ECONOMY OF TOMORROW

Locked in the Middle-Income Trap: Thailand's economy between resilience and future challenges

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- The past decade has been turbulent for the Thai economy. The country, recently recovered from the 1997 economic collapse, was engulfed by the new wave of global financial crises, rising food and energy prices, and raging domestic political conflict. The Thai economy, however, has been markedly resilient to both external and domestic shocks, thanks to strong growth in exports and domestic consumption.

- The 1997 crisis also profoundly changed the structure of the Thai economy. The economy became even more high-export reliant as post-crisis investment remained low. The old export-oriented industrialization, based on relatively cheap labour, is increasingly facing constraints from the dim prospect of global demand, the increased competition from many countries catching up with Thailand, and Thailand's low technological capability. As Thailand has remained in the middle-income trap for more than 20 years, the country faces a challenge in sustaining growth and continuing to benefit from globalization.

- Against the backdrop of a robust recovery and economic resilience, economic equality received less attention from the government. Despite a significant reduction of poverty, the distribution of income improved little. There is now a growing pressure to move towards a wage policy that can redress the skewed distribution between labour and non-labour, and to reduce the high wage disparities within the labour market.

- Thailand has also given higher priority to economic growth than environmental protection. Rapid economic growth brought about by the export-oriented industrialization policy came at the expense of various environmental degradations and ecological problems.

- A new development model for Thailand's 'economy of tomorrow' needs to be formulated on all facets, which includes the firm integration of environmental policies.

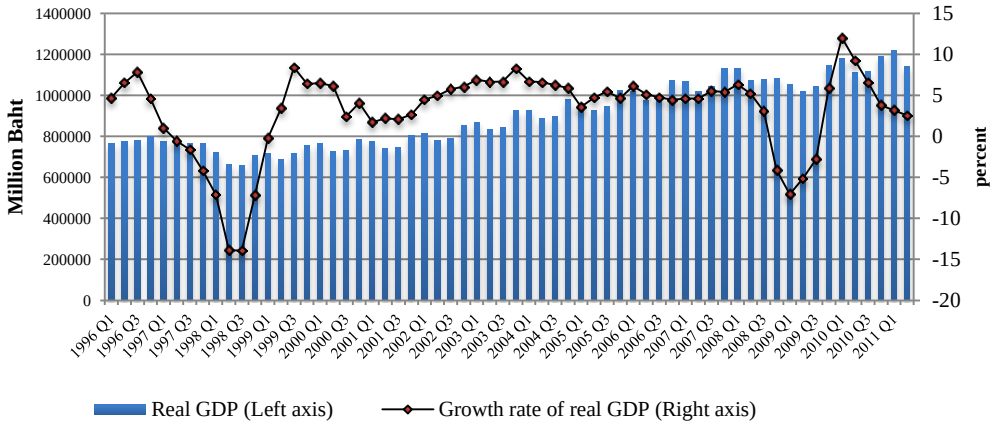
Table of Contents

1. General macroeconomic overview

1.1 Past development of the key macroeconomic indicators

The first decade of the 21st century has been a turbulent period for the Thai economy; a decade marked by accelerated recovery from the 1997 crisis, raging political conflicts, military coup and the global financial meltdown. After a severe economic contraction in 1998, which saw annual GDP and per capita GDP fell, respectively, by 10.5 and 11.4 percent, the structure of the Thai economy changed profoundly. The recovery process had been robust thanks to strong growth in exports and domestic consumption, helped by a budgetary boost along Keynesian lines. But it was not until 2002 that output returned to its pre-crisis peak (see Figure 1.1).

Figure 1.1 Real GDP trend

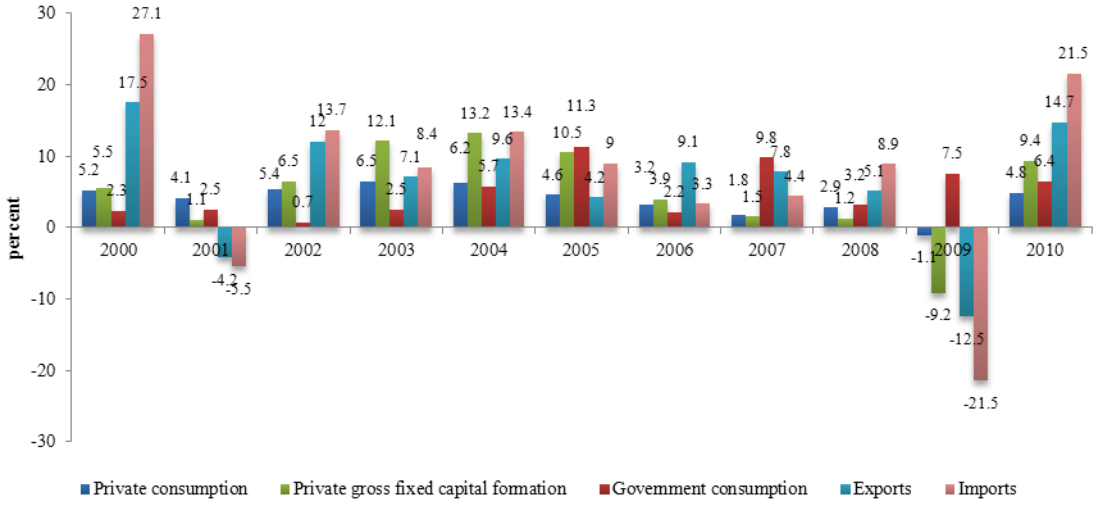


Source: The National Economic and Social Development Board (NESDB)

Growth continued to accelerate with annual GDP and GDP per capita growth rates peaking in 2003 before slowing down as a political crisis erupted in 2005.[1] As shown in Figure 1.3, average growth of private consumption and fixed capital formation between 2002 and 2004 were 4.6% and 10.6% respectively compare to 2.6% and 2.2% between 2006 and 2009. When the global financial crisis broke out in 2008, Thailand's financial sector and the economy were not directly affected (Phongpaichit 2011). However, the recession led to a sharp reduction of Thailand's export demand and output.

[1] A movement, later known as the yellow shirts, took to the streets demanding that the 'populist' PM, Thaksin Shinawatra (PM, 2001- Sept 2006) resign on ground of his alleged corruption and anti-monarchy behavior. In 2006, Thaksin was ousted by a coup, which abrogated the old constitution and rewrote a new one. The opposing red shirt movement emerged, also taking to the streets, rejecting the new constitution, demanding a new general election and a return of the ousted PM. After 2006, street demonstrations by the two opposing movements continued, to the detriment of political stability and investment climate, climaxing in a violent military crackdown in May 2010. One major division is about who should have the right to govern the country: an elected government based on one man one vote (red) or a mixture with a proportion of the representatives as appointed MPs (Yellow). A discourse which has captivated many red shirts supporters is the phrase 'serfs and lords', a satire on conservative social and political attitudes. This discourse signifies a cultural shift, and the emergence of demands for greater equality. The general election in 2011 has brought the country back to a state of 'normality', but the undercurrent of conflict remains.

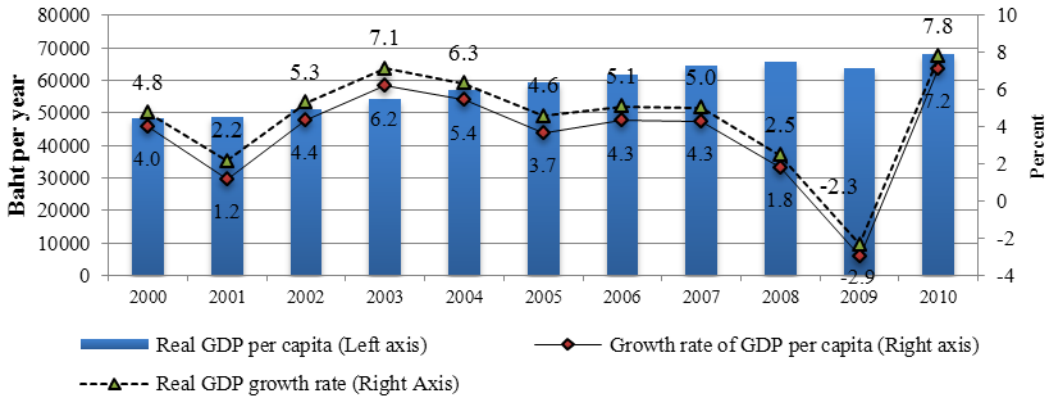
Figure 1.2 Growth of demand components



Source: NESDB

Exports declined by 12.5 percent in 2009 (see Figure 1.2) while real GDP contracted by 7.6 percent in the first quarter of 2009, resulting in the reduction of overall GDP and GDP per capita for the year 2009 by 2.9 and 2.2 percent, respectively (see Figure 1.3).

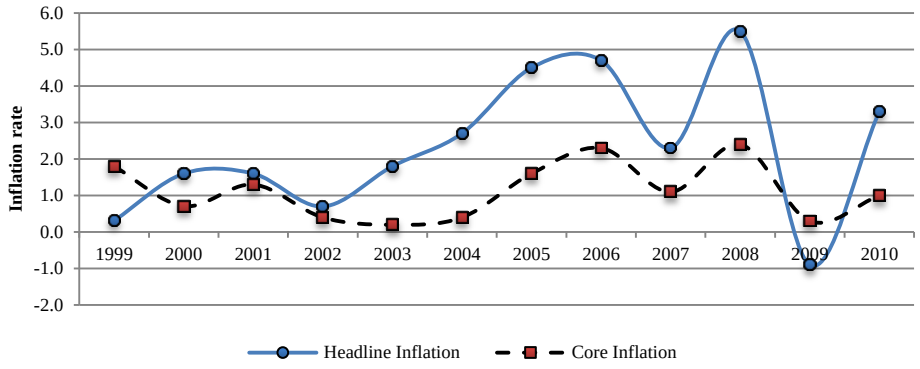
Figure 1.3 GDP per capita



Source: NESDB

Despite a significant rebound of economic activity after the 1997 crisis, inflation has been persistently low. Notably, core inflation in 2003 was almost zero. Headline inflation accelerated since 2003 as the price level of raw food rose 9.3 percent (Disyatat, 2004). In addition, the skyrocketing fuel price in 2008 pushed the inflation rate to 5.5 percent (see Figure 1.4).

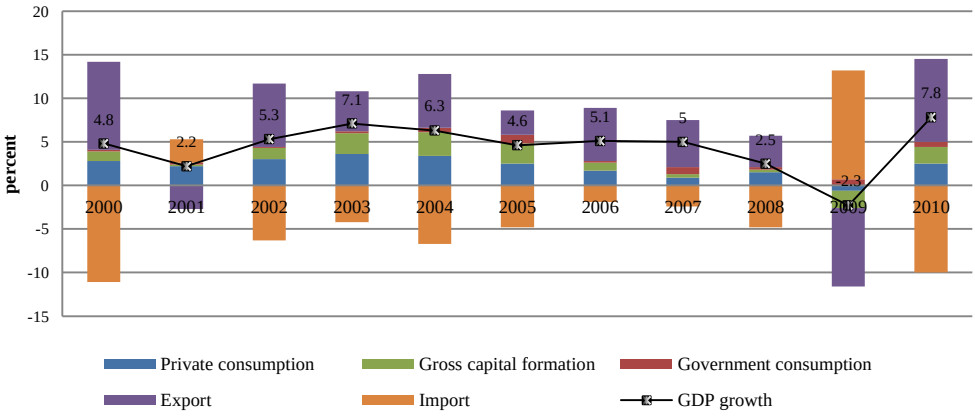
Figure 1.4 Inflation rate



Source: Bureau of Trade and Economic Indices

Figure 1.5, showing various components to economic growth, clearly demonstrates that the recovery from the 1997 crisis and subsequent expansion were, in large part, propelled by exports and later by private consumption. Private gross capital formation did not really weigh in until 2003. Private consumption and investment growth began to drop sharply in the onset of the political conflict in 2005 and remained weak as the conflict escalated during 2006-2008.

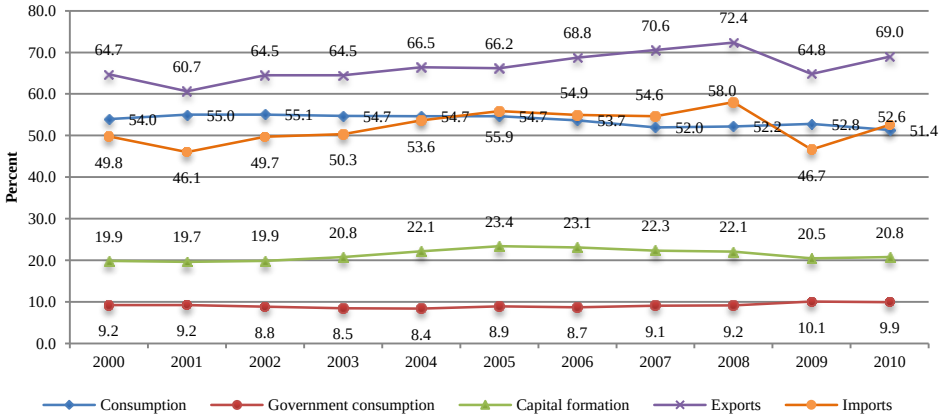
Figure 1.5 Contribution to growth



Source: NESDB

Thailand's export-driven growth resulted in a considerable rise of exports' share of GDP from 60.7 percent in 2001 to 72.4 percent in 2008 (see Figure 1.6).

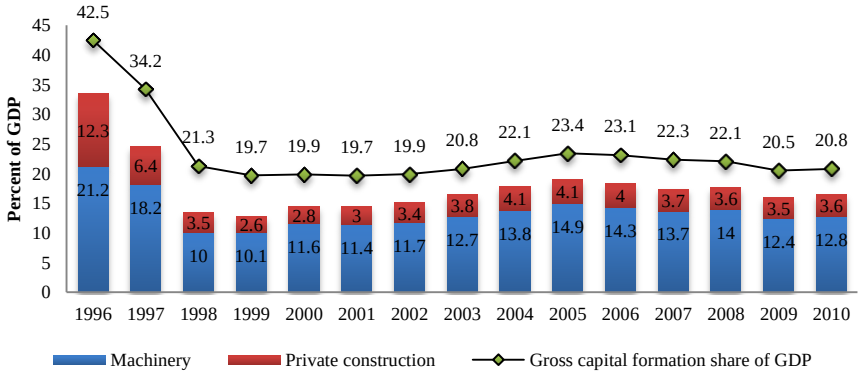
Figure 1.6 Expenditure shares of GDP



Source: NESDB

Figure 1.7 illustrates the structure of investment and its components. Gross capital formation's share of GDP tumbled steeply over the 1997 Asian crisis and remained relatively stable around 20 percent, half of the pre-crisis ratio, over the past decade. Similarly, private construction's share of GDP has been relatively stable around 3.5 percent after having fallen from the pre-crisis level of 12.3 percent of GDP.

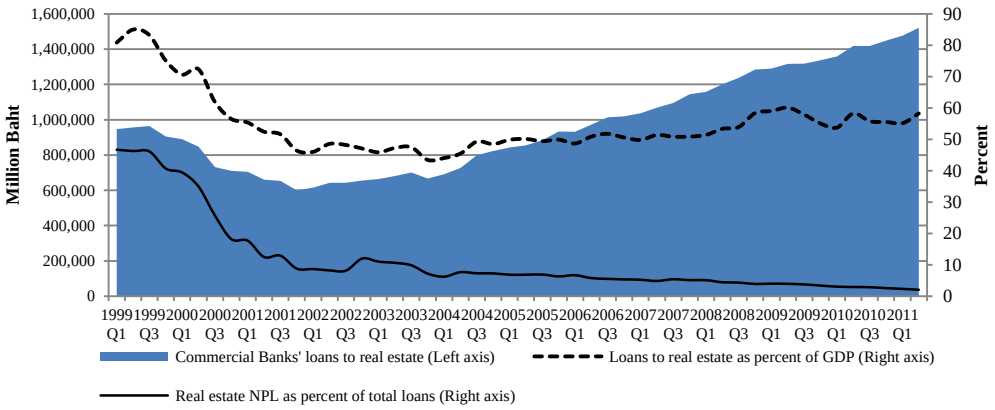
Figure 1.7 Structure of gross capital formation



Source: NESDB

In the aftermath of the Asian crisis, the Thai economy has undergone extensive restructuring of the financial sector. Tighter capital requirement rules and regulations have been imposed on the banks to keep non-performing loans (NPLs) low; financial institutions became more cautious on lending, especially to the real estate sector. As shown in Figure 1.8, loans to the real estate sector by commercial banks declined significantly from 85 percent of GDP in 1999 Q3 to around 50 percent after the crisis. The figure picked up gently in recent years. Likewise, real estate NPLs have remained low. The NPL ratio dropped dramatically from the pre-crisis peak of 46.3 percent to 2.1 percent in 2011 Q2.

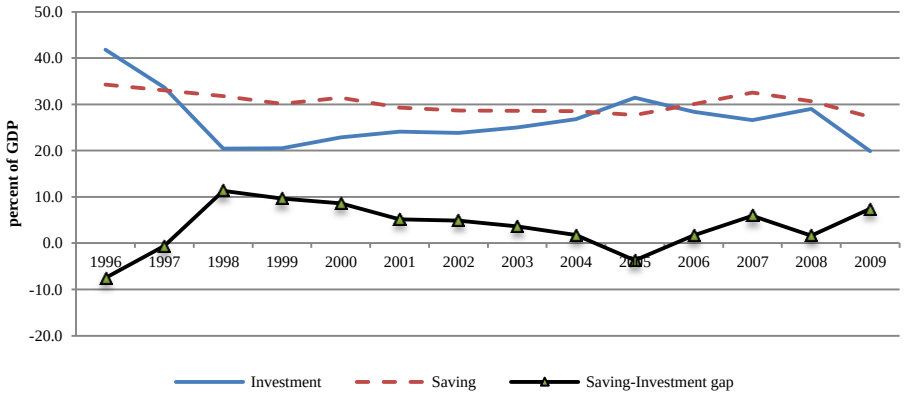
Figure 1.8 Commercial banks' loans to real estate sector



Source: Bank of Thailand

While private investment has been quite fluctuating over the business cycle, the ratio of savings to GDP has been more stable around 30 percent (see Figure 1.9). Thailand has seen a saving-investment surplus since the 1997 crisis. The surplus shrank as investment recovered and turned into deficit briefly in 2005. However, the business sentiment and investment climate have been depressed by political unrest since 2006 and recently by the global crisis.

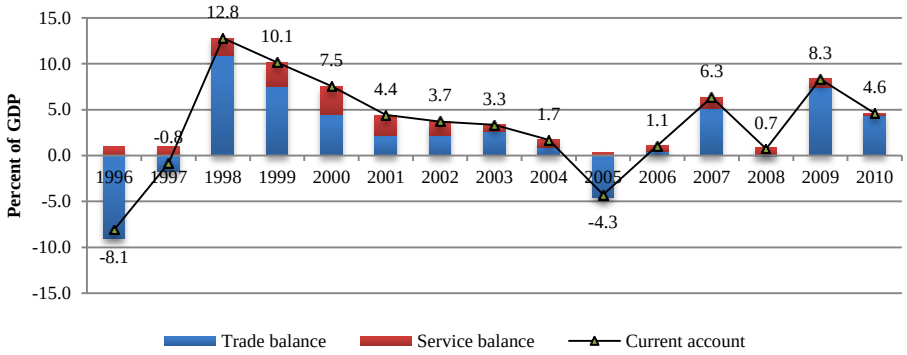
Figure 1.9 Saving-Investment gaps



Source: Fiscal Policy Office

The mirror image of the saving-investment gap is the current account balance. Following the rises of exports after the 1997 crisis, the current account has improved substantially from its pre-crisis level. Figure 1.10 shows that the current account balance has reverted from a deficit of -8.1 percent of GDP in 1996 to surplus of 12.8 percent of GDP in 1998. However, the figure has dropped steadily as the economy expanded and domestic consumption and investment began to contribute to GDP growth.

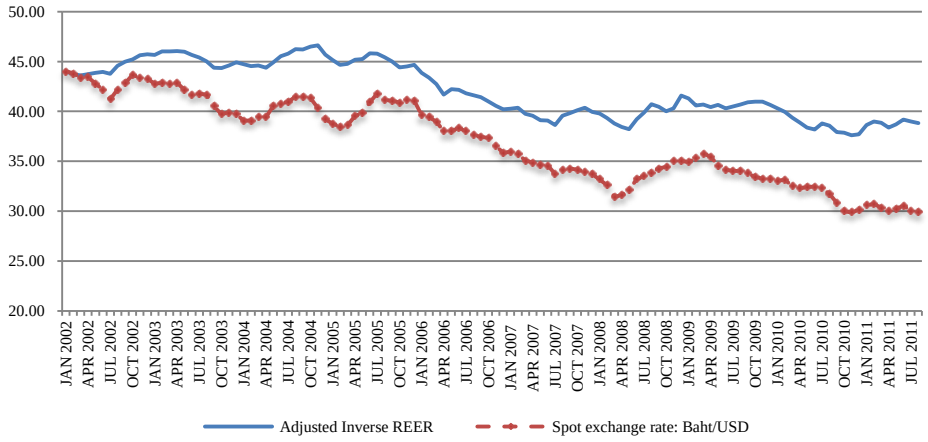
Figure 1.10 Current account balances



Source: Bank of Thailand

The Thai baht has a long-run trend of appreciation against the US dollar over the past decade. While the currency slowly appreciated during 2002-2005, the real effective exchange rate of the baht remained relatively stable. The marked appreciation over 2006-2007 was mainly due to rapid capital inflows. The following depreciation period during 2008-2009 was the result of a reduction of export demand and capital outflows as a result of the global crisis that set off in 2008 (see Figure 1.11).

Figure 1.11 Exchange rate and Real Effective Exchange Rate (REER) movement

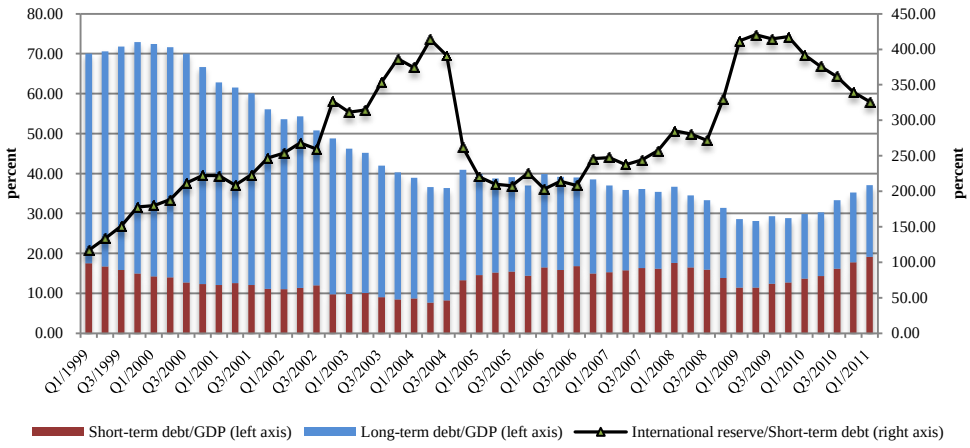


Source: Bank of Thailand[2]

External debt as a ratio of GDP has declined steadily over 1999-2004. While short-term debt has risen fairly fast since 2005 and exceeded long-term debt in Q4, 2010, the ratio of short-term debt to GDP has been kept below 20 percent. The Bank of Thailand has been saving a hefty amount of foreign reserve. The ratio of international reserve to short-term debt, which rose from 116 percent in 1999, peaked at 420 percent in Q3, 2009 (see Figure 1.12).

[2] The inverse real effective exchange rate is adjusted to have the same value as the spot rate at January 2002. The lower adjusted inverse REER means the real overall appreciation of the baht against trading partners' currencies.

Figure 1.12 External debt

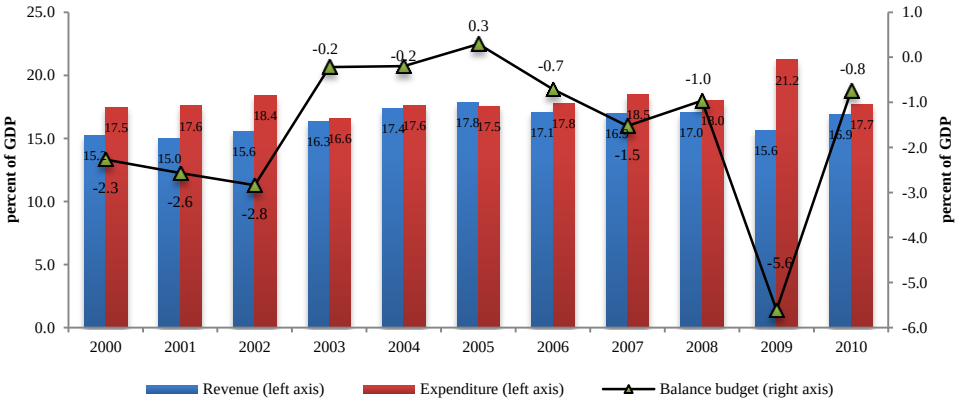


Source: Bank of Thailand

Source: Fiscal Policy Office

Thailand's fiscal balance was in deficit during and soon after the 1997 crisis. The budget position recovered but remained relatively weak in the wake of the global financial crisis in 2008. The sizable fiscal stimulus package "Thai Khem Kaeng" (Strong Thailand) together with a substantial drop of tax revenue in 2009 put the budget balance into a large deficit at 5.6 percent of GDP (see Figure 1.13).[3]

Figure 1.13 Public budget balances

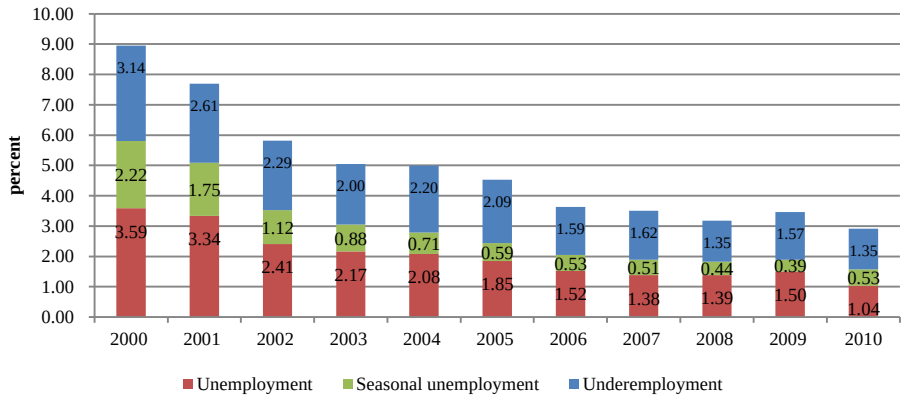


The unemployment rate has been declining continually over the past decade from 3.59 percent in 2000 to a remarkable level at 1.04 percent in 2010 (see Figure 1.14).[4] Similar trends can be observed in seasonal unemployment and underemployment rates.

[3] The stimulus package 1 (SP1) worth 116 billion baht was intended to finance domestic consumption. The program included a cash transfer scheme whereby all employees with monthly income less than 15,000 baht (US$ 437) who were registered in the Social Security Scheme were given a one-off "2,000 baht (US$ 58) government check."

[4] Although the use of the official unemployment rates is unsatisfactory due to the strict definition which tends to underestimate the real extent of unemployment, they nevertheless indicate the state of the labour market to some extent.

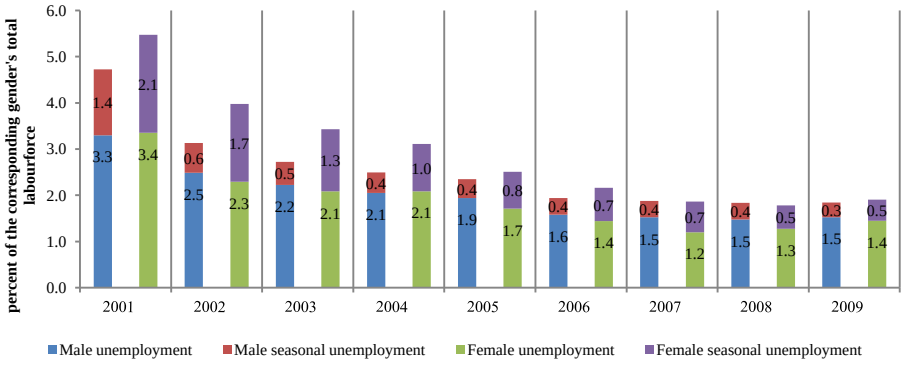
Figure 1.14 Unemployment rate



Source: National Statistical Office (NSO)

Looking at the gender dimension, as shown in Figure 1.15, the rates of unemployment for male and female workers have been roughly comparable. However, female workers' seasonal unemployment rate appeared to be significantly higher than that of male workers until relatively recently when the labour market condition tightened and there is not much difference in unemployment by gender.

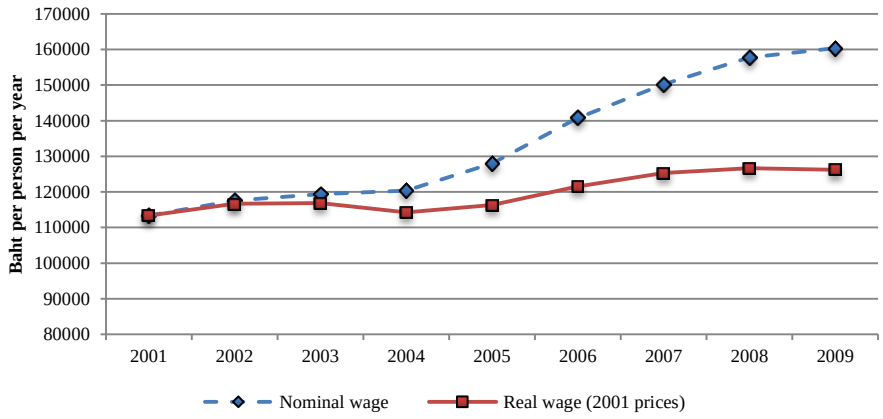
Figure 1.15 Unemployment rate categorized by gender



Source: NSO and NESDB

The strikingly low level of unemployment could be partly explained by the high mobility between economic sectors (Chuenchoksan and Thanadhidhasuwanna 2008). Another reason is the inadequate unemployment benefits and the proliferation of the informal sector (see later). Although nominal wages rose sharply especially between 2004 and 2008, real wage increases have been mild (see Figure 1.16). The average growth rate of real wage between 2002 and 2009 was 1.4 percent.

Figure 1.16 Nominal and real wages (2001 price)



Source: NSO, NESDB and Authors' Calculation[5]

1.2 Present macroeconomic problems

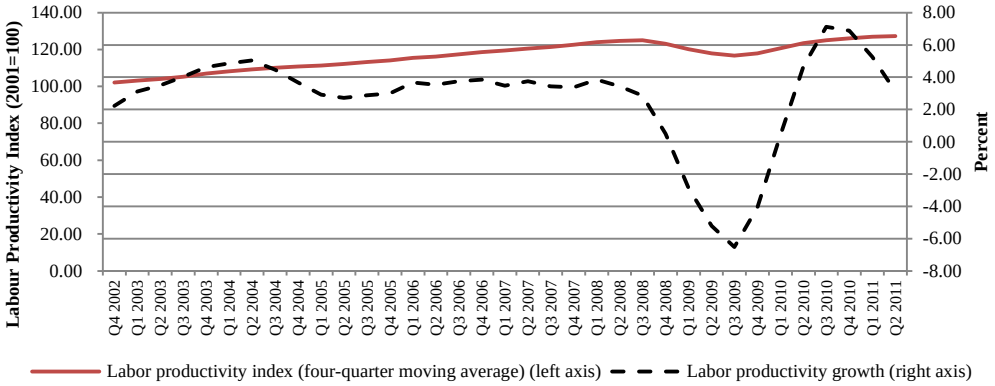
In the process of economic recovery from the 1997 Asian crisis, Thailand has been highly dependent on international trade. While growing trade contributes to economic efficiency and long-run growth, the economy has become very susceptible to short-run volatilities in world trade and output. When the sub-prime crisis broke out in 2008, the country was not directly affected as Thai financial institutions had very little exposure to Collateralized Debt Obligations (CDOs).[6] The impact was felt indirectly however by the global recession and precipitous reduction in demand for exports especially from OECD countries.

The high reliance of exports as an engine of growth and crisis recovery made exchange rate management a challenging task for the Bank of Thailand. There have been pressures from the export sector and even the government for a more export-accommodating exchange rate policy. Many researchers suggested that this might have adverse consequences in the long run. For example, Sussangkarn and Jitsuchon (2009) pointed out the risk of competitive exchange rate depreciation between export-dependent countries experiencing plummeting export demand and waves of capital outflows during the global crisis. Also, Chuenchoksan and Nakornthab (2008) argued that the extraordinary low capital deepening level (measured as a ratio of capital stock to labour inputs) over 2000-2007 (1.2%) compared to the pre-1997 level (8.7%) was partly a result of currency depreciation that made capital goods relatively more expensive, prompting firms to divert factors of production away from capital inputs.[7] This led to low levels of gross capital formation (see Figure 1.7) and the long-run labour productivity shown here in Figure 1.17. Labour productivity growth had been rather low but stable before the 2008 global financial crisis with average annual growth rate of 3.6 percent between Q4 2002 and Q1 2008. The growth rate tumbled sharply in Q3 2009 (-6.5%) as output contracted during the crisis. The index rebounded to its pre-crisis peak and original growth path in Q3 2010.

[5] Nominal wage is obtained by dividing compensation to employees by total employees (total employment less the number of employers, own-account workers and unpaid family workers). Real wage is nominal wage adjusted by GDP deflators.
[6] According to Sussangkarn and Jitsuchon (2009), only one Thai small bank was affected and re-capitalized as a result of CDOs exposure.
[7] Chuenchoksan and Nakornthab (2008) estimated that the rate of gross capital formation required to achieve a sustainable long-run growth path is 28%-30% of GDP while the present figure is about 21%.

Another concern has been a need to find more dynamic markets for Thai exports, especially within the region, because the traditional markets of the US, EU and Japan are unlikely to grow strongly in the near future. There is also a concern about Thailand's relatively low technological capability in industry. Increased demand from China has been a positive factor in recent years, but already China's market is racing ahead, with consumers developing more sophisticated consumption patterns. Recent studies by the Bank of Thailand show that Thailand may not be able to supply the increasingly sophisticated markets in China because Thailand is facing a middle-income trap, a situation where its technological development is too low to develop new products and move up the value chains (Ananchotikul et al, 2011; Thawornkraiwong, et al, 2011).

Figure 1.17 Labour productivity (seasonally adjusted)

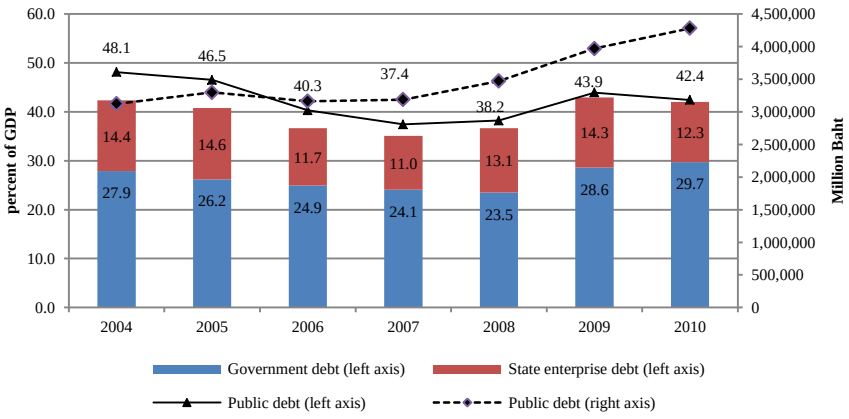


Source: Bank of Thailand

The ongoing political conflict remains the looming threat to economic stability. Consumption and investment began to slow down shortly before the military staged a coup in September 2006. Domestic demand continued to slump as conflict intensified and business confidence dried up. In addition to lower growth, aggregate demand became more volatile. Higher volatilities of aggregate demand as a result of political conflict and civil unrest have been well documented, notably by Acemoglu and Robinson (2001, 2005) among others. In the case of Thailand, Nidhiprabha (2010) confirmed that aggregate demand components and some key variables exhibit greater instability after 2006.

Thailand's fiscal stance has become more expansionary in the past decade. In 2009, the huge 116 billion baht (US$ 3.8 billion) stimulus package "Thai Khem Kaeng," which accounted for 1.3 percent of GDP, was designed mainly to spur domestic consumption (see Jitsuchon, 2010 for details). There have been concerns that the effects of this stimulus package will be short-lived as very little, if any, budget was allocated to public investment. In contrary, the much larger stimulus package (SP2) with a planned budget of 1.41 trillion baht (US$ 44.4 billion) spanning 3 fiscal years between 2010 and 2012 was intended for infrastructure and mega-investment projects. However, the gigantic spending plan, which will be financed by government borrowing, raised another serious question on fiscal sustainability as public debt continued to mount.

Figure 1.18 Public debt



Source: Public Debt Management Office

According to Figure 1.18, despite the climb in the absolute level of public debt, its ratio of GDP diminished greatly from 48.1 percent in 2004 to 38.2 percent in 2008 thanks to strong GDP growth.[8] The ratio, however, rose to 42.4% in 2010 with government debt peaking at 29.7% as a result of contracted GDP and increased debt. Although within the fiscal sustainability limit and not alarmingly high, the figure is far from comforting. The fiscal position is now vulnerable to interest rate hikes. It has less room for future rounds of spending. (Sussangkarn and Nikomborirak, 2011)

The historically severe floods in late 2011, which swamped the Chao Phraya river basin area and inundated seven 7 major industrial estates north of Bangkok, seriously damaged the manufacturing sector especially computer and automotive parts industries and caused disruption in global manufacturing supply chains. The scale of the damage is unprecedented. It will take months before some factories will be back in operations again. The economic impact of the floods is far greater than the immediate damage inflicted on the manufacturing sector. The agricultural and service sectors have also been badly hit. According to the initial evaluation by the Office of Agricultural Economics, more than a quarter of Thailand's farmland, mostly rice paddy, was submerged.[9] The majority of Bangkok, which accounts for 41 percent of GDP, and its vicinities were also under water, causing mass evacuation and disruption of economic activity.

1.3 Likely future development

The Thai economy continues to rely heavily on external trade. It bounced back swiftly from the financial crisis in 2008-2009. The recovery was largely attributable to a rebound in external trade. According to the Bank of Thailand, merchandise exports rose by 28.5% in 2010 while exports to the People's Republic of China (PRC), India and Southeast Asia jumped by about 35%. More recently, the disastrous tsunami hitting Japan in March 2011 caused a reduction in manufacturing production index (MPI) in the second quarter by 2.5%. The economy remains vulnerable to future external fluctuations, most prominently, the Euro-zone sovereign debt crisis which is a direct consequence of the crash of 2008. The initial impact has already been felt in the stock market.

[8] The maximum ratio of public debt to GDP approved by the Ministry of Finance is 60 percent.
[9] http://news.thaipbs.or.th/content/สศกประเมินน้ำท่วมทำพื้นที่เกษตรเสียหายเกือบ-9-ล้านไร่

Political conflict over the recent years, culminating in a series of violent clashes, remains unresolved despite a general election in July 2011. Peaceful and democratic solutions to the conflict are essential to boost consumers' confidence and business sentiment and to reduce aggregate demand instability.

The economic impacts from the late 2011 floods will be far-reaching. The immediate impact is a sharp drop in exports and output as a consequence of disrupted supplies in the manufacturing and agricultural sectors. Supply shortages are expected to last for many months before the water recedes and factories in flooded industrial estates are up and running again. Reinforced by an increasing trend of food and fuel prices, inflationary pressure is expected to continue rising.

Foreign investors' confidence is also hurt and this will affect future investment decisions and Thailand's position as a regional hub of some key industries. The timely post-flooding reconstruction plan and future flooding prevention efforts by the government are essential but, given the scale of damages, this will require substantial budget and put a weighty burden on public debt. The government recently proposed a massive deficit budget for 2012. The budget deficit rose from 2.1 trillion baht (US$ 69.1 billion) in 2011 to 4 trillion baht (US$ 131.7 billion), representing a deficit of 9.7 percent of GDP.

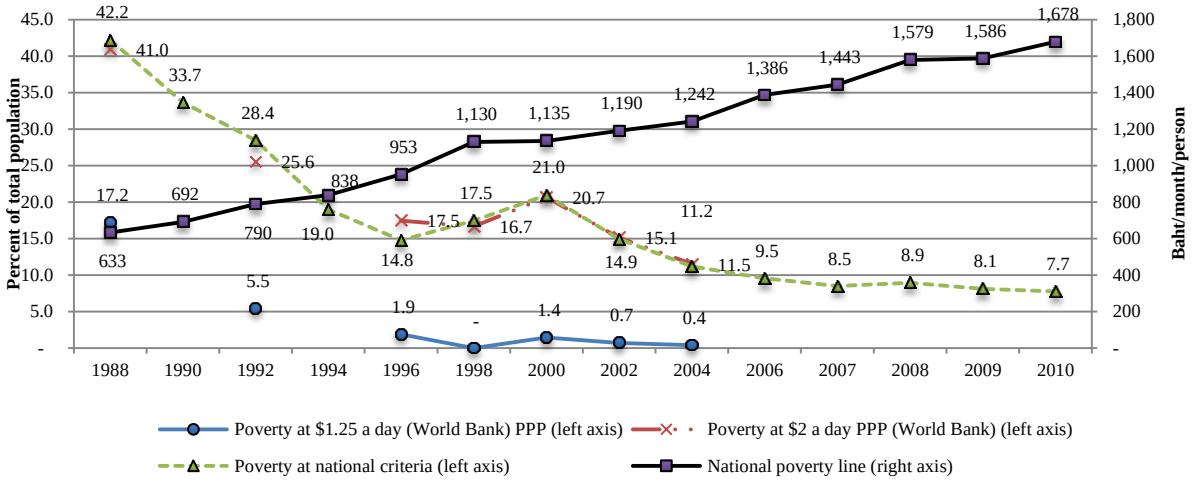
2. Income distribution, consumption demand and sustainable development

2.1 Past development of income distribution

The economic development over the past 50 years has been remarkable. Real gross domestic product (GDP) per capita rose 256 percent from 20,215 baht (US$ 815 at year 2000 price) in 1981[10] to 71,949 baht (US$ 2,713 at year 2000 price) in 2010.[11] Economic growth has been a major factor in poverty reduction.[12] Measured by either the World Bank or national criteria, absolute poverty has fallen dramatically. For example, using national poverty line, poverty head-count ratio plunged from 42.2 percent in 1988 to 14.8 percent before the 1997 crisis (see Figure 2.1). The severe crisis saw the figure rise to 21 percent in 2000 but then drop steadily as the economy recovered. The most recent data show that 7.7 percent of total population, or just over 5 million people, lived below the poverty line in 2010.

[10] 2,304 at PPP equivalent (constant 2005 international dollar).
[11] 7,673 at PPP equivalent (constant 2005 international dollar).
[12] Growth-poverty relationship has been well documented and it is well understood economic growth has been the major contributor to Thailand's poverty reduction. See for example, Warr (2000, 2004) and Kakwani (1997, 2001).

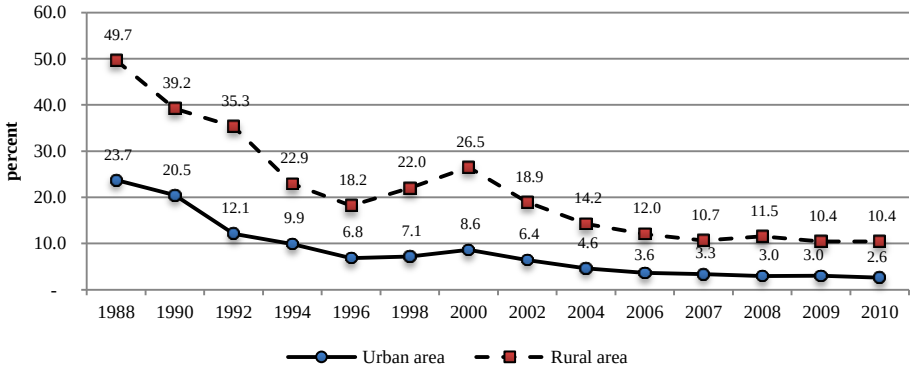
Figure 2.1 Poverty Incidence (headcount measure) and national poverty line by consumption expenditure



Source: Household Socio-Economic Surveys, NSO; calculated by NESDB

The poor are mostly concentrated in the rural areas, as shown in Figure 2.2. Poverty incidence in rural areas decreased steadily from 49.7 percent in 1988 to 18.2 percent in 1996 before rising briefly in the aftermath of the 1997 crisis when 1-in-4 persons in rural areas were poor in 2000. In recent years, rural poverty's head-count ratio hovered around 10.4 percent compare to 3 percent in urban areas. Head-count data also suggest that around 90 percent of the poor resided in the rural areas over 2008-2010. This proportion of rural poor has been rather stable over the decade despite increasing urbanization. Rural poverty has declined slower than urban poverty (Jitsuchon and Plangpraphan, 2003). The northeastern region is the area with highest poverty incidence while the central region and Bangkok are the lowest.

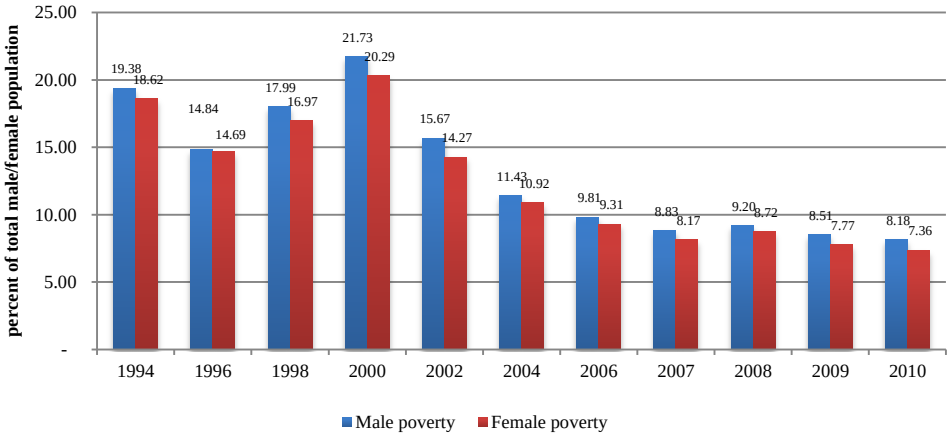
Figure 2.2 Rural and urban poverty



Source: Household Socio-Economic Surveys, NSO; calculated by NESDB[13]

[13] The figure represents the ratio between the number of poor within a reference population group and the total population of that group.

Figure 2.3 Poverty incidences by gender



Source: Household Socio-Economic Surveys, NSO; calculated by NESDB

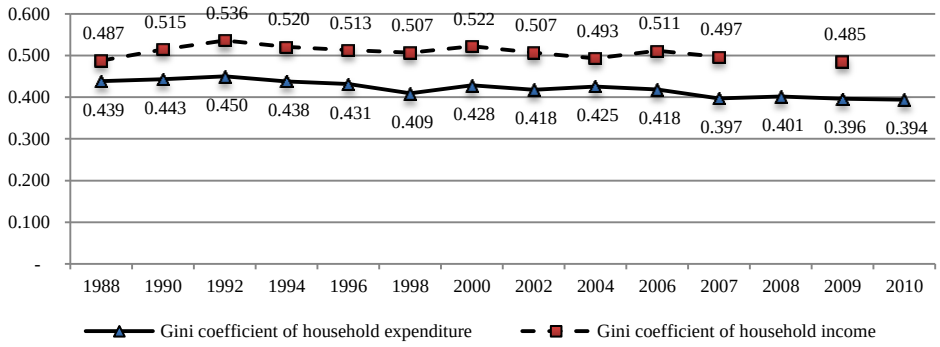
Considering gender dimension, the similar pattern of development of poverty can also be observed; poverty incidences of both male and female population rose for a few years after 1997 and declined considerably since 2000 (see Figure 2.3). In addition, male are slightly more likely to be poor than female. The latest data in 2010 showed that 8.18 percent of male population is poor compared to 7.36 percent in female population.

According to the official poverty incidence figures, absolute poverty has been reduced by the "trickle down" mechanism during the process of economic development. Changes in households' occupation, financial intermediary participation and education contributed to high GDP growth and poverty reduction. Nevertheless, there is a discrepancy between the official view and the people's own perceptions. A national sample survey by Anek Laothammatas et al in 2008, found that 50 percent of the respondents considered themselves poor (Laothammatas et al, 2010). Income inequality has also worsened (Jeong, 2001 cited in Vanitcharearnthum and Jitsuchon, 2003).

Despite overall improved standard of living, disparity of income between the poor and the rich remains large. Inequality, as measured by Gini coefficient using household consumption expenditure, over the past two decades has improved very slightly while the coefficient measured by household income has tended to get worse (see Figure 2.4).[14]

[14] The Gini coefficient is a measure of the inequality of a distribution, a value of 0 expressing total equality and a value of 1 maximal inequality.

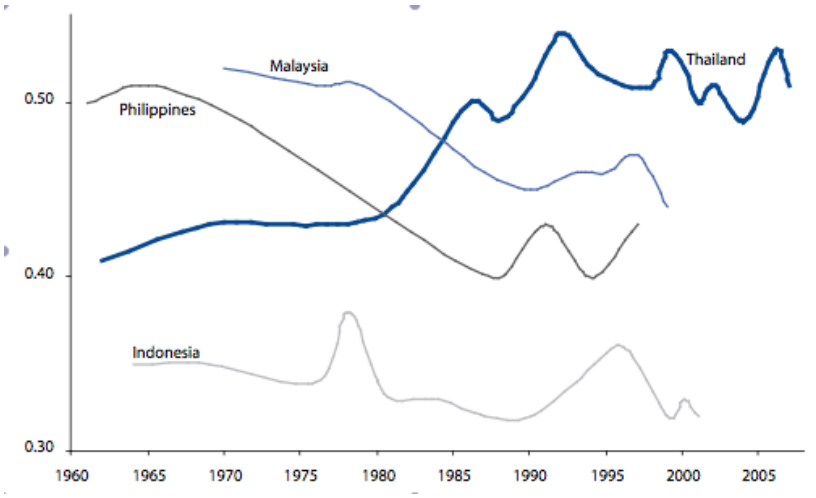
Figure 2.4 Gini coefficients of household income and expenditure



Source: Household Socio-Economic Surveys, NSO; calculated by NESDB

In contrast to ASEAN neighbours, which have declining inequalities, Thailand's Gini coefficient has an increasing trend over the past 50 years of economic development (see Figure 2.5).

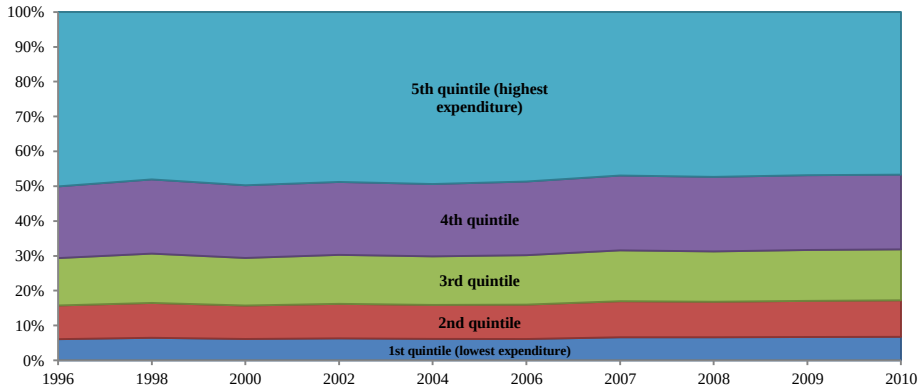
Figure 2.5 Gini coefficients of household income, selected Southeast Asian Countries



Source: UNDP (2010) cited from Prof. Hal Hill, ANU.

Inequality as measured by the share of total consumption expenditure is expressed in Figure 2.6. Expenditure share of the top 20 percent of population with highest expenditure slowly declined from 50.05% in 1996 to 46.68% in 2010. On contrary, share of expenditure for the bottom 20% of population with lowest consumption, increased slightly from 6.10% in 1996 to 6.76% in 2010.

Figure 2.6 Expenditure quintiles



Source: Household Socio-Economic Surveys, NSO; calculated by NESDB

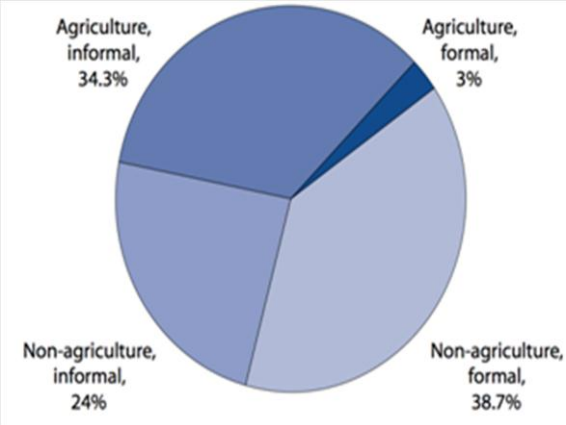
Turning to wage inequality, the poorest 10% of the workers earned just 1.85% of total wage income in 2006 with average wage income at 1,468 baht (US$ 38.7)[15] per person per month. The share increased slightly in 2010 to 2.22% with average income at 2,133 baht (US$ 67.2). The top earners' (10th decile) share of total wages also has an increasing trend from 35.11% to 36.96% between 2006 and 2011 with a temporary drop in 2009 as a result of the global financial crisis. The ratio between the wage share of the highest and lowest deciles declined from 18.97 in 2006 to 16.66 in 2010.

The diminishing ratio of total wage share between the highest and lowest earners suggests some improvement in overall wage inequality. But the growing share of total wage income of 10% highest paid workers made the claim less solid as this implies higher dispersion in one tail of the wage distribution which worsened inequality. Similar findings for the pre-2006 period was drawn by Lathapipat (2008) who studied the impact of returns on education on wage distribution in Thailand using Labour Force Survey data from 1987 to 2006. Employing three different tools of measuring inequality (Gini coefficient, Theil index and Mean Log Deviation), Lathapipat (2008) asserted that wage inequality declined conspicuously over the boom period and stabilized subsequently. Ratios of wages between different wage percentiles, which measure wage dispersion, were also reported. The decreasing trends of 90:10 ratio and 50:10 ratio implied, respectively, that both overall wage dispersion and the dispersion at the lower half of the distribution had declined consistently. By contrast, the rise in the 90:50 ratio suggested that wages at the upper half of the distribution had become more dispersed.

Thailand has been extending the coverage of its social security system and other welfare programs. According to the National Health Security Office (NHSO), 63 million people (99.4% of total population) are covered by some health care schemes in 2010. The Universal Health Care scheme, which was rolled out in 2001, provides coverage for 47.7 million people (75.2% of population), while another 4.9 million (7.8%) who are civil servants, state enterprise employees or their family members are covered under separate health and pension schemes provided by the government. About 9.9 million employed workers (15.6% of total population) in the formal sector are under the Social Security System.

[15] Conversion to US dollar is calculated using the Bank of Thailand's annual average reference exchange rate.

Figure 2.7 Formal and informal labor force, 2007

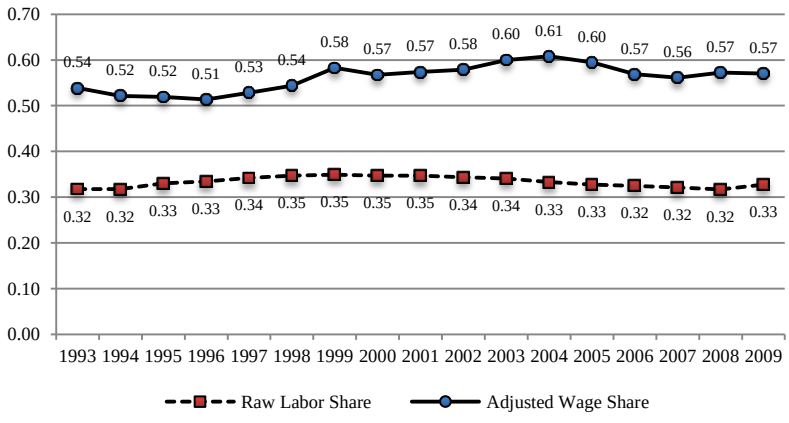


Source: UNDP (2010) using data from Survey of Informal Worker 2007

Apart from healthcare, coverage of employment benefits and other social welfare such as old-age pension has been limited. Workers covered under the social security system, which also provides maternity benefit, child allowance, unemployment benefit and old-age pension scheme, were only 25.1% of total labour force in 2010. Another 12.7 percent are public employees and state enterprise workers who secured different pension schemes. About two-thirds of the labour force (about 24 million workers) is not covered by an old-age pension scheme. They work mostly in either the agricultural or the urban informal sector (Figure 2.7).

A similar declining trend can be observed in the share of wages in factor incomes which is a rough measure of income distribution between capital and non-capital owners. It is well known that raw labour's share, which is a ratio of compensation of employees to GDP at factor cost, underestimates the actual share as it ignores other sources of labour income such as self-employment. Using the calibration method of Chuenchoksan and Nakornthab (2008), pioneered by Cooley and Prescott (1995),[16] labour's adjusted share of factor income is reported in Figure 2.8. Drifting around 0.5-0.6, Thailand's wage share is relatively low when compared with developed economies (0.65-0.7 in EU and US). The wage share increased very mildly during the 1990s and has dropped slightly over the past decade.

Figure 2.8 Adjusted wage shares



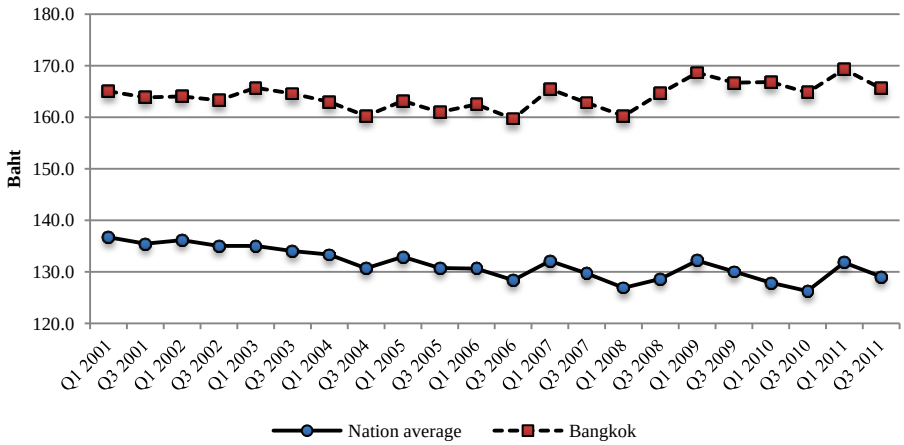
Source: NESDB and authors' calculation

[16] The method involves a decomposition of GDP at factor cost into ambiguous and unambiguous labour income components and assumes that, labour's proportion of ambiguous income is identical to actual labour's share.

The minimum wage, which is a tool to safeguard the most vulnerable and provide the basic standard of living, has not been kept up with inflation (see Figure 2.9). The real minimum wages had been stagnant between 2001 and 2011.

These figures indicate clearly that low and declining labour share in the last decade has contributed to the income inequality in Thailand.

Figure 2.9 Real Statutory Minimum Wage (2007 Price)



Source: Ministry of Labour and authors' calculation

2.2 Present debate about policies to change income distribution

It is widely believed that accumulation of wealth by the rich in the early stage of economic development will eventually benefit the poor by a "trickle down" mechanism. In addition, as overall poverty decreases, inequality will eventually decrease with economic growth (Kuznets 1955). Thailand has achieved outstanding economic progress over the past 50 years resulting in considerable poverty reduction. Despite being recently upgraded to an upper-middle income country by the World Bank[17], income distribution and inequality have not convincingly improved and the Kuznets inverted U-shape pattern of inequality and growth has not been evident due to many structural problems. There have been many studies on the roots of inequality and proposed policies to address the issue.

2.2.1 Wage policy

Thailand may be classified in the 'low wage' policy approach. Labour organizations are legal but are not encouraged and are highly restricted by law. A small fraction of workers are organized at the enterprise level. Their unions are prohibited from being involved in political matters. Government plays a role in setting minimum wages through a tripartite system (workers, employers, government). Because labour has weak bargaining power, the setting of the minimum wage is virtually dominated by employers. The weak bargaining power of labour is further reflected in the low and declining share of wages in factor income (Figure 2.8).

[17] http://go.worldbank.org/IWYANB1J20 (accessed 11th November 2011).

Between 2002 and 2009, real GDP grew at around 5 percent p.a. Yet real wages of workers grew only at the rate of 1.4 per cent p.a., while labour productivity rose at an average annual rate of 3.6 percent between Q4 2002 and Q1 2008. This means that the gains from productivity growth have not been accruing to labour. It is clear that the low wage policy has contributed to the problem of inequity and limited domestic market. There is also a large wage disparity within the labour force.

Deteriorating world demand for Thai exports after the global crisis of 2008 prompted a debate about rebalancing the economy by enlarging the domestic market to counter falling export demand. A prominent businessman (Dhanin Chiaravanond of the Charoen Phokphan group of companies) publicly advocated a two-pronged strategy of 'high wage' and 'high agricultural prices.'

This implies that wage share should be raised at the expense of capital income in order to increase the overall demand for goods and services, boosting business and economic activities and enabling government to collect more taxes. What should be the criteria for setting wage levels? Real wages should rise at roughly the rate of productivity increase, and the minimum wage should keep up with inflation. Statistics shown earlier indicate clearly that real wages have not kept up with productivity increase, nor GDP growth rates. The minimum wage has not been kept up with inflation.

In the last general election of July 2010, both the major parties campaigned on raising the minimum wage. The Pheua Thai Party, which promised to raise the minimum wage across the country to 300 baht per day, compared to an upper rate of 215 baht in Bangkok currently, won the election. In support of this proposal, workers organizations produced evidence that workers need at least 300 baht a day for reasonable living conditions. Some employers and others opposed the proposal, arguing that the higher minimum wage would drive away investors, causing unemployment and harming Thailand's competitiveness. Advocates of a higher minimum wage argued it would have positive effects on workers' incentives, health and efficiency, as well as boosting local demand and improving income distribution. The increased wages should also provide impetus for more investment, and growth based on domestic market expansion. There will be some inflationary pressure, but it should be slight since the global slowdown has kept oil prices down and there is still excess capacity in the Thai economy. Wage data also show that the share of workers outside agriculture and fisheries earning below the minimum wages has been declining, and in 2010 was 13.27 percent of the total (personal communication with Dr Dilaka Lathapipat at TDRI).

However, at present the minimum wage levels are very low. If the 300 baht policy is implemented quickly, many small manufacturing firms would find it difficult to cope and many may have to close, causing job losses.

Lathapipat (2012) studies the effects of a 300 baht minimum wage on labour markets. He finds that there will be both positive and negative effects. The adverse effects are job losses among the young and low-skilled workers in small-scale manufacturing. Many of these workers will move into agriculture and fishery, mostly as the disguised unemployed. The existence of the large agricultural (informal) sector acts as an employment sponge and cushions the impact of the wage increase on aggregate unemployment.

Young low-skilled workers with valuable experience who remain in non-agricultural jobs will experience wage increases. The overall positive effect includes a higher wage at the bottom end of the wage distribution, with ratchet effects covering up to 60 percent of the workforce.

The study identifies losers as the low-skilled youngsters. It recommends that the government should think about how to compensate these losers by retraining (raise their productivity) to re-assimilate them into the labour market.

The study does not cover the impact on SMEs. But the result implies they would find the 300 baht policy difficult to manage. The government should provide subsidized credit (or tax break on new capital investments) so that SMEs can cope with the wage rise in the short term and improve their productivity in the long term.

Lathapipat's study suggests that the positive social impact of the 300 baht policy could be substantial. The above discussion on the possible economic impact, pending a more systematic and detailed study, also suggests that the positive economic effects could outweigh the adverse effects in the long term, if additional policies to assist the SMEs and the young low-skilled workers can be implemented.

However, for the future there needs to be a proper wage setting mechanism and wage policy. It is about time Thailand moves beyond the current low wage approach, and avoids raising the wages in an ad hoc manner. For this Thailand must think about constituting a regular wage policy as a part of its macroeconomic framework. One possible way is to evolve a workable framework for collective bargaining along the lines adopted by other countries. This means respecting the rights of workers associations in the bargaining process. But with a large informal sector, piece rate workers and a sizeable participation of migrant labour, additional policies will be needed to make the minimum wage effective. In the long term Thailand will also need to reduce the wage differentials within labour itself. As education has been found to be a significant factor in creating large wage differentials, policies to ensure more equal access to secondary and higher education will have to be a part of this new policy.

2.2.2 Fiscal and public expenditure reform

Fiscal policy is probably the most important instrument for redistribution of income. Apart from income taxation, the major sources of revenue are indirect taxes (VAT, excise tax, and custom duties) which are regressive and the incidence falls disproportionately to the poor (see Krongkaew, 1975; Likitkijsomboon, 1985; Laowakul et al, 2009 among others). In 2010, revenue from indirect taxes accounted for 58.6% of total tax revenue while in developed countries, OECD countries for example, the ratio is about 50% (Phongpaichit 2009a). In addition to this, Phongpaichit (2011) pointed out that the ratio of Thailand's taxation income to GDP at 17% in 2008 is low compared to developed countries (30%-50%) and other similar middle-income countries (25% for Venezuela and 32.5% for Turkey). A study by the Bank of Thailand and World Bank indicated that Thai government could have increased the tax revenue to GDP by another 5 percent with more efficient tax collection, at the present tax structure. Direct tax revenue, especially from personal income tax, is low because of a small tax base, a long list of exemptions which tend to benefit the well-to-do, and a high prevalence of tax evasion, especially by the rich. There have been calls for tax reform such as from Son (2003) and Laowakul et al (2009) to increase direct tax revenue by increasing the base of personal income tax payers and collecting other direct taxes based on assets and wealth such as inheritance tax, asset tax and capital gain tax that are, at present, not well developed or nonexistent. Simulation results from Warr (2003) estimated that if taxes are reallocated so that the share of personal income taxes within total revenues was increased by 10%, keeping total revenue constant, and the increased tax revenue is used for pro-poor expenditures, the Gini coefficient would decrease from 0.479 to 0.441 in 1994 and almost 2% of population would move above the poverty line.

In addition to tax reform, government could raise other sources of funds for public expenditures, including deficit financing by domestic borrowing (foreign borrowing can be very costly due to risk of exchange rates fluctuations) and other off-budget sources, such as semi-fiscal loan programs (have to make sure that the projects are productive and will not raise the public debt too much).

A more pro-poor approach in the allocation of the public expenditure is also needed. Several studies have shown that Thailand public expenditure has been rather pro-rich (cited in Phongpaichit 2009a). A change of the public expenditure to be more pro-poor could have reduced the income inequality. For example Malaysia government, after the race riot in 1969, was forced to rethink its public expenditures to be more aggressive and pro-poor. It was able to raise the share of public expenditure to GDP to 40 percent in the mid-1980s, with the tax revenues plus funds from employment provident fund (a legacy of the British days) and sales of government bonds to banks and corporates. This compares to the rate in other neighbouring Asian countries of 10-20 percent of GDP. The public expenditures were allocated for pro-poor policies, including land redistribution, education and skill training for the less well-to-do, and universal health care. In 1970 the Gini coefficient in Malaysia was in the high at 0.513. By 1990, this was reduced to 0.446, and 0.441 in 2009 (Kuhonta, 2011).

2.2.3 Land redistribution

The distribution of land ownership has also been uneven and there have been inadequate government efforts to address the problem. About 90% of the total privately owned land are owned by 10% of the population or about 6 million people (Land Institute Foundation cited in NESDB, 2011) while 90% of the total population are owners of land of less than 1 rai (0.16 hectare).[18] For Bangkok, the ratio between land owned by the top and bottom 50 owners is astronomically high at 291,608 (Laowakul et al, 2009). These result in the problems of insufficient farmland for the poor in agricultural sector and unutilized land held speculatively by the rich. Since there is neither inheritance tax nor wealth-based land tax, the cost of holding unexploited land plots is almost non-existent and the severity of the problem tends to escalate. There is now a debate on a need to have land and other property taxes in order to stem further wealth concentration. But there is a strong resistance from property owners, many of whom are MPs and senators.

At present there are unknown amount of unused lands being held by various ministries, some of which could have been used for redistribution projects. If organized and run properly, such programs can benefit poor households and raise their standard of living and their children's education to the long-term benefits of the society as a whole. In Malaysia under the New Economic Policy after 1969, a land distribution project managed to redistribute public land (about 5 acres) to more than 500,000 landless households to grow oil palm. Credits to start up the venture were provided. Borrowers became owners of the land after they paid all the loans. This scheme had raised the standard of living of the households and enabling their children to get good education. Thailand should investigate the availability of public and see how similar program could be adapted.

2.2.4 Social security reform

The social security system needs reform. While the accessibility of healthcare service has improved, the quality of service from different schemes is not equal. Social security system, where insured workers and employers have to pay monthly contributions, and the universal

[18] From an interview given by the director of the Fiscal Policy Office in July 2009; http://www.bangkokbiznews.com/home/detail/finance/finance/20090719/61118/คลังคาดร่างกม.ภาษีที่ดิน-มีผลบังคับใช้ปี53.html

health care system have restricted lists of covered diseases and medicine while the government's scheme provided to civil servants covers all services. In addition, as opposed to the universal health care and health benefit of civil servants where the government fully finances the schemes, the social security scheme is the only scheme where insured workers have to pay monthly contribution (Phijaisanit, 2011).

The pension scheme is in an urgent need of reformation. It has been pointed out by many scholars (Chandoevwit, 2006; Pootrakul and Serechetapongse, 2007 and Phijaisanit, 2011 among others) that the pension is under-funded. Based on various actuarial projections, the accumulated funds will dry up in 30 to 50 years unless necessary measures are implemented. According to Pootrakul and Serechetapongse (2007), the scheme is too generous, promising more benefit than what is covered by an average member's contribution. Proposed reforms include rising retirement age, adjusting the scheme structure from defined-benefit to defined-contribution, increasing contribution rate, wage cap and redefining the scope of wage to include other fringe benefits. In order to broaden the coverage to the remaining two-thirds of the labour force in the informal sector, many have proposed the establishment of a compulsory national pension system (Suwanrada, 2010 and Chandoevwit, 2008).

2.2.5 Minimum income guarantee

Poverty incidence, measured by head-count ratio, has stabilized over recent years (as shown in Figure 2.2), suggesting that the remaining poverty is structural and economic growth will become less effective in mitigating poverty (UNDP, 2010). If the remaining poverty is indeed chronic, well-designed policies will be needed to target the roots of the persistence. About 80 percent of the remaining poor (4.5 million) are living in the rural area (see Figure 2.2) where 52 percent of the population either work in the agricultural sector or do not participate in any economic activities (NESDB, 2011).[19] These people are particularly vulnerable as accessibility to the much-needed public service, infrastructure and others social welfare is limited. In addition, as indicated by Vanitcharearnthum and Jitsuchon (2003), the poor in the agricultural sector and informal sector are the group of people with worst risk-sharing ability; the effect of shocks in income will immediately impact on their consumption level.

Chronic poverty makes the problem of inequality, which has been stable over the past 20 years, much more difficult to tackle. There is a suggestion that some form of minimum income guarantee like a program in Korea after 1997 for those whose household income falls below a certain level deemed necessary for a decent living may be necessary for a period of time in order to stop them falling further, and more importantly to enable their children to have a good education (Phongpaichit, 2011).

2.2.6 Political will

Lastly, improving inequality will not be an easy task for Thailand and this requires a determined government with a strong "political will" to initiate necessary redistributive policies (Phongpaichit, 2009a). This issue is now bound up with the question of Thailand being in the 'middle income trap'. A new development strategy with greater focus on improving technological capability is also needed. Fiscal reform has become imperative to

[19] In particular, 32.8% of the rural population are in the agricultural sector while another 14.9% are either children, elderly, housewife, students, disable or people with pension income, which according to NSO's definition, are not participating in economic activities (see also, Table 8 of NESDB, 2011).

raise more revenue to fund public investment in physical and social infrastructure, R&D and welfare without risk of rising public debt (Phongpaichit, 2011).

While a more equitable society is a favorable objective in its own right, many scholars including Aghion and Bolton (1997) argue that redistributive policies do not necessarily adversely affect efficiency and may increase economic efficiency. Redistributive policy reallocates excess resources from the rich to the poor. Under the capital market imperfection, more resources enable the poor to invest in some projects previously deemed infeasible by the lender because of the moral hazard problem arising from the poor's limited wealth-constraint. As a result, more resources to the poor imply less incentive distortion, higher efficient investment projects and growth. The more equitable allocation of resources brings about greater equality of opportunity and helps accelerating the trickle-down effect.

2.3 Likely future development

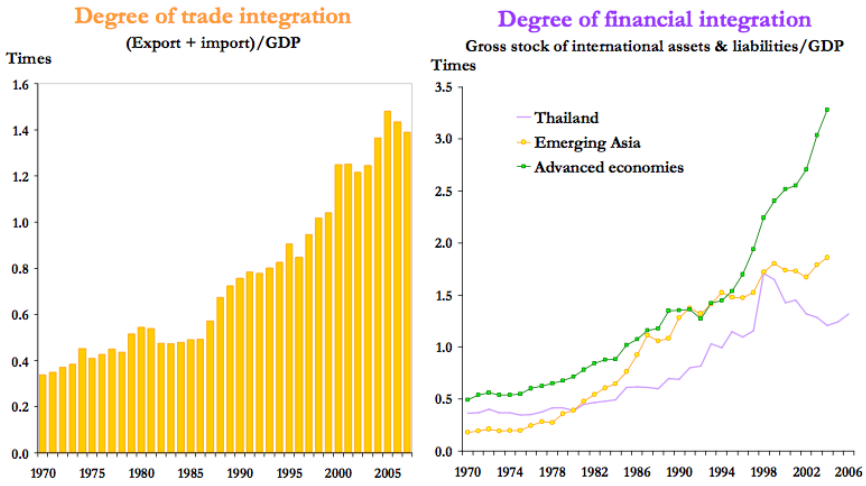
Inequity will continue to be Thailand's Achilles heel. Conservative elements in the society, including some business, military, bureaucrat, urban middle classes and royalists, strongly oppose any move to redress the situation. Many politicians are in the orbit of this conservative network. Many MPs and senators come from business families and are themselves landholders. However there are a few enlightened politicians who understand the importance of fairness and equity as a basis of social peace. Some of them would like to see a shift from the low wage policy, but it is going to be a long struggle.

3. World market strategy and protection from external shocks

3.1 Past integration into the world market

Like other emerging economies, the dynamic of globalization has seen the Thai economy becoming progressively more open and deeply integrated into the world economic system in many aspects especially through trade and finance. As indicated in Figure 3.1, the degree of trade openness, which measures the ratio between international trade (export and import) and GDP, more than doubled from about 0.5 in 1985 to 1.3 in 2005. Likewise, the degree of financial integration, as measured by total foreign assets and liabilities to GDP, also increased at the accelerating pace until 1998 before it dropped to some extent in the aftermath of the crisis.

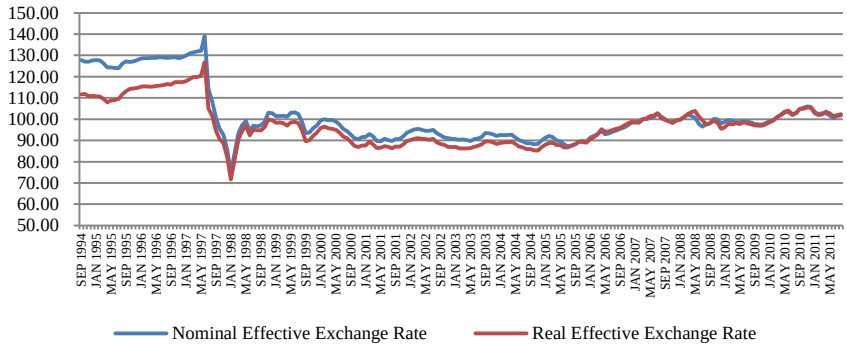
Figure 3.1 Degree of economic integration



Source: Ahuja et al (2008), Figure 1.

As discussed earlier, export has been the major driving force behind Thailand's economic growth before and, more remarkably, after the Asian crisis. Strong export growth after the crisis has been largely attributed to boosted competitiveness from both exchange rate depreciation after the adoption of managed float regime in July 1997 and a subsequent period of sustained low inflation. Figure 3.2 shows the trends in the nominal and real effective exchange rates (NEER and REER). During the period leading to the crisis, the current account had been seriously in deficit as high as 8% of GDP in 1996 (see Figure 1.10) and Thailand's competitiveness deteriorated as REER slowly appreciated between 1995 and 1997. The REER depreciated sharply in 2007 after the Bank of Thailand abandoned the fixed exchange rate regime. The real exchange rate continued to gradually depreciate over the first half of the 2000s thanks to the remarkably low level of inflation. The real appreciation in recent years was a result of rising inflation and the significant decline of the US dollar. Nonetheless, the appreciation was mild and the country had been enjoying high export growth and significant current account surpluses for much of the past decade.

Figure 3.2 Nominal and Real Effective Exchange Rate

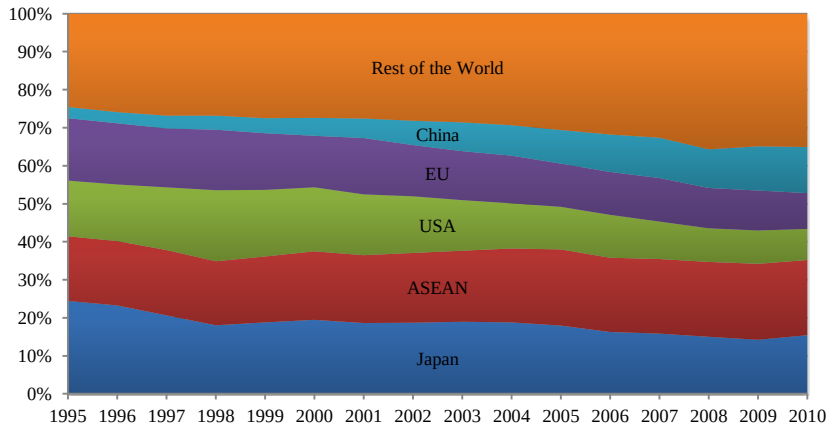


Source: Bank of Thailand

Apart from export growth, higher trade integration has also been indicated by higher diversification of export markets. Figure 3.3 shows the development of export share by

destination. Firstly, the larger share of export to 'Rest of the World', expanding from 25% to 35% over 1995-2010, suggests that Thailand's export markets have been increasingly diversified. Secondly, despite overall diversification, the growing trend of intra-regional trade has been observed. Shares of exports to USA and EU have decreased markedly from their respective peaks at 19% and 16% in 1998 to 8% and 9% in 2010. In contrast, exports to ASEAN neighbours, which benefited from ASEAN Free Trade Area (AFTA) signed in 1993, have been increasing from 17% to 20% between 1995 and 2010.

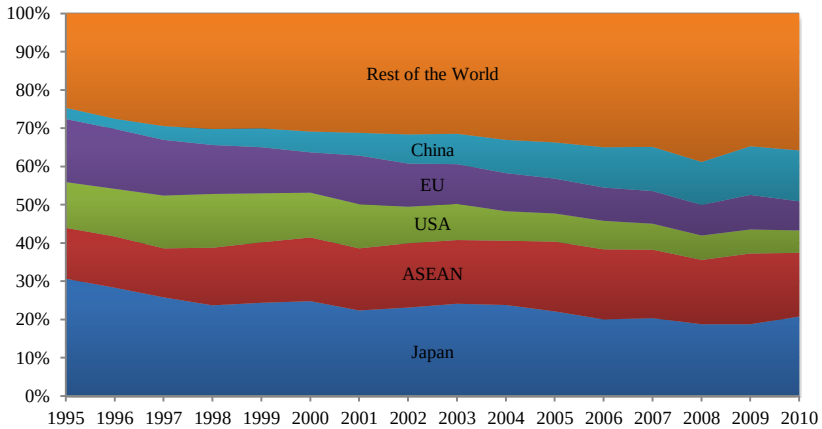
Figure 3.3 Share of exports by destination



Source: Customs Department

Finally, the data clearly show the emergence of China as a major trading partner. The share of Thai exports to China, now ranked 3rd after ASEAN and Japan, rose from a mere 3% in 1995 to 12% in 2010. Similar observations are found in the structure of imports (see Figure 3.4).

Figure 3.4 Share of imports by destination



Source: Customs Department

The rise in both market diversification and intra-regional trade can be partly explained by the proliferation of bilateral free trade agreements (FTAs) Thailand has signed over the past decade. According to a compilation by Tangkitvanich and Rattanakhamfu (2011), as of 2009, Thailand has already committed to ten FTAs. Consequently, trading volume within FTA areas accounted for 52% and 59% of Thai exports and imports respectively.

Turning to the issue of financial integration, the 1997 economic collapse was attributed to excessive currency and maturity mismatches from a surge of capital inflows particularly short-term external debt to finance domestic investment demand following financial deregulation in 1990s while maintaining exchange rate fixed. During the crisis, the ratio of external debt to GDP was as high as 73% in 1999 (see Figure 1.12 and Table 3.1) before dropping to 35% in 2010. Short-term debt as percent of total debt, which was as high as 52% before the crisis, declined sharply to 18% in 2000, shortly after the crisis, but rebounded considerably over the decade, surpassing the pre-crisis ratio, to 50% in 2010.

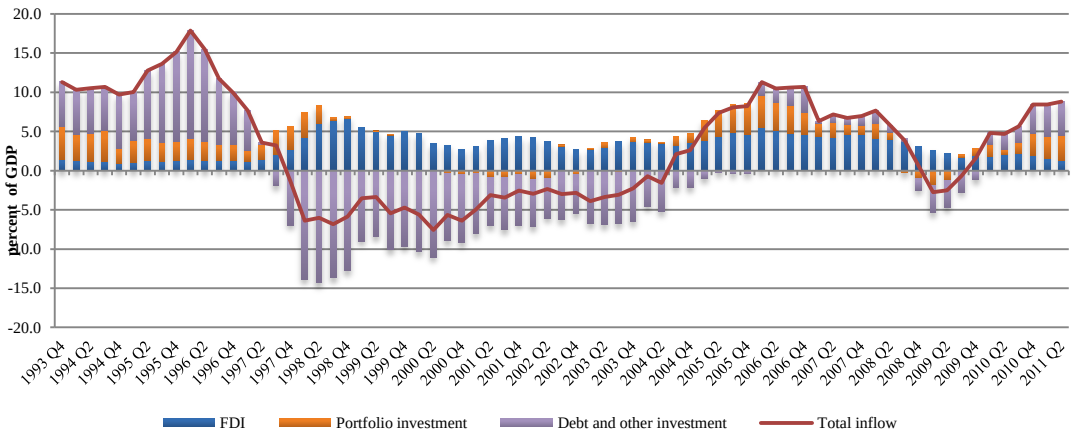
Table 3.1 External debt 1995-2010 (Percent)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Debt/GDP	60	62	65	70	73	67	56	49	40	41	37	39	35	31	29	35
SR debt/Total Debt	52	44	35	27	21	18	20	20	21	32	39	39	46	44	44	50
Private debt/Total debt	84	85	78	70	62	57	58	61	67	74	74	78	80	81	80	74
Private SR debt/Total Private debt					33	32	34	32	30	43	49	46	53	51	53	59

Source: Bank of Thailand

Total capital inflows as percent of GDP were at a historic peak of 18% percent of GDP in 1996. As shown in Figure 3.5, the majority of the inflows were loans from abroad and portfolio investment, mostly footloose short-run capital, while FDI investment was very low (1.4% in 1994). Speculative attack on the baht followed by the abolition of the fixed exchange rate regime caused an abrupt reversal of capital inflows. As the country strived to repay its matured short-term loans, sharp depreciation of the baht provided foreign investors a lucrative opportunity to invest in cheap baht-denominated assets. Accordingly, foreign direct investment surged significantly during 1998 – 1999 to 6.6% of GDP.

Figure 3.5 Compositions of capital inflows (4-quarter moving average)

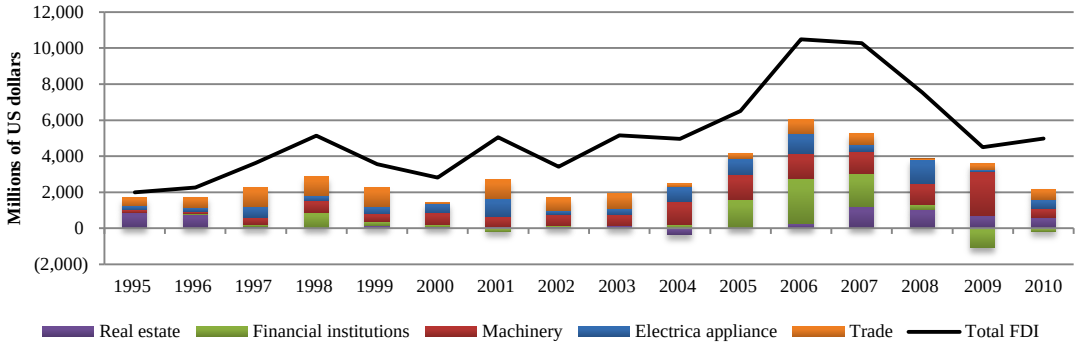


Source: Bank of Thailand

It was not until the second half of 2004 that the net total inflows became positive again as Thailand recovered from the 1997 crisis. The pro-cyclical trend of capital inflows was consistent with many other emerging economies (Kaminsky et al., 2005). The worryingly rapid inflows during 2005-2006 largely from portfolio investment prompted the Bank of Thailand to embark on an unorthodox capital control policy. The unremunerated reserved requirement measure, which was rolled out 18th December 2006, aimed to ease exchange rate appreciation pressure by limiting short-term capital inflows. Broadly speaking, the measure required foreign investors to deposit 30% of the funds on an account at the central bank, without interest, for 1 year. Should the investors wish to withdraw their money within a year, the deposit will be forfeited. The market reacted ferociously to the measure; the Thai stock exchange dropped 15% and the baht depreciated 1.5% in the next day. The Bank of Thailand reacted in the following night by announcing that investment in stock market would be exempted from the rule. The turnaround resulted in an immediate 11% rebound in the stock market.

Capital inflows continued to rise after temporary disruption during the global crisis in 2009. Most of the ASEAN currencies appreciated against the US dollar in 2010 with Thailand appreciating the most. As the latest effort to counteract short-run capital flow, the country put in place a 15 per cent tax on interest and capital gains on foreign investors in Thai bonds (ADB, 2010). Thailand has been a main recipient of foreign direct investment (FDI) in the ASEAN region. During the period before the 1997 crisis, the majority of FDI was directed into real estate sector (43% and 33% of total FDI in 1995 and 1996). As shown in Figure 3.6, FDI increased significantly shortly after the crisis in 1997-1998 mainly in trade and financial sectors.

Figure 3.6 Foreign direct investment by economic sector



Source: Bank of Thailand

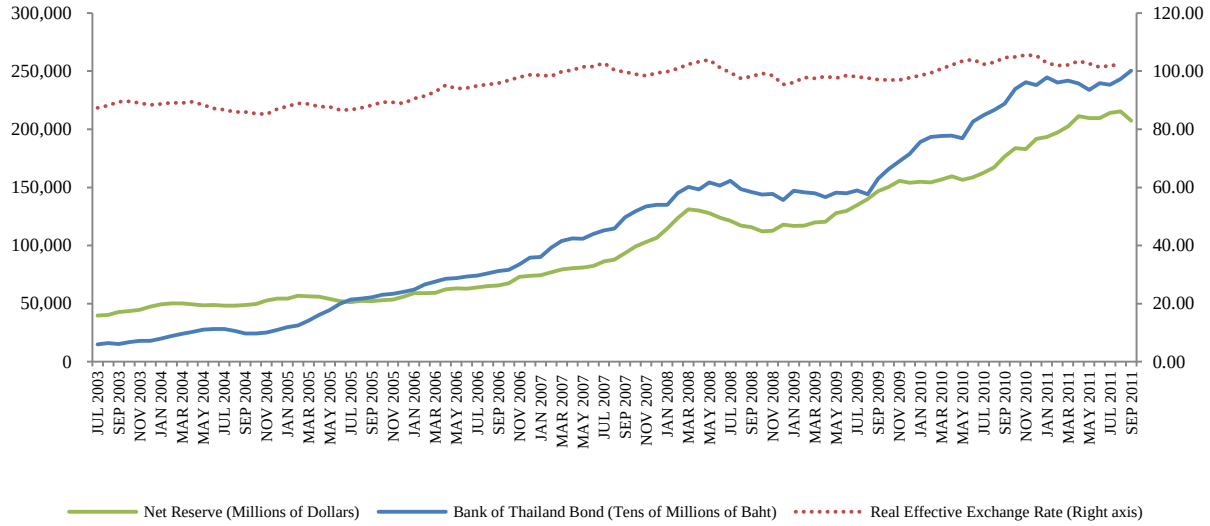
The inflows were largely dominated by mergers and acquisitions (M&A) and takeover activities from foreign companies as a result of deteriorating asset prices from sharp currency depreciation. FDI flows slowed down slightly during between 1999 and 2002; the trend was in accordance with an overall contraction of global FDI (UNCTAD, 2005). The inflows then rose by 111% from 2004 up until 2006. Significant portions of the flows went to financial institution and manufacturing especially the machinery sector. The huge inflows were interrupted however by the global depression between 2008 and 2009. Despite the overall decline, FDI to real estate has recovered in recent years.

3.2 Present debate about the integration in the world market

After the abolition of the fixed exchange rate system in July 1997, the country was in a need of a new nominal anchor for a monetary framework. Monetary targeting was temporarily implemented under the IMF bailout program before (core) inflation targeting was adopted in May 2000. In principle under inflation targeting, the main instrument of monetary policy to signal a policy stance is the policy interest rate with long-term price stabilization as the ultimate goal. Under an increasingly integrated international trade and financial system, external shocks are transmitted to the domestic economy. For example, Ahuja et al (2007) indicated that all types of capital inflows to Thailand have become more volatile during the past decade as compared to the decade before the Asian crisis. It has been widely accepted that interventions in currency exchange market to smooth out excess volatilities from external shock are, therefore, essential.

In addition to fluctuating flows of capital, continued periods of current account surpluses intensified appreciation pressures on the baht. The Bank of Thailand has been actively intervening the market by selling the baht to build up foreign currency denominated assets and, at the same time, issuing central bank bonds to absorb domestic liquidity and keep the money market intact. These “sterilized interventions” have seen a rapid surge of both the Bank of Thailand’s foreign reserves and liabilities in the form of interest yielding bonds. As shown in Figure 3.7, Bank of Thailand’s foreign reserve and bond liabilities moved closely in step together while the real effective exchange rate only mildly appreciated over the past decade.

Figure 3.7 Sterilized intervention:
neutralized REER and co-movement between foreign reserve and BOT's bonds.



Source: Bank of Thailand

The Bank of Thailand has built up a sizable reserve that more than tripled from just below 40 billion dollars in mid-2003 to 131 billion dollars before the global financial turmoil burst out in Q1 2008. Correspondingly, the outstanding bonds issued by the monetary authority increased nearly 10 fold from 161 billion baht to 1,501 billion baht during the same period. The reserve and BOT's bonds leveled off over 2008-2009 as capital inflows slowed during the depression before increasing again as the country recovered. The latest figures show the net reserve was in excess of 207 billion dollars while the outstanding amount of BOT's bonds skyrocketed to 2,500 billion baht.

An increase in the Bank of Thailand's bonds from a series of market interventions imposed a heavy interest cost on the central bank. At the same time, the swollen reserve is not interest bearing while the continued depreciating trend of the US dollar has caused deterioration in the value of dollar denominated assets. As a result, the Bank of Thailand has made a huge operating loss, estimated at about 117 billion baht, and incurred capital loss of about 4,320 billion baht in 2010 (Vanitcharearnthum, 2011). There have been some criticisms on the central bank's intervention policy that led to the huge loss. In response to this, the minister of finance recently proposed a plan to set up a sovereign investment fund using the central bank's foreign reserve. Some academics, however, warned of judging the Bank of Thailand's managing performance using private enterprise's yardstick because the central bank's objective is economic stability not profit (Vanitcharearnthum, 2011). Sterilization intervention is essentially the central bank decision to trade-off today for future inflation. Interest paid on the bonds is simply the cost of such trade-off.

It is important to note, however, that the evidence of the effectiveness of capital control has been weak and the overemphasis on limiting exchange rate movement may send the wrong signal to the public that exchange rate is the more important nominal anchor (Disyatat et al, 2005).

Thailand's trade integration to the world economy has accelerated recently through the conclusion of several bilateral FTAs. While the Thai economy has benefited greatly from these agreements, some researchers argue that the benefit could have been greater had

the Thai policy makers devise a proper national trade policy and negotiation strategy. Tangkitvanich and Rattanakhamfu (2011) criticized that Thailand does not have a national trade negotiation strategy. The increase in FTAs was driven by political motivations and a loose faith in the benefits of trade without a clear idea of the national interest.

Thailand, as well as some other ASEAN countries, has directed its efforts, resources and attentions away from multilateral negotiation of the World Trade Organization (WTO) to bilateral FTAs. This partly was due to the slow development of Doha round negotiations. Sally (2005) criticized ASEAN FTAs for being "trade-light" agreements in which negotiating countries resort to mercantilist strategy as they exchanged export market access in some sectors for import concession in a few others. These are unlikely to effectively tackle protectionist barriers, are inconsistent with WTO negotiations, and do not make much economic sense. The country needs to review its overall FTA policy, going beyond "narrow mercantilist" concerns and putting more attention on regionalism and multilateral negotiation via the WTO.

The shift of attention away from multilateral negotiations also undermined ASEAN's vision of economic integration, the ASEAN Economic Community (AEC) which will become effective in 2015. The number of participants in the ASEAN negotiation and the scope of issues involved means that the negotiation will take time, but an agreement with good balance between the integration depth and the total size of participating economies is likely to bring about higher welfare. A single agreement minimizes the "spaghetti bowl effect" or tariff complications and business and transaction cost created by overlapping FTAs with different rules of origin and standard.[20]

3.3 Likely future development

The external sector has become increasingly important as the Thai economy became more integrated into the global economic system. The economy is shaped largely by external forces and global shocks are transmitted more strongly to the domestic economy.

Under an inflation targeting framework, exchange rate policy is used mainly to smooth out volatilities from external sectors and to stabilize long-run inflation. The Bank of Thailand has actively intervened in the exchange market, resulting in low core inflation over much of the past decade. This provided more room for exchange rate maneuvers to vary the balance between internal and external sectors.

The ratios of both short-run and private debts to total debt recently rose close to their pre-1997 crisis level. Although the foreign reserve is in an extremely healthy position, the economy is susceptible to destabilizing risk from the high accumulation of short-term debt and its volatile nature.

The rising trend of capital inflows and inflationary pressures from food and energy prices will make the task of maintaining a balanced economy more difficult. Although effective in alleviating inflationary pressure from temporary external shocks (Chai-anant et al, 2008), exchange rate policy should be used as a supplement of monetary policy and, at the same time, accommodating long-run fundamental trend. In the long term, exchange rate manipulation is becoming less effective and can destabilize the economy (Disyatat et al, 2005).

[20] For estimations of welfare gained from FTA with broader participants, see, for example, Cheong (2005) and Kawai and Wignaraja (2008).

The proliferation of bilateral FTAs points to the new era of bilateralism. Even though many FTAs have been agreed, there are still some more bilateral agreements under negotiations. If designed properly, FTAs can achieve dynamic gains by generating greater trade and FDI among members. It also helps achieve deeper economic integration through the WTO-plus agreements, including many areas not covered by the WTO negotiations and areas in which it is difficult to make substantial progress within a multilateral framework (OECD, 2003).

4. Green New Deal and ecological problems

4.1 Overview about ecological problems

Thailand was one of the very first among the Southeast Asian nations to promote an export-oriented industrialization policy in the 1980s. While the country enjoyed rapid growth and significantly improved standard of living, the economic achievement came at the expense of various environmental degradations and ecological problems.

In the process of the economic development, Thailand has given higher priority on economic growth over environmental protection. Through investment incentives and public investment on industrial infrastructure, the country successfully attracted FDI into the industrial sector.[21] Many industrial estates were established by the Industrial Estate Authority of Thailand (IEAT) to host factories. The production bases "exported" or shifted to Thailand from other host countries included highly polluting industries (GSEI, 2002 and Lucas et al, 1992). It is unsurprising that one of the most critical environmental problems facing Thailand is pollution and toxic waste from the industrial sector.

The Map Ta Phut industrial estate in Rayong province, eastern Thailand is one of various examples of ecological damage inflicted by industrial development without effective environmental safeguards. After a natural gas pipeline from the Gulf of Thailand came ashore at this point, Map Ta Phut was clustered with natural gas processing plants and many heavy and highly polluting downstream industries including petrochemicals, chemical fertilizers and steel. There have been many pollution-related illnesses reported among local villagers. Communities around the industrial estate area were affected by severe air pollution. Many studies, for example Milintawismai (1997) and Boonlong (2009), confirmed the severity of the situation; local atmosphere in the surrounding area of Map Ta Phut was contaminated by many volatile organic compounds (VOCs) mostly benzene and toluene as well as highly concentrated sulfur dioxide and carcinogenic compounds. The National Cancer Institute also found high prevalence of respiratory disease and lung cancer among residents in the area (Phongpaichit, 2009b).

The water quality and stock of marine life around the industrial estate were also badly impacted. According to a report of the Pollution Control Department (PCD, 1999), industrial development is a prime reason for heavy metals contaminations such as mercury in fresh and seawater as well as the marine food chain.

In 1999 cases of water-borne lead pollution were found in the forest district of lower *Klity*, Kanchanaburi province. Villagers including Karen minorities had been exposed to water contaminated by local lead mines, including one owned by a Member of Parliament. Health effects from the contamination include severe illness and birth defects. A recent examination by the Ministry of Public Health found that the lead level found in fish, water and children's

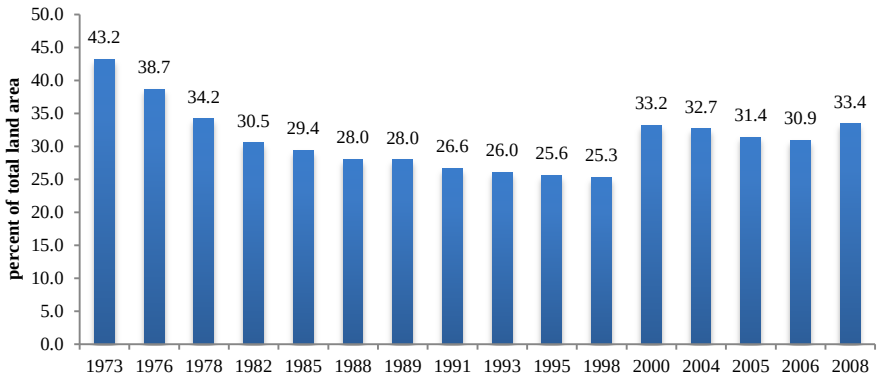
[21] The majority wave of investment influx had been from Japanese companies as a result of the strengthening Japanese yen against the US dollar in the wake of the Plaza Accord of 1985.

blood is still many times higher than the safety level (UNDP, 2010).

Waste disposal both from household and industrial sources has become more serious as treatment facilities have been limited. According to the Pollution Control Department (PCD, 2010), total municipal waste has increased steadily at around 10% a year. In 2010, the amount of municipal waste was around 15.8 million ton with 62% disposed in open-air dumping sites or burnt. In addition to this, hazardous waste is estimated at 3.09 million tons in 2010. Industrial hazardous wastes consist of 77% of total toxic waste. The facilities that can properly process these wastes can cope with no more than 200,000 tons annually.

Commercial logging and agricultural expansion led to a steep deterioration of the country's forest area from 43% of total area about four decades ago to 28% in 1988 when a logging ban was imposed. This placed Thailand among countries with the fastest rate of deforestation in the world. Shown in Figure 4.1, the forest area continued to shrink as illegal logging and deforestation for agricultural purposes especially shifting cultivation continued to encroach upon conserved areas but at a slower pace. The jump in forest area in 2000 was not a result of a reforestation but a "re-definition" of "unclassified" to "forest" areas. In reality, about 1.7 million hectare (11 million rai) of forest had been lost in the two decades after the logging ban.

Figure 4.1 Forest area (percent of total land area)



Source: Office of Forest Land Management, Forest Department.[22]

The impacts of climate change have been progressively pronounced. More erratic patterns of rainfall, violent flood and prolonged drought caused difficulty in water management. Examples include the worst drought in 20 years in 2010 (Marks, 2011) followed by the latest 2011 catastrophic flooding. According to the Ministry of Natural Resources and Environment (MONRE), recent research and modeling predict rising temperatures that will affect crop and fishery yields, patterns of disease, and rising sea levels that will inundate large stretches of Thailand's coastline (MONRE, 2011).

Besides these direct physical effects, climate change has had other indirect impacts. The markets anticipated the future effects of climate change, leading to shifts and panics presaged by the food price spike of 2008. In addition, Thailand is surrounded by areas with large populations that are highly at risk from climate change particularly in Bangladesh and the Mekong Delta. The country may be affected by large population shifts in neighbouring areas (UNDP, 2010).

[22] Upward shift in 2000 resulted from new definitions.

4.2 Present debate to solve ecological problems

The fundamental problem underlying Thailand environmental degradation was not the absence of legal infrastructure to safeguard the environment but the lack of robust enforcement from relevant authorities. Against the backdrop of exacerbated environmental problems by urbanization and industrialization, several pieces of environmental legislation were introduced. The first was the Improvement and Conservation of National Environmental Quality Act in 1975, which established the National Environmental Board to address environmental issues in an organized fashion. The Board, however, failed to achieve its objective due to lack of budget and human resources. In addition, the law was difficult to implement because the responsible organization did not have power of punishment to enforce the law (GSEI, 2002).

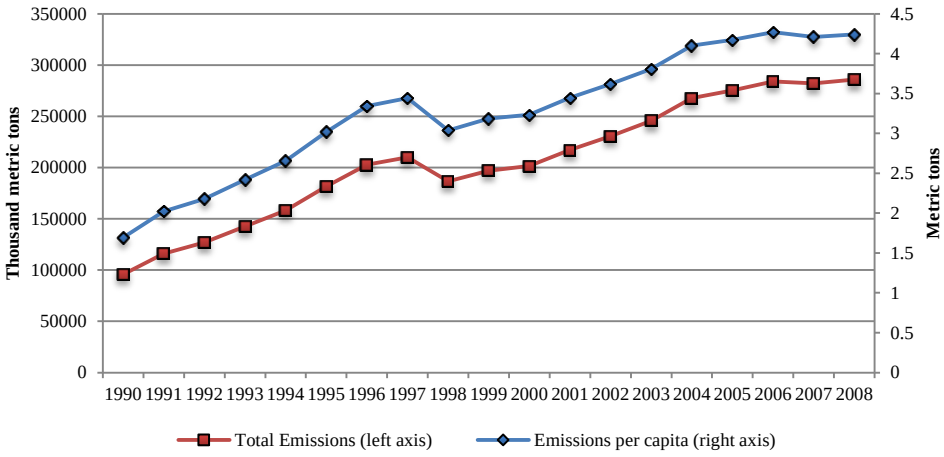
A more comprehensive environmental legislation was the 1992 Enhancement and Conservation of National Environmental Quality Act (NEQA). A number of closely linked laws were also substantially revised, including the Factory Acts, Public Health Act, Hazardous Substance Act, and Energy Conservation Promotion Act. NEQA established new environmental administrative organizations including the Office of Natural Resources and Environmental Policy and Planning (ONEP) and Pollution Control Department. The law also incorporated he principle of “polluter pays”.

Despite these efforts, implementation has been far below expectations. The government was unable to handle pollution problems from industrialization because many interest groups benefitting from pollution-intensive industries have close ties with politicians (Wittayapak, 2000). Moreover, the bureaucratic system has been characterized by separate government departments working independently from one another. There are many government bodies having some involvement in environmental matters, each implementing the regulation under its own jurisdiction. Involved stakeholders often complain about unclear and overlapping regulation, making overall environmental administration difficult to comprehend (GEF, 1999).

In addition, public authorities were criticized for handling environment issues without the participation of all concerned stakeholders and appropriate access to relevant information concerning the environment (GSEI, 2002). The necessity of public participation for successful environmental policy was finally recognized in the constitutions of 1997 and 2007 which both guarantee the right to access to relevant information and specify that public participation is required at every level of government (Article 56 in 1997 constitution and article 67 in 2007 constitution).

There is a general consensus that Thailand should curtail its carbon emissions. Thailand’s carbon emissions are high compared to the level of its economic development, and have grown very rapidly in recent decades, largely because of inefficiency in power generation. The level of carbon dioxide (CO2) emissions from fossil fuel (gas, liquid, solid fuel, gas flaring, cement production and bunker fuels) increased rapidly from 96 million tons to 286 million tons in less than two decades (see Figure 4.2).

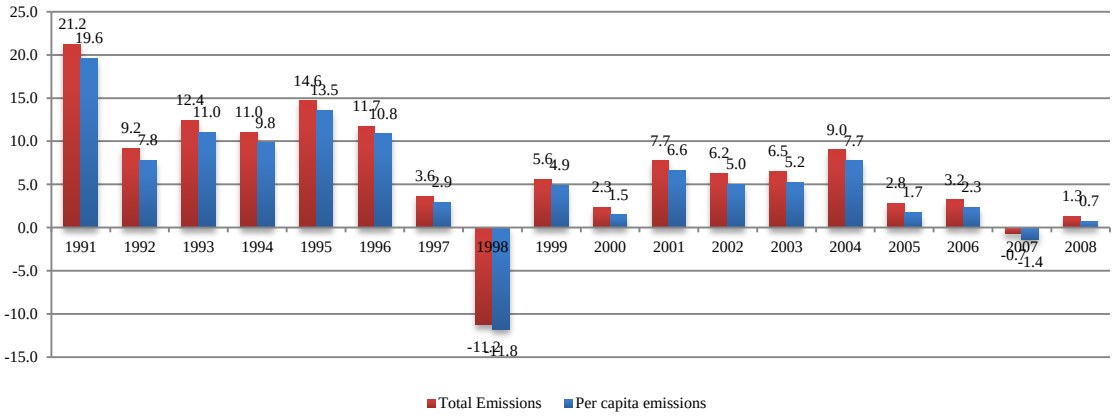
Figure 4.2 Carbon dioxide emissions from fossil fuels



Source: Carbon Dioxide Information Analysis Center (CDIAC), US Department of Energy

Per capita emissions tripled from 1.7 tons in 1991 to 4.2 tons in 2008 while global per capita average is 1.23 tons. Thailand's per capita emissions are higher than China at 3.8 tons per capita, Indonesia at 1.7 tons, and India at 1.2 tons (UNDP, 2007). Increasing economic activities from the boom period of the early 1990s resulted in accelerated emissions rate. The average annual growth rate of total CO2 emissions from fossil fuels between 1990 and 1997 was 10.8 percent (see also Figure 4.3).

Figure 4.3 Growth of carbon dioxide emissions from fossil fuels



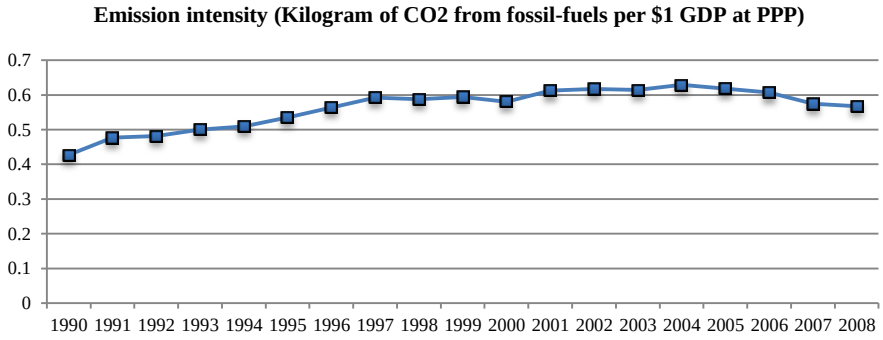
Source: Carbon Dioxide Information Analysis Center (CDIAC), US Department of Energy

Thailand's share of global emission is moderate. The country, whose population is about 1 percent of global population, is responsible for about 1 percent of global carbon emissions (UNDP, 2007). In comparison, Vietnam emits only 0.4 percent whereas Indonesia emits 1.3 percent.

Absolute emissions levels, however, are most strongly influenced by GDP shifts. When GDP rises, emissions also tend to rise correspondingly. Because of this correlation, projections of emission level per 1 dollar of GDP (CO2/GDP) or carbon intensity tend to exhibit less

uncertainty than absolute emissions forecasts. Figure 4.4 presents the development of Thailand's emission intensity. Intensity of CO2 emissions ascended fairly quickly over the first half of 1990s despite the double-digit average annual GDP growth rate. The figure leveled off however after the 1997 crisis.

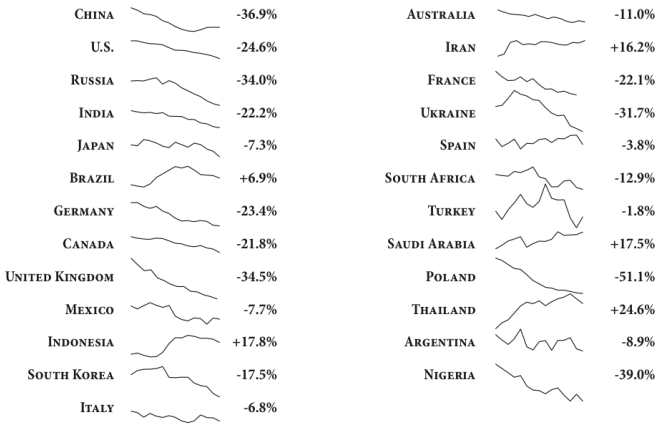
Figure 4.4 Emission intensity



Source: Carbon Dioxide Information Analysis Center (CDIAC), US Department of Energy

Putting this into international perspective, after taking into account emissions from other main greenhouse gases (GHG) in term of CO2 equivalent, Thailand is ranked 23rd among top global CO2 emitters measured by emission intensity between 1992 and 2006 (see Figure 4.5). More importantly, during the same period, the country has the fastest emission intensity growth amongst the top CO2 emitters at 24.6% surpassing oil-rich economies such as Indonesia (17.8%), Iran (16.2%) and Saudi Arabia (17.5%).

Figure 4.5 Change in emissions intensity, 1992-2006 (Top 25 emitters)



Source: WRI (2009)[23]

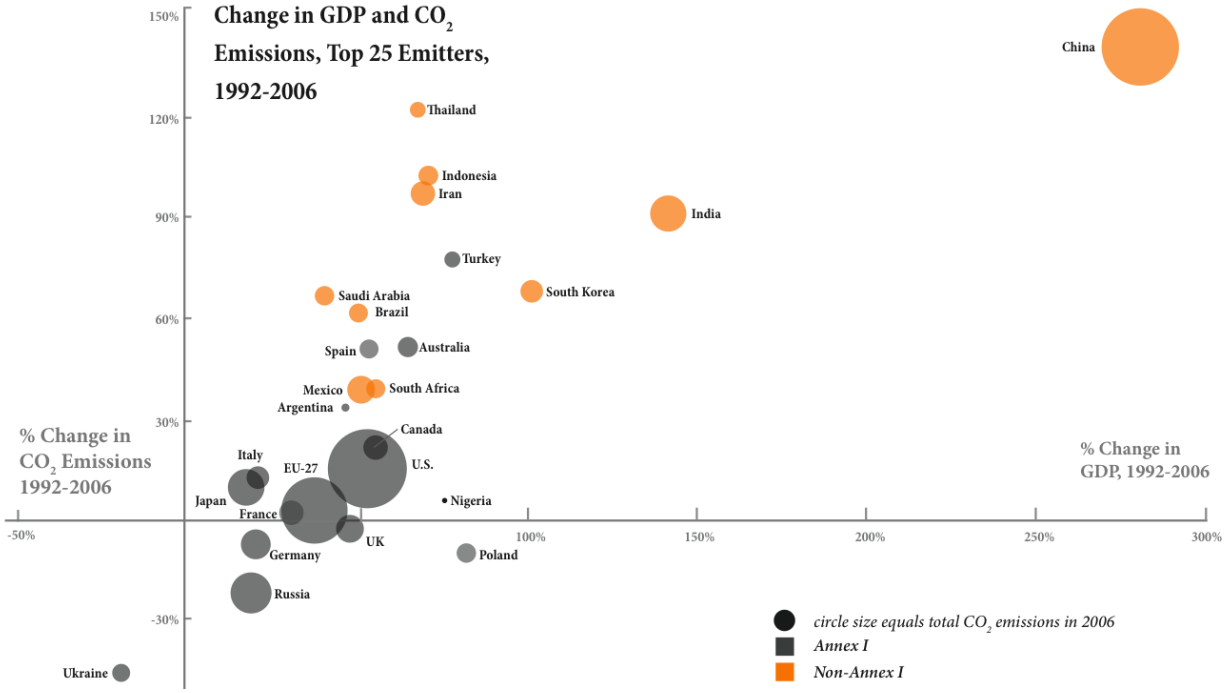
The underlying reason for this is that Thailand's growth rate of absolute CO2 emissions was the second fastest after China but the output did not grow as fast (see Figure 4.6). Therefore, the country sacrificed too much GHG for an international dollar worth of output. This reflects both Thailand's production inefficiency and ill preparation for low carbon

[23] GDP data from World Bank (2009). Top 25 emitters based on 2005 total GHG emissions estimates (excluding land-use change and forestry and international bunker fuels).

economy. In the near future, Thailand may have to conform to global targets for reducing emissions, and this may be difficult given the recent record.

The government's response to climate change has improved somewhat over the last few years. Following Thailand's ratification of the Kyoto Protocol, the government established the Climate Change Office Coordination and the Thailand Greenhouse Gas Management Organization (TGGO) in 2007 as a Designated National Authority (DNA) to promote investments in mitigation activities using Clean Development Mechanism (CDM). At present, 32 CDM projects with a CO2 reduction capacity of about 2 million tons/year have been approved (MONRE, 2011).

Figure 4.6 Change in GDP and CO2 emissions, 1992-2006 (Top 25 emitters)



Source: WRI (2009)[24]

Thailand's reforestation efforts have seen the forest sector became the net sink of GHG in 2000. According to statistics reported by MONRE (2011), Thailand had about 20,000 hectares of forestland with less than 10-year old trees in 2006, of which half was planted and maintained by local communities. The Forest Department reforested about 64,000 hectares. Nearly half of the land was planted using non-public budget. Conserved forest area also expanded from about 3.1 million hectares in 1979 to about 9 million hectares in 2004.

4.3 Strategy and coherence of industrial policies in general

This section will focus on the energy sector.

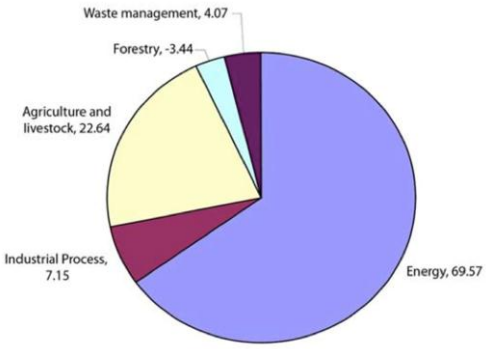
Fuel combustions from the energy sector, which includes power generating industry,

[24] GDP data from World Bank (2009). Top 25 emitters based on 2005 total GHG emissions estimates (excluding land-use change and forestry and international bunker fuels).

transportation, manufacturing and construction, are the highest CO2 emitting activities in Thailand. According to the latest GHG inventory report by MONRE (2011), of the total CO2 emission in 2000, the energy sector emitted the highest at about 70% followed by crops and livestock at 23%. The remaining proportion was shared among industry process where almost all emissions are from cement production, forest (net sink) and waste management (see Figure 4.7)

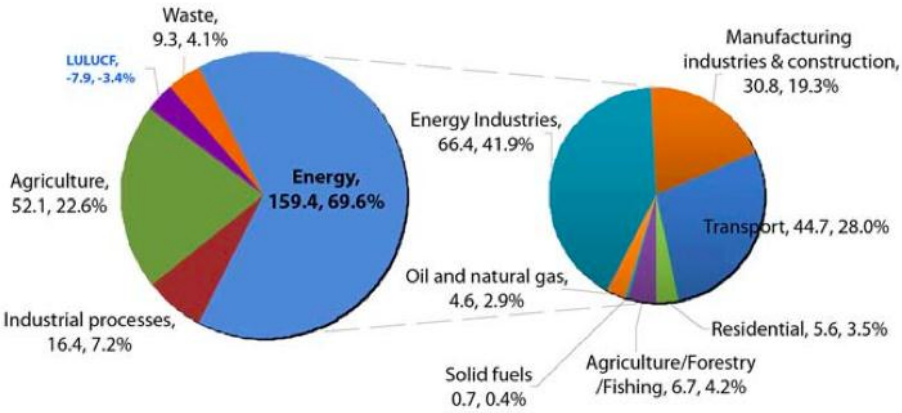
As for energy sector, combustion from energy industries emitted about 42% of total emissions, followed by transportation at 28% and manufacturing and construction at 19%. Emissions from these three sources constituted more than 90% of total emissions from the energy sector in 2000 (see Figure 4.8). Hence, industrial policy to mitigate GHG emissions should focus predominantly on the energy sector or, more specifically, policy that promotes energy saving and efficiency. In addition the industrial sector represented the biggest energy-consuming sector in Thailand in 2010 by using about 37% of the total final energy consumption in the economy (see Figure 4.9) followed by transportation sector at 35%. Thus efforts on energy efficient and conservation in these sectors can be expected to contribute significantly to the overall energy use, GHG reduction and air pollution problem.

Figure 4.7 GHG emissions by source in CO2 equivalent for 2000 (percent)



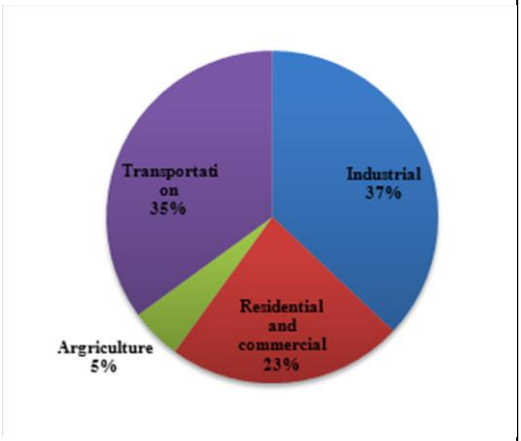
Source: MONRE (2011), Figure A.

Figure 4.8 Emissions from energy sector for 2000 (Million tons of CO2 equivalent, percent)



Source: MONRE (2011), Figure 2.3.

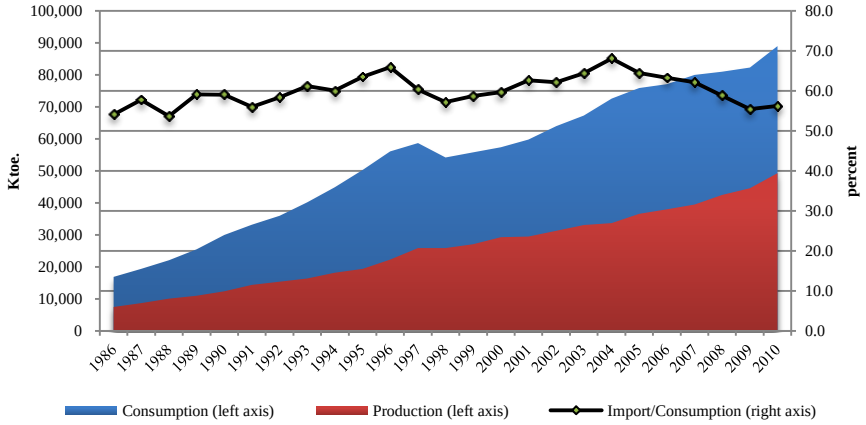
Figure 4.9 Share of energy consumption by sector 2010



Source: Department of Alternative Energy Development and Efficiency (DEDE)

Thailand is a net importer of energy resources with approximately 60 percent of total energy consumption imported. Figure 4.10 presents the development of Thailand's energy production and consumption from 1986 to 2010. Overall consumption of energy, measured as thousand tons of oil equivalent (ktoe.), had been rising strongly with a brief interruption during the 1997 economic crisis. Consumption rose 248% from 16,861 ktoe. to 58,673 ktoe. between 1986 and 1997, the period before the financial crisis with average annual growth of 12.1%. On the other hand, the post-crisis consumption rose 64.1% from 54,222 ktoe. in 1998 to 88,968 ktoe. in 2010. The post-crisis average annual growth of energy consumption is 4.2%. On the production side, domestic energy production served only about 40% of total energy consumption. Production increased from 7,531 ktoe. in 1986 to 49,268 ktoe. in 2010. The relatively constant share of energy import to energy consumption implies that, with a continuously strong growth of consumption, Thailand's import or dependence of energy from external sources will keep increasing.

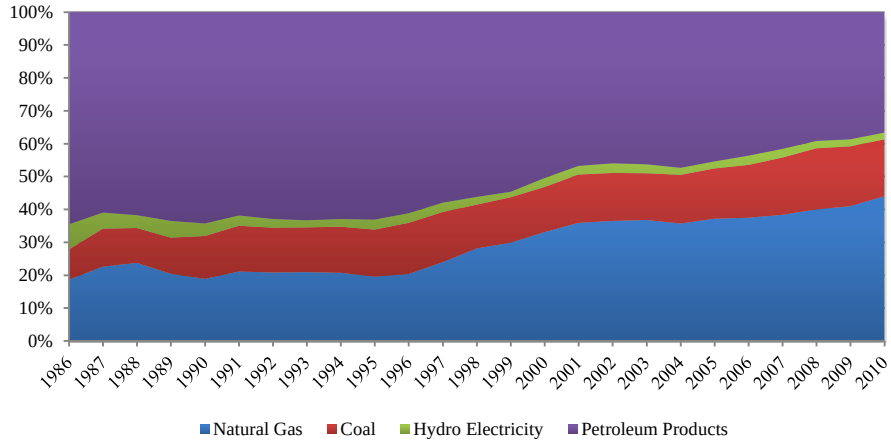
Figure 4.10 Energy production and consumption



Source: Energy Policy and Planning Office (EPPO), Ministry of Energy

Natural gas and petroleum products (such as gasoline, diesel and liquefied petroleum gas) are energy sources with highest consumption ratios (see Figure 4.11). Consumption of petroleum products was as high as 64.6% of total energy consumption in 1986. As consumption of natural gas grew larger, share of petroleum products dropped. The shares of energy consumption from both coal and hydroelectricity were relative constant overtime. The latest data in 2010 show that currently natural gas contributes 44 percent of the total consumed energy. The significant portion of 37 percent is attributed to consumption of petroleum products while coal energy and hydroelectricity account for 17 percent and 2 percent, respectively.

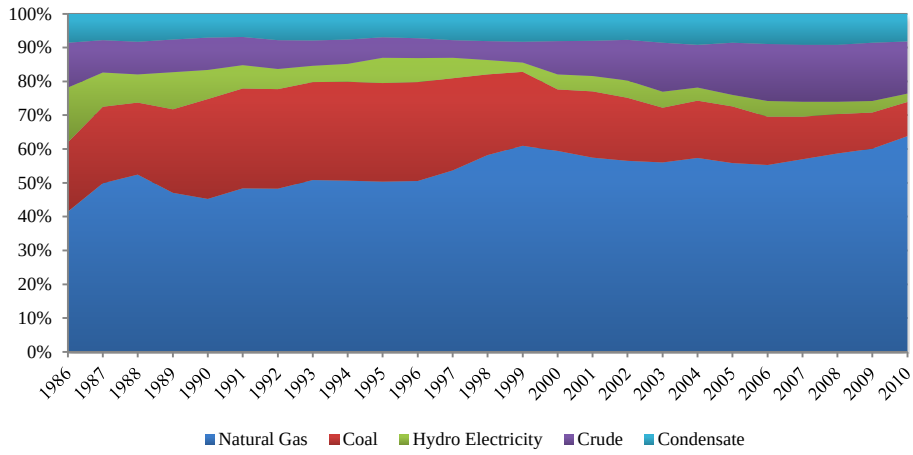
Figure 4.11 Shares of energy types in total energy consumption



Source: EPPO

As for the production side, the Gulf of Thailand has a huge deposit of natural gas. Since its discovery and the completion of an onshore pipeline in 1981, natural gas is Thailand's prime energy source. As shown in Figure 4.13, about a half of total energy produced domestically was from natural gas. Coal contributed 30% of total energy produced in the first half of 1990s, but its share fell constantly over the last decade. By contrast, the share of crude oil production increased moderately over the 2000s from as little as 5.3% in 1997 to about 15% recently. The share of condensate, which is the liquid state of natural gas, has been stable around 8% while the share of hydroelectricity has remained low (less than 5%) over the past 10 years. As of 2010, natural gas contributes 64% of Thailand's total energy production while crude and coal account for 16% and 10%, respectively. The remaining proportions are from condensate (8%) and hydroelectricity (2%).

Figure 4.13 Shares of energy types in total energy production



Source: EPPO

Thailand has recognized the importance of improving energy efficiency and mitigating the environmental impact of GHG and pollution emissions from energy use. The Energy Conservation Promotion Act in 1992, later amended in 2007, established the Energy Conservation Promotion Fund (ENCON Fund) to provide working capital, grant or subsidies for investment in energy conservation programs in both public and private sectors. The fund, which has an annual revenue around 7 billion baht, is financed by an environmental tax levied from the sale of gasoline, diesel, fuel oil and kerosene (about 0.04 – 0.25 baht per liter). The latest Energy Conservation Program, Phrase 3 (2008-2011) had an ambitious target to reduce energy usage by 20%.

To promote energy efficient and alternative energy for large-scale projects, the government, in 2003, set up the Energy Credit and Revolving Fund to stimulate the financial sector's participation in energy projects. The fund provides no-cost capital to Thai banks to finance energy efficient projects at low cost (interest rate not more than 4%) for the borrower. The loan size is no more than 50 million baht (US$ 1.68 million) per project for the maximum of 7 years. Thus, the government intervention in the financing process is minimized (Chintakanada, 2011). As of 2008, more than 240 projects with total investment around US$ 500 million were granted loans of which, US$ 150 million were from the fund.

A new initiative to promote energy conservation and renewable energy investment among the energy service companies (ESCOs) was the establishment of ESCO fund in 2009. The motivation is to stimulate small power producers (SPPs), very small power producers (VSPPs) and other ESCOs to have a larger role in renewable energy and energy conservation through activities include technical assistance, venture capital which the fund will co-invest up to 30% of the total investment, and equity investment which the fund will improve the debt-equity ratio by support up to 50% of the total investment. The objectives are to stimulate investment of renewable energy of at least 1.25 billion baht (US$ 41.6 million) and conserve energy at least 10 ktoe. annually.

Other measures include (APEC, 2010)

1. Cost-based tax incentives that allow 1.25 times of actual investment capital for tax calculation, which will lessen the tax burden by phasing the tax deduction in over a period of 5 years. As of 2010, 94 facilities have received the tax benefits. The

government lost US$ 4.1 million of tax revenue but saved energy expenses around US$ 11 million;

2. Performance-based tax incentive that return 30% of saving value to the project owners through income tax reduction. As of 2010, 174 facilities have joined the program by investing over US$ 38.9 million in energy efficient projects, reducing energy consumption of US$ 25.1 million.

Notwithstanding all efforts to conserve energy, improve using efficiency, promote awareness and reduce GHG emissions from energy use, Thailand's energy price structure has been heavily distorted by subsidy schemes that make little economic sense and are usually politically motivated. The price of LPG had been capped for more than two decades. The initial intention was to help households and food vendors, but amid the global oil price rise, demand for LPG has been driven partly by switching from increasingly expensive oil to cheaper gas in the automotive sector. The government recently decided to gradually float the price of LPG used in the industrial sector, previously capped at 18.13 baht per kilogram, a third of its actual cost. However, pricing policy for household and transport sectors is unchanged.[25]

Prices for diesel and compressed natural gas (CNG) have also been heavily subsidized. In a bid to keep the retail price of diesel at 30 baht per liter (1 USD per liter), or 20% below its actual price, has cost around 9.13 billion baht (304 million USD) per month in subsidies.[26] The government argued that subsidy is necessary to weaken inflationary pressure and help the poor. However, economic evidence to support the claim has been limited. As for CNG, the rationale for subsidization was to promote alternative energy use. Being kept at 8.50 baht per kilogram by PTT, the sole supplier of CNG in Thailand, with government's compensation to PTT at 2 baht per kilogram, the price is well below company's suggested price of 14.50 baht per kilogram.

4.4 Likely future development

The growing environmental awareness among local citizens in pollution-affected areas indicates the necessity of transparent public participation for any future industrial development. In fact, it is mandated by article 67 of the 2007 Constitution. Although the secondary law to support article 67 has yet to be drafted, the recent administrative court ruling to suspend industrial investment projects with potentially severe environment impacts in Map Ta Phut industrial estate until environmental impact assessments (EIAs) have been carried out clearly sent a signal to government to place higher priority on environmental problems.

Although the level of GHG emissions of Thailand is relatively low, the growth of both total and per capita emissions is rather strong. In addition, Thailand's GHG emission intensity is among the world highest despite some initiative to curb emissions. It is likely that Thailand will have to make a binding commitment on CO2 reduction in a future international climate change protocol. The country may find it difficult to stand by the promise.

Thailand has rolled out a series of policies and measures to conserve energy and improve energy use efficiency. However, a gap between objectives or expectations of the plan and

[25] According to the energy ministry, the LPG subsidy amounted to baht 21.39 billion on an average monthly consumption of 459,000 metric tons (mt.) in 2010. This includes including 200,000 mt. in the household sector (up 9.2% year on year), 130,000 mt. as petrochemical feedstock (up 23.5%), 65,000 mt. in the industrial sector (up 31%) and 57,000 mt. as automotive fuel (up 2.1%).

[26] From an interview by the minister of energy. http://www.tnnthailand.com/news/details.php?id=24594 (accessed 13 December 2011)

its actual impacts has emerged. For example, Phrase 3 (2008-2011) of the Energy Conservation Program aimed to increase efficiency by reducing commercial energy use by 20% to 72,511 ktoe. in 2011. The latest 2010 data of energy use from EPPO was, however, 88,968 ktoe. with 8% growth from 2009. In addition, the energy intensity (ratio of energy production to GDP) of Thailand is still relatively high at 1.4, as compared to about 0.8 for developed countries (Phongpaichit, 2009b). It is likely that some other targets of energy efficiency improvement will also be missed. The government needs to strengthen monitoring systems and develop a process for assessing policy effectiveness.

Thailand's subsidies of some energy product such as diesel and LPG are burdensome, distortionary and clearly non-sustainable. The purpose of the energy fund should be to smooth out volatilities in energy price movement rather than to keep prices low for sustained periods. Artificially low prices distort the pattern of energy consumption and obscure the real urgency of the energy conservation that the government has been trying to promote. In fact, the government acknowledged this concern but the move to realign the energy price structure has been deemed politically unpopular.

5. General Evaluation

The past decade has been turbulent for the Thai economy. The country, recently recovered from the 1997 economic collapse, was engulfed by the new wave of global financial crises, rising food and energy prices, and raging domestic political conflict. The Thai economy, however, has been markedly resilient to both external and domestic shocks. The recovery from 1997 crisis was robust and inflation was kept low. In the path of recovery, Thailand underwent extensive economic restructuring especially in the financial sector. This provided a solid foundation that later helped mitigating the effect of global financial contagions. Tighter capital requirement rules and regulations have been put in place to keep NPLs low. Financial institutions have become more cautious on lending to real estate. Another asset price bubble seemed unlikely, as real estate NPLs dropped remarkably to just 2.1 percent recently.

The 1997 crisis also profoundly changed the structure of the Thai economy. The economy became even more highly export-reliant as post-crisis investment remained low. With an exception of 2005, the post 1997 current account has always been in surplus. Foreign debt as a ratio of GDP, hovering around 30-40%, has been well below the pre-crisis figure. International reserves have been on the rise and presently, the position is extremely healthy; recent figure showed that the amount of reserves is 3-4 times greater than the short-term debt.

Fiscal stance has become more expansionary as the government increased the spending on both social security and short-term stimulus program. The public budget has been in deficit for most of the last 10 years. The fiscal position is currently within the fiscal sustainability limit despite the surging public debt. However, the position provides less room for future spending and is far from reassuring, as it is increasingly vulnerable to interest rate rises.

However, the ongoing political conflict remains the looming threat to economic stability. Aggregate demand components and other key variables became more volatile in the period after 2006 when the military staged a coup. Peaceful and democratic solutions to the conflict are essential to boost confidence and reduce aggregate demand instability.

The dynamic of globalization has seen the Thai economy becoming progressively open and deeply integrated to the world economy through both trade and financial channels. Exports, which propelled the economy out of recession, were boosted by sharp depreciation of the exchange rate during the first half of 2000s. Higher integration accelerated by a proliferation of bilateral FTAs also resulted in a more diversified trading pattern and the growing trend of intra-regional trade.

However, the old export-oriented industrialization, based on relatively cheap labour is increasingly facing constraints from the dim prospect of the global demand, the increased competition from many countries catching up with Thailand, and Thailand's low technological capability. As Thailand has been in the middle-income trap for more than 20 years since 1987 (Thawornkraiwong et al, 2011), the country faces a challenge in sustaining growth and continuing to benefit from globalization.

As for financial integration, there is no shortage of volatile capital flying in and out of a small open economy like Thailand. Current account surpluses and the influx of capital inflow, particularly in the second half of 2000s, put considerable appreciation pressures on the baht. However, in order to stabilize the currency movement and accommodate export sector, the Bank of Thailand has been actively intervening its foreign exchange market and, at the same time, absorbing the excess liquidity by issuing the BOT's bond. The sterilized interventions have seen a rapid surge of both foreign reserve and bond liability and put heavy interest cost to the central bank causing a recent huge operating loss. Criticisms on BOT's loss are relatively less important than the central bank's exchange rate policy under inflation targeting. The prolonged period of low inflation had given the Bank of Thailand greater flexibility to maneuver the exchange rate. However, it is important to note that exchange rate policy should be used to smooth out short-run volatility, not as a long-run strategy.

Against the backdrop of the robust recovery and economic resilience, economic equality received less attention from the government. Despite a significant reduction of poverty, the distribution of income improved little. Thailand's Gini coefficient has stabilized over the past two decades at a level far higher than fellow ASEAN neighbours. Wage inequality, though slightly more balanced, remains very high such that the wage of the top 10 percent earners is 17 times higher than the bottom 10 percent. Wage dispersion showed ambiguous sign of improvement as higher dispersion is observed among the richer half of wage earners while wages for the poorer half of employee have become less dispersed.

The adjusted share of wages in factor income has been stable but low relative to the developed economies. While the average real wage increased gently over the past few years, the minimum wage, which is a tool to safeguard the most vulnerable and provide the basic standard of living, has not been kept up with inflation.

The overall wage policy stance up to now has been one of low wage approach. There is a growing pressure to move towards a wage policy that can redress the skewed distribution between labour and non-labour, and to reduce the high wage differential within labour.

The nation has been progressively extending the coverage of its social security system and other welfare programs. Almost all Thais are covered by some health care scheme. Coverage of other benefits such as old-age pension is not as extensive and is currently underfunded. The majority of uncovered labours are workers in the informal sector, which accounted for about two-third of the labour force.

As the benefits from development fail to “trickle down” fully to the poor, fiscal policy is the most important instrument for redistribution of income. Unfortunately, the fiscal structure is not very redistributive and urgently needs to be reformed. The main sources of tax revenue have been indirect taxes which are regressive. The ratio of tax revenue to GDP is low compared to other developed and developing countries because the (direct) personal income tax base is too small. Furthermore, other wealth-based direct taxes such as inheritance tax, asset tax, capital gain tax and land tax are not well developed or non-existent. Insufficient farmland for poor workers in the agricultural sector is the result of the extremely skewed distribution of land ownership.

Thailand has given higher priority on economic growth over environmental protection. Rapid economic growth brought about by the export-oriented industrialization policy came at the expense of various environmental degradations and ecological problems. There have been numerous cases of ecological and health damages inflicted by industrial development. In addition, the country has been affected by progressively pronounced impacts of climate change: more erratic pattern of rainfall, violent flood and prolonged drought causing difficulty in water management.

A comprehensive environmental law was enacted out in 1992 but implementation has been far below expectations. The government is weak on the environment law enforcement due to close ties between politicians in office and polluting industries. In addition, public authorities were criticized for handling environment issues without the participation of stakeholders. Public hearings and participation for projects with environmental impact is now mandated by the constitution, but secondary laws supplementing the constitution have not been drafted. Recent administrative court rulings to suspend investment projects without EIA and the growing environmental awareness from local residents in pollution-affected areas have sent a clear signal to the government to place higher priority on environmental issues.

Thailand’s contribution to global GHG emissions has been moderate but accelerating. Per capita emission has tripled in less than three decades and is now higher than some high CO2-emitting countries such as Indonesia, India and China. The country is ranked 23rd highest emission intensity economy in the world. Among the top emitters, Thailand’s growth of CO2 emission is the second fastest behind China but since the output did not expand as fast, the country has the fastest emission intensity. This reflects both the production inefficiency and unpreparedness for the low carbon economy. In the near future, Thailand may have to conform to global targets for reducing emissions, and this may be difficult given the recent record.

GHG emissions from the energy sector contributed 70% of total emissions in 2000. In 2010 around 60% of energy consumption is imported amounting to about 10% of GDP.[37] The government has recognized the importance of promoting energy efficiency and mitigating the environmental impact of GHG emitted from energy use. The Energy Conservation Promotion Act in 1992 (amended in 2007) established an Energy Conservation Fund to provide subsidies and grants for investment in energy conservation programs. The fund is financed by fees levied from the sale of fuels.

A series of Energy Conservation Programs has been rolled out. The government set up an Energy Credit and Revolving Fund to stimulate participation from the financial sector in lending to large-scale energy efficient investment projects of the private sector. Also, ESCO fund was established to motivate energy service companies, especially small and very small power producers (SPPs and VSPPs) to play more roles in renewable energy and energy conservation. The supporting activities include technical assistance, venture capital, equity

investment and R&D grants. Other incentives include cost-based tax and performance-based tax reduction.

Coherence of energy efficiency and conservation policy was weakened by the distorted energy price structure through heavy price subsidization. Many subsidies such as diesel, LPG and CNG lack solid economic rationale. Intervention should be used to remove short-run price fluctuations and to slowly adjust prices to a long-run trend. Artificially low prices are not only unsustainable; they also distort the pattern of energy consumption and obscure the real urgency of the energy conservation the government has been trying to promote. The government, however, has been reluctant to lift the price cap as the move would be politically unpopular.

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