economy and the stock market in each country. This graphical analysis does not include the data of Gini index due to the sparseness of the data collection. Note that all data are from World Development Indicators and Global Development Finance (WDI_GDF). For all countries, GDP and market capitalization both have positive long-term trends even though they have been affected by periodic shocks. It is also clear that the level of volatility is higher for market capitalization than GDP. Perhaps, this occurs because the volatility of market capitalization combines volatilities from the economy and the financial market.

Based on the figures, the countries can again be divided into three distinct, but different, groups: countries with larger stock markets than economic sizes (Singapore and Malaysia), countries with stock markets as leads of overall economic behavior (the Philippines and Thailand), and countries with small stock markets relative to their economic sizes with relatively smooth growth patterns (Indonesia and Vietnam). Note that within the macroeconomic frameworks of growth and business cycle, only long-term growth is of interest to the present study.

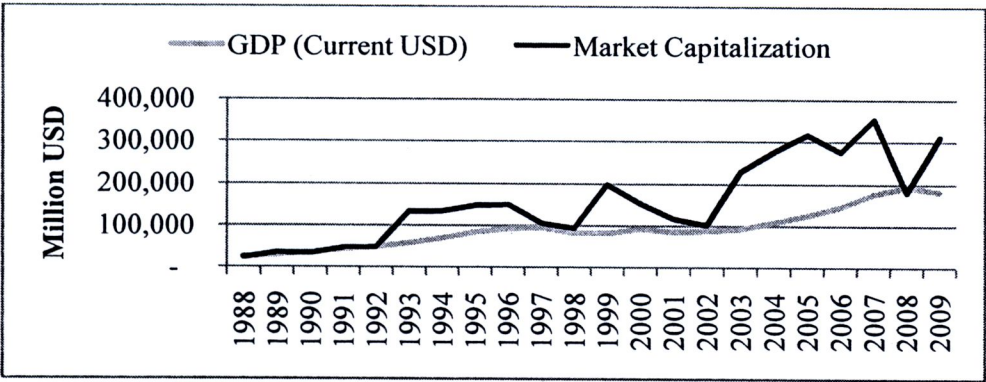


Figure 1.1 Gross domestic product and market capitalization of Singapore

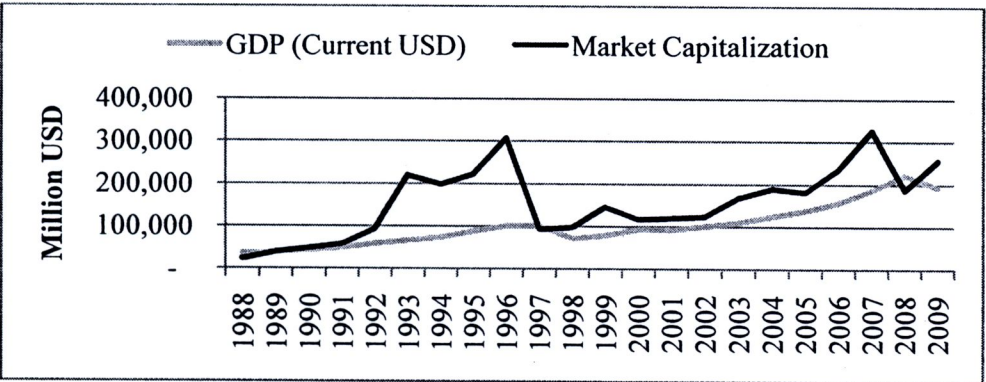


Figure 1.2 Gross domestic product and market capitalization of Malaysia

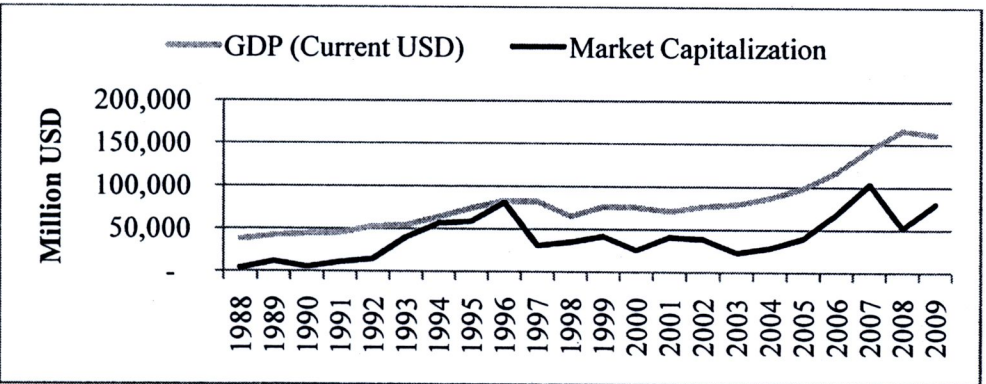


Figure 1.3 Gross domestic product and market capitalization of Philippines

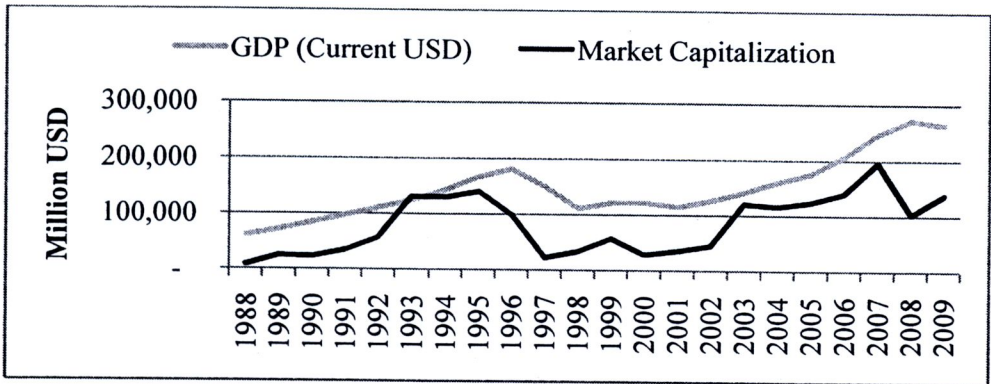


Figure 1.4 Gross domestic product and market capitalization of Thailand

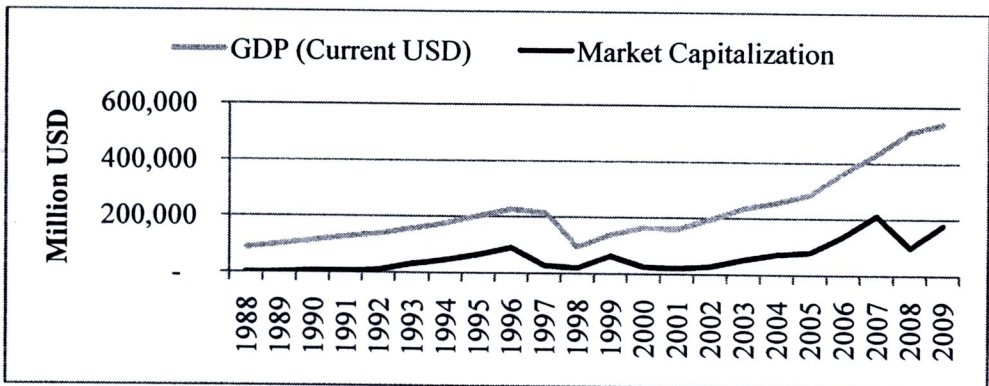


Figure 1.5 Gross domestic product and market capitalization of Indonesia

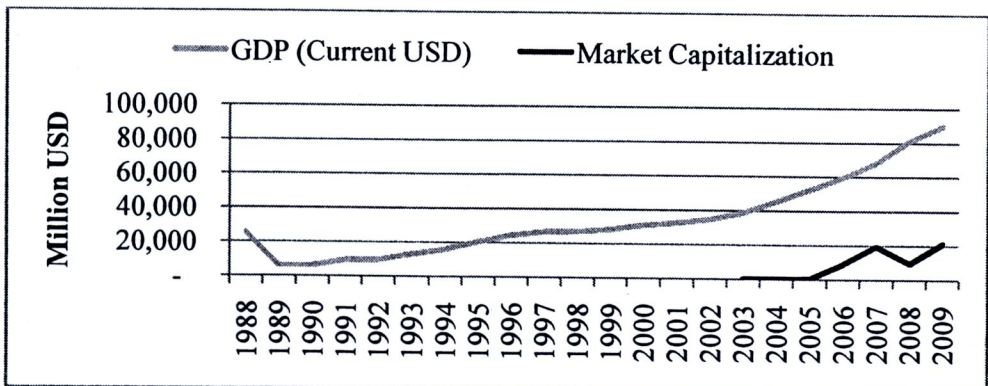


Figure 1.6 Gross domestic product and market capitalization of Vietnam

Examination of the numbers and graphs above suggests that there may be linkages among stock markets, economic growth, and income distribution in ASEAN economies. It can be hypothesized that stock market development may promote economic growth while worsening income inequality. Nevertheless, such graphical and tabular analyses are far from enough to conclude that there are statistically significant correlations between the variables; or the direction of causality—stock markets may affect and may be affected by the economy, or both. Therefore, a statistically rigorous empirical analysis of the subject is required.

Main research question: even though there have already been numerous empirical studies on the impact of stock market development on economic growth and income distribution, including Beck and Levine (2004), Enisan and Olufisayo (2009), Mohtadi and Agarwal (2004), Cooray (2010), Naceur and Ghazouani (2007), Kappel (2010), and Das and Mohapatra (2003); those focusing on the data of ASEAN economies are still limited in number. Moreover, there are inconsistencies in the results found in the existing studies, particularly those relating to the impact of stock market development on income distribution. Some authors—e.g. Zietz and Zhao (2009), Viaene and Zilcha (2002), and Smith (1999)—find that stock market development worsens income equality while others—e.g. Kappel (2010), and Bonfiglioli (2006)—find that it improves equality.

Therefore, the present study aims to quantify and explain the impacts of the development of the stock market on economic growth and income inequality in ASEAN countries. If conclusive, the results could be used by planners severally and in concert to promote the region's economic development, as well as to its attempt to

achieve the goal of constructing a fully functioning ASEAN Economic Community (AEC) by the year 2015.

1.2 Purpose of the Study

This study has five objectives:

- 1.2.1 To investigate the long-term impact on economic growth in ASEAN economies of having an active stock exchange.
- 1.2.2 To determine the extent of the impact of the stock market on income inequality.
- 1.2.3 To test for the causality between the rate of economic growth and stock exchange measures.
- 1.2.4 To determine whether the impact of stock market on economic growth is direct or whether it passes through gross fixed capital formation, aggregate FDI and/or financing via international capital market.
- 1.2.5 To draw practical policy conclusions for policy planners in ASEAN economies.

1.3 Advantage of the Study

We project at least two benefits from conducting such a study. It should provide:

- 1.3.1 Insights into the impact of stock market development on economic development, and income distribution and into the reverse impact of economic development on the stock market in ASEAN economies.

1.3.2 Policy implications for economic and income equity developments, and for the improved promotion and management of stock exchanges in ASEAN economies.

1.4 Testable Hypotheses of the Study

Four main hypotheses will be tested in this study.

Hypothesis 1: The stock market exerts a positive impact upon economic growth.

Hypothesis 2: The stock market and the economy have two-way symbiosis in the Granger sense. In other words, the stock market both affects and is affected by GDP growth (see *Figure 1.7*).

Hypothesis 3: The impact of the stock market upon economic growth is both direct and indirect, passing through gross fixed capital formation, foreign direct investment, and/or international capital inflow (see *Figure 1.7*).

Hypothesis 4: The stock market development worsens income inequality.

1.5 Scope of the Study

The study examines annual data of six ASEAN countries—Singapore, Malaysia, Philippines, Thailand, Indonesia, and Vietnam during 1988 and 2009 (21 years). For Vietnam, only the impact of the stock market development on economic growth will be investigated since the data of income inequality is not available.

The scope of this study spans the conceptual framework of *Figure 1.7*. In that diagram two major dimensions of the stock exchange are distinguished: market capitalization and the turnover ratio (both of which are desirable), which other things

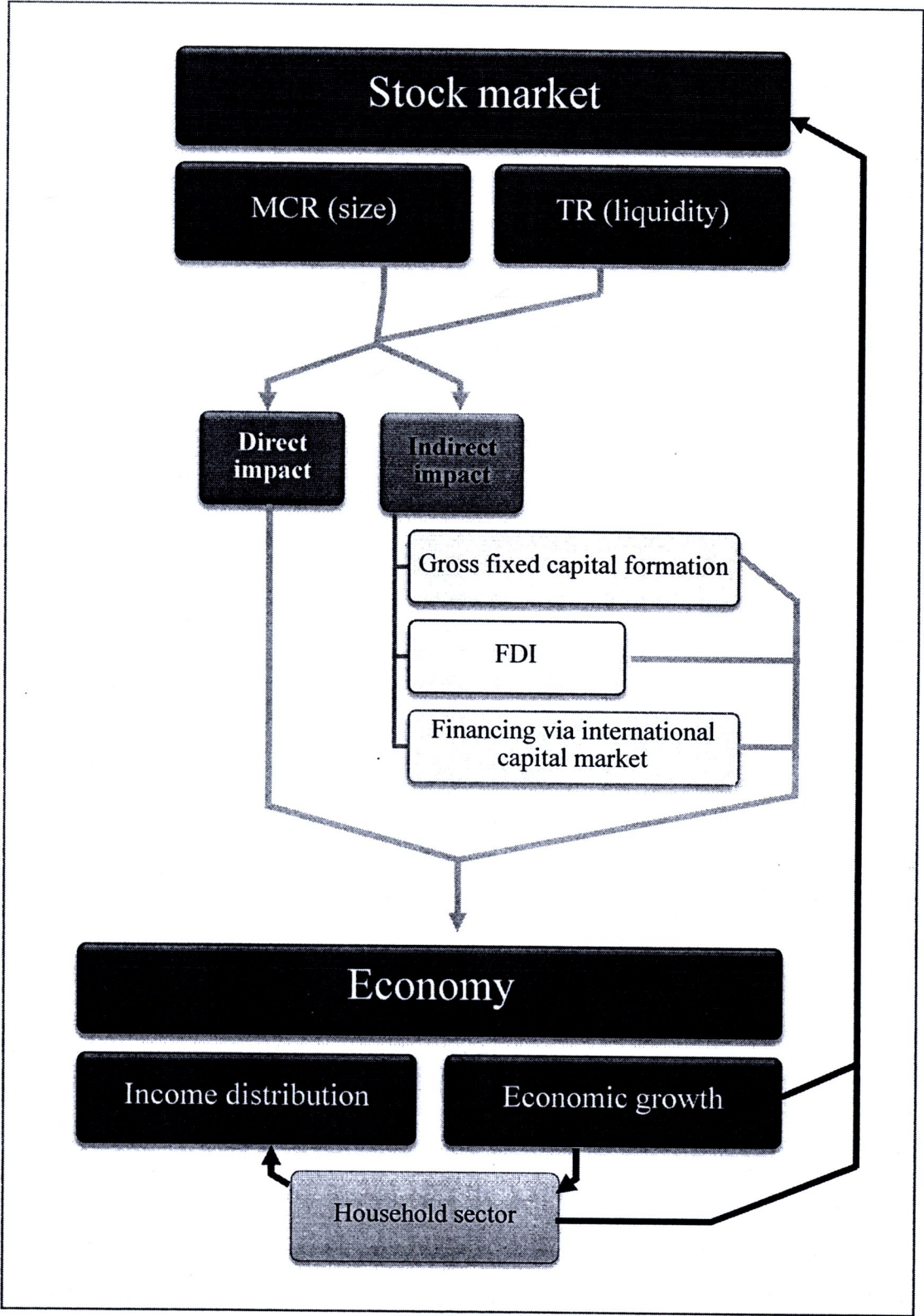


Figure 1.7 The hypothesized flow of relationships between stock market and the economy

equal is not desirable. The stock market is hypothesized to display two major pathways of impact upon the national economy. The first is direct; the stock market is itself an economic actor in creating growth, inequality in income distribution, and other macroeconomic aggregates. The second effect is indirect; the stock market serves as a locus for first attracting and channeling investment from both domestic source—gross fixed capital formation, and foreign sources—FDI and financing via international capital market; and then that investment acts upon the macro economy.

Three major dimensions of the macro economy are distinguished. The first two are economic growth and income distribution discussed above for the ASEAN economies. A part of this study aims to confirm or nuance the trends found in secondary data for six ASEAN economies as well as the typology shown in *Table 1.2*. The third dimension is the household sector, which is a key potential actor and beneficiary of the stock exchange. A part of investment in the stock exchanges is from the household sector, so that if households lack confidence in the stock exchange, that investment will go down. At the same, the stock market does increase income of households overall, but will aggravate income inequality if the poor households do not invest individually or, ideally, in groups. The stock market, finally, can increase income directly of the households to the extent that the firms invested in the stock exchange are labor intensive and do not required skilled workers. Put another way, the stock exchange can create the jobs necessary to provide incomes for poor households to reduce income inequality and feed the continued growth of the stock exchange itself.



1.6 Definitions

1.6.1 Gini index

The Gini index or coefficient measures the deviation of actual distribution of income (or consumption expenditure) among individuals or households from a perfectly equal distribution. The Gini index measures the area between the Lorenz curve—the plots of the cumulative percentages of total income against the cumulative numbers of recipients—and the absolute equality line as a proportion of a complete right-triangle so formed (see *Figure 1.8*). The index is expressed as a percentage of the maximum area under the line. If Gini index equals to 0, there is perfect equality in the economy. If Gini index equals 100, there is perfect inequality (the World Bank, 2011).

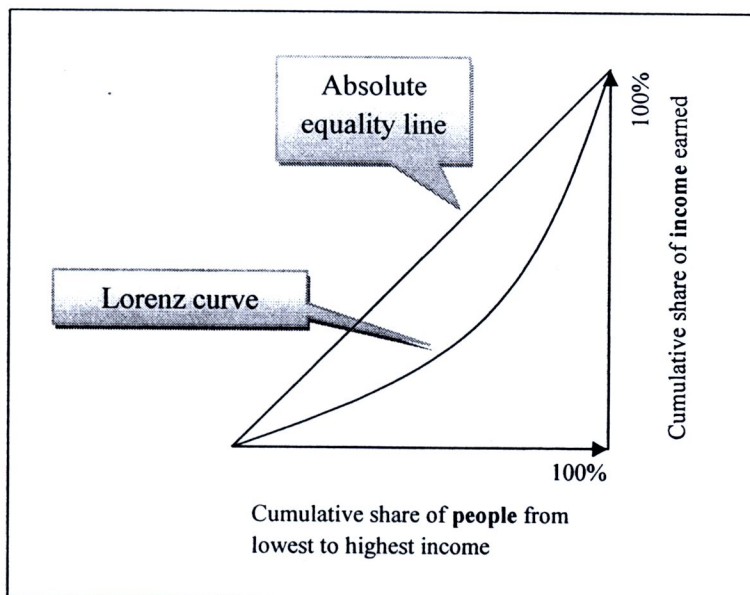


Figure 1.8 Lorenz curve

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1.6.2 Market capitalization

Market capitalization is the product of the share price of listed domestic companies and the number of shares outstanding. Listed domestic companies are the companies incorporating domestically listed on the stock markets at the end of the year (World Bank, 2011).

1.6.3 Market capitalization ratio

The market capitalization ratio is computed by dividing market capitalization by the country's nominal GDP. This ratio reflects the relative size of the stock exchange to the economic size.

1.6.4 Turnover ratio

The turnover ratio is computed by dividing the total value of shares traded during the period (in this case one year) by average market capitalization for the period. The latter is the average value of the market capitalization for the current period and the previous period (World Bank, 2011).