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Vietnam: The Next Asian Tiger In the Making

- Vietnam stands out among the N-11 economies as having achieved the highest economic growth in recent years.
- Our total factor productivity analysis indicates the productivity increase has been an important source of Vietnam's economic growth, along with capital accumulation and labor input increases.
- We believe both the forces driving this productivity improvement and the growth conditions in Vietnam will likely continue, and help Vietnam fulfill its growth path.
- On the other hand, we share concerns on the potential risks, including the recent surge in inflation, and challenges in fiscal and monetary policies.
- Nevertheless, we are cautiously optimistic about Vietnam's economic growth given its solid reform path so far.

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Contents

Introduction

Among the N-11 economies[1] that we identified, Vietnam stands out as having achieved the highest economic growth in recent years. In the past five years, Vietnam is the only N-11 economy that has managed to maintain growth comparable to that of China and India. We believe Vietnam has the potential and the right combination of initial conditions and policies to follow a sustained high-growth path of the kind, exemplified by China and India.[2]

Many have compared Vietnam to China, given the similarities between the two countries, which go far beyond social and cultural aspects. To transform from a centrally-planned economy to a more market-oriented economy, both countries started with de-collectivizing land usage and adopted a gradualist approach to state-owned sector (SOE) reforms, at the same time as they opened up to foreign trade and investment. Economic transformation and liberalization was not preceded or accompanied by political liberalization. Like China, Vietnam also experienced rapid industrialization and urbanization in the wake of its reforms, and made remarkable strides in poverty reduction as incomes increased.

However, because of its smaller size, Vietnam's impact on the global economy will, barring miracles and disasters, unlikely be as large as China's (see Box 1).[3]

Yet, in our view, Vietnam is a plausible candidate to write another story of sustained growth similar to that of China.

To determine Vietnam's sustainable growth rate, we adopted the growth accounting approach to estimate total factor productivity (TFP) growth in Vietnam in 1986-2006, and evaluated the historical contribution of capital, labor and productivity to growth. Our study confirms that Vietnam's growth was not solely built on capital accumulation or labor input increases. Rather, productivity growth has been an important source of economic growth.

Based on our study, we project Vietnam's annual average real GDP to grow at 8% per annum in 2007-2020, which makes attainable the government's official target to double the level of GDP in 2000 by 2010, and again by 2020. Our forecast also suggests that the share of the contribution to growth from productivity increases will rise over time, although the capital stock accumulation will likely remain the most important contributor to GDP growth.

Our results are slightly more optimistic than the previous N-11 growth forecast, which already indicated that Vietnam could be a US$273 billion economy[4] with per capita GDP at US$2834 (2006 prices) in 2020. In 2006, Vietnam's per capita income (at US$723) was less than half that in Indonesia and the Philippines, but we expect Vietnam to surpass these two economies in per capita GDP by 2020.

[1] The Next 11 (N-11) economies (see O'Neill, Wilson, Purushothaman and Stupnytska, 2005). These countries are Bangladesh, Egypt, Indonesia, Iran, Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey and Vietnam.

[2] O'Neill, Wilson, Purushothaman and Stupnytska (2005), and Wilson and Stupnytska (2007).

[3] China's territory (9.33 million sq km) is 28 times that of Vietnam (0.325 million sq km), and its population is 15 times as large (1.3 billion in China vs. 84 million in Vietnam in 2006). Furthermore, Vietnam embarked on its reforms 10 years later than China and has yet to catch up with China's per capita income level or growth rate.

[4] In 2006 US dollars.

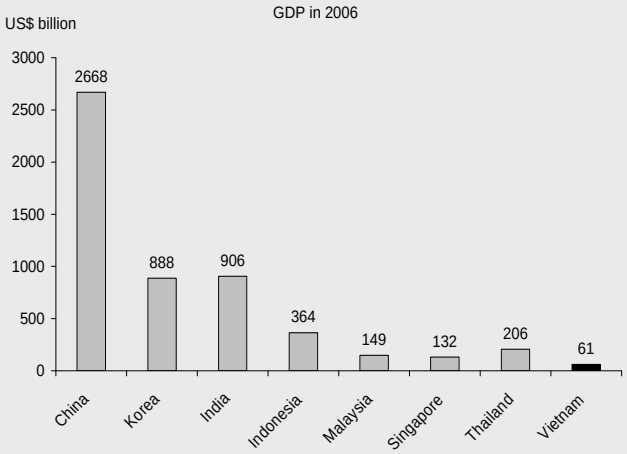
Box 1: Vietnam at a glance

Exhibit B1: Vietnam fact sheet (2006)

GDP (US$ bn)	61
GDP growth (% yoy)	8.2
CPI (avg % chg yoy)	7.5
Official budget balance (% of GDP)	-0.3
Population (million)	84
Area (sq km)	329,560
Urban population (% of total)	27.1
Projected urban ratio in 2030 (% of total)	41.8
Currency:	Vietnamese dong
Exchange rate (USD/VND):	15970
Current account (% of GDP):	-0.3
Largest export market:	U.S.
Largest importing country:	China
Major export products:	Crude oil, apparel and clothing, and footwear
Major import products	Machinery and equipment, petroleum products, and steel
WTO accession date:	January 1, 2007
FDI inflows (% of GDP):	12.4

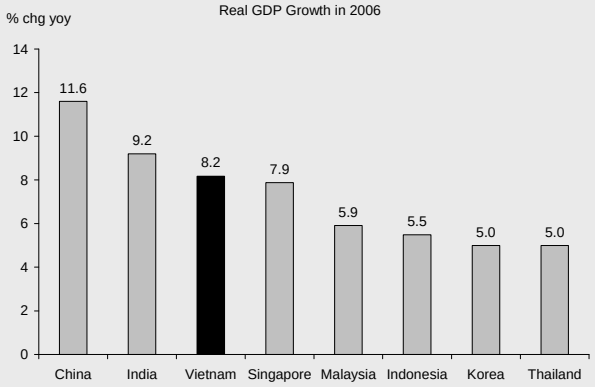
Source: IMF, UNPD, CEIC, CIA, and World Bank.

Exhibit B2: The Vietnamese economy is still relatively small in size...



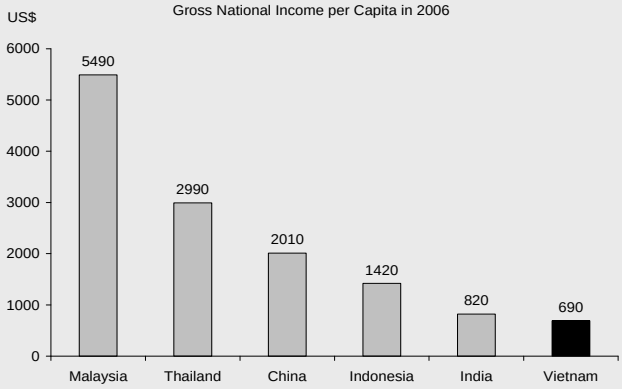
Source: WDI, World Bank.

Exhibit B3: ... but has been growing at an impressive pace



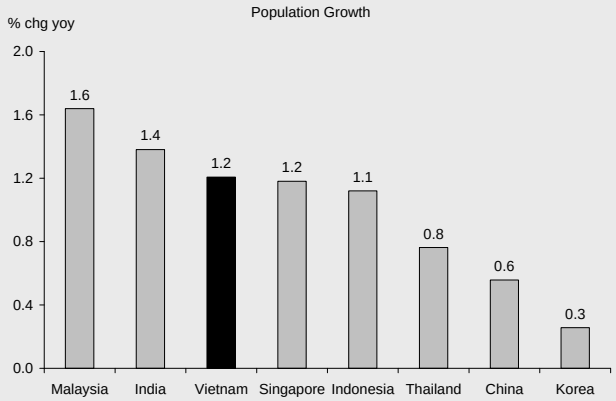
Source: WDI, World Bank.

Exhibit B4: Per capita income is still low in Vietnam



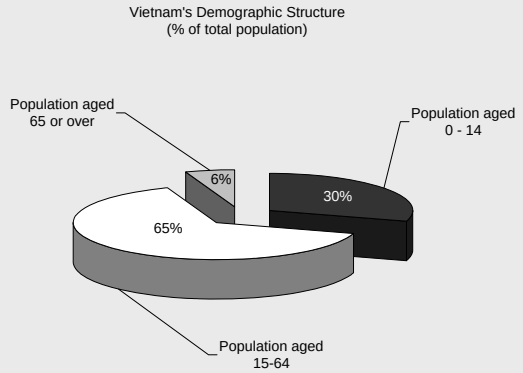
Source: WDI, World Bank.

Exhibit B5: Vietnam has a fast-growing population…



Source: WDI, World Bank.

Exhibit B6: …a large share of which is of working age

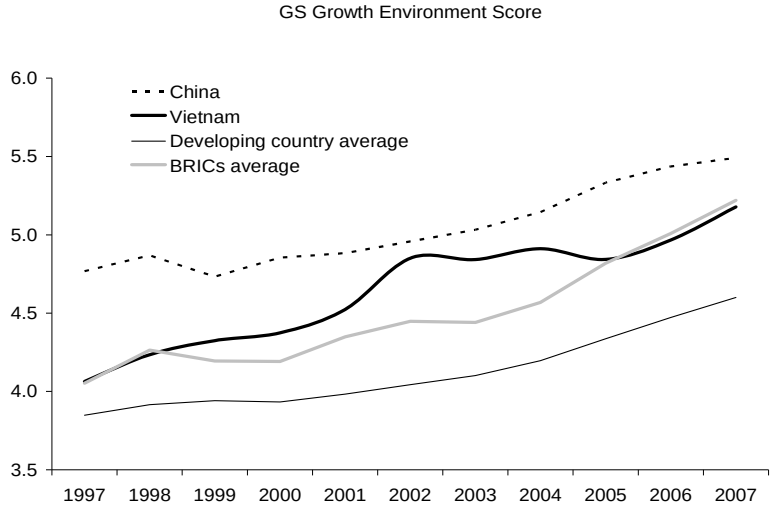


Source: United Nations Population Division.

We find the drivers of this productivity increase in Vietnam to be similar to those in China: reform dividends from privatization, improved resource allocation through industrialization and urbanization, and increased competitiveness through opening-up, all of which contributed to China's fast sustained growth. In addition, we believe these factors will continue to deliver positive catalysts for Vietnam's future growth.

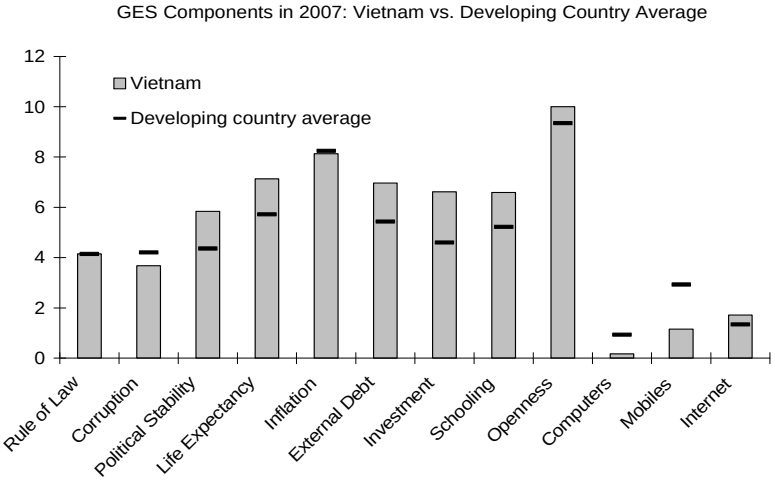
In our view, Vietnam possesses the right conditions to realize its growth potential. Our Growth Environment Score (GES),[5] which summarizes the overall environment in an economy, has confirmed that Vietnam has improved on structural conditions and policy settings, and is now a top candidate among the N-11 economies to meet its growth potential over the longer horizon (see Exhibits 1A and 1B).

Exhibit 1A: Vietnam's fast-improving growth environment conditions suggest a strong case for long-term growth



Source: Goldman Sachs Economics Research.

Exhibit 1B: Vietnam fares better than the developing country average in many GES sub-indices



* The government debt component is not available for Vietnam in 2007.

Source: Goldman Sachs Economics Research.

[5] This proprietary indicator measures macroeconomic stability, macroeconomic conditions, technological capabilities, human capital and political conditions in a country, and generates an index score for each country to measure and monitor its growth conditions over time.

With the help of the GES sub-index framework, we analyzed Vietnam's growth conditions in five broad categories: macroeconomic stability, macroeconomic conditions, technology capability, human capital and political conditions. In an internationally comparative context, we outline how these conditions have been in the past, and where they will be, potentially, in the future.

On the other hand, we share the concerns on the potential risks that could prevent Vietnam from fulfilling this growth path. The recent surge in CPI inflation has raised concerns about Vietnam's ability to maintain high economic growth with effective economic policies and at the same time bring inflation back under control. Even in the absence of policy errors and growth bottlenecks, Vietnam has to be particularly cautious of social discontent caused by uneven income distribution, corruption and environmental pollution in the mid-to-long term.

Nevertheless, we remain cautiously optimistic on Vietnam's pursuit of a sustainable growth path in the long term. If Vietnam manages to curb inflation with effective stabilization policies, we believe its strong macro fundamentals and the positive environment for stable earnings growth should point to the brighter side for Vietnamese equities driven by domestic demand growth in the long term. We also expect more foreign firms to benefit from Vietnam's increasingly important role in the cross-border production sharing network, as operations in other developing economies in the region become more expensive.

I. Vietnam's metamorphosis since *Doi Moi*

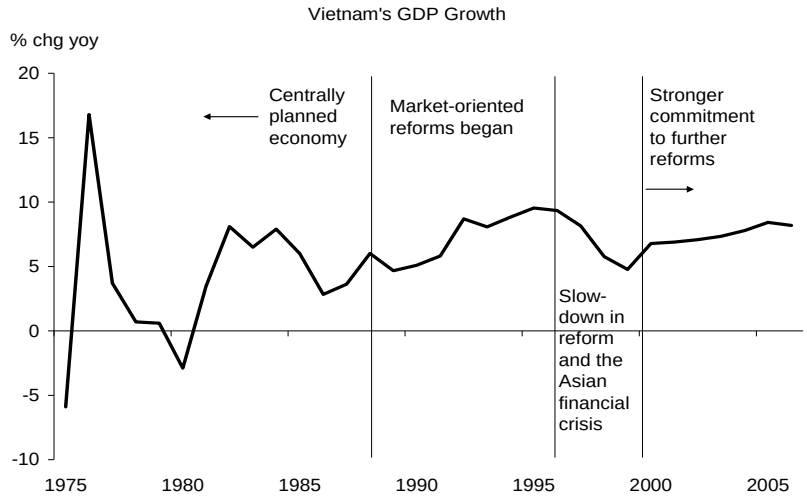
After reunification in 1975, the northern and southern economies integrated into a centrally-planned closed economy in the early 1980s. It became increasingly evident over time that policy changes had to be made to avoid any further failure in economic development in Vietnam.[6]

The beginning of economic reform was marked by the government's approval of *Doi Moi* (which means "renovation" in Vietnamese) in 1986, which officially recognized the presence and importance of a multi-ownership structure in the economy. In subsequent years, the government undertook a series of reforms to cut SOE subsidies (since late 1987), de-collectivize land use rights (in 1988), almost fully complete the price liberalization[7] (in 1989), reduce domestic trade barriers, and open up to foreign trade and investment (since late 1987). These reforms created the basic conditions for the economy to transform into a market-oriented economy in the following decade, while the government issued various investment and enterprise laws to establish the legal environment needed. The early 1990s saw clear evidence of the economic impact of the agricultural reform and recognition of private ownership in manufacturing and service sectors, as economic growth stabilized and gradually increased (see Exhibit 2).

[6] Le Dang Doanh et al (2002).

[7] Vietnam used to allow a small amount of consumer products to trade at "free market prices," while the majority of goods had to be traded at government administered prices before the 1980s. In 1981, the agricultural reform allowed farmers to trade yield above the contracted amount at market prices, and the government increased official prices to narrow the gap with market prices. In 1985, SOEs were given more autonomy to set prices. The price liberalization was mostly completed in the radical reform adopted in 1989 (Le Dang Doanh, 2002).

Exhibit 2: Vietnam has achieved rapid and stable economic growth since economic reforms began



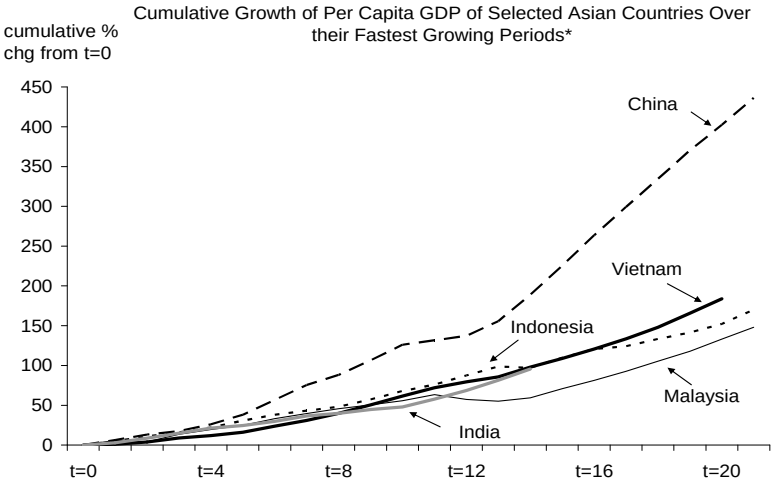
Source: CEIC, Goldman Sachs Economics Research.

In 1997-1999, the Asian financial crisis crippled many of Vietnam's neighboring economies and negatively impacted Vietnam as well. Due to the loss of export competitiveness and regional demand weakness, Vietnam's real GDP growth slowed from 9.3%yoy in 1996 to 4.8% in 1999.

After 2000, Vietnam managed to restore fast economic growth with the help of a stronger commitment to SOE reforms, fiscal incentives, the bilateral trade agreement with the US, the establishment and development of the equity market, and improvement in legal institutions for enterprise development.

Admittedly, despite Vietnam's outstanding economic success, this growth performance is not unprecedented in Asia. If we compare the growth performance of Vietnam with other economies in the region during their fastest growth periods, we find that Vietnam outperformed Indonesia, Malaysia and India, but fell behind China (see Exhibit 3) and more developed economies, such as Singapore, Korea and Taiwan.

Exhibit 3: Vietnam's growth has outperformed that of some of its ASEAN neighbors so far



Vietnam: 1986-2006, China: 1978-1999, Malaysia: 1973-1994, Indonesia: 1968-1989, India: 1992-2006.
Source: WDI, World Bank, Goldman Sachs Economics Research.

II. Productivity increase should continue to support Vietnam's growth in the future

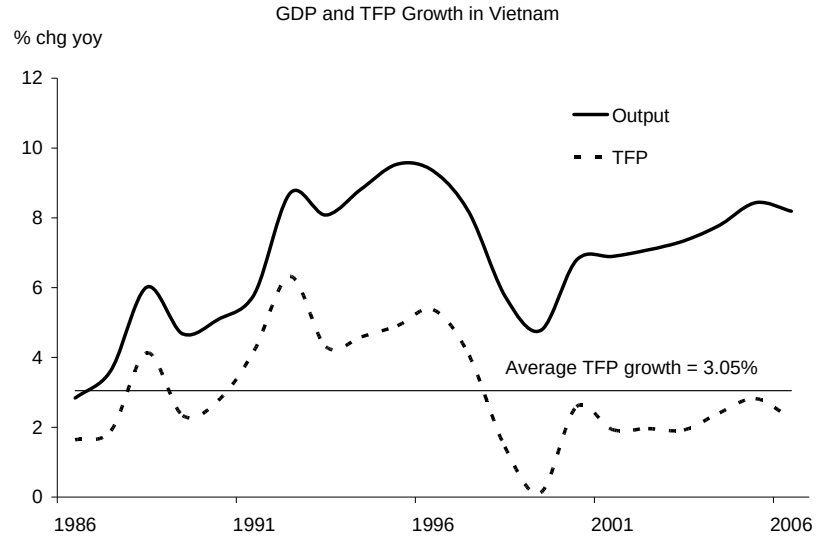
In order to join the group of economies with truly rapid and sustained growth, Vietnam will have to demonstrate the potential to maintain high productivity growth and high rates of saving and capital formation in the long term.

1. Our total factor productivity (TFP) analysis indicates that a productivity increase has been a major growth driver for Vietnam in the past 20 years.

TFP is considered a comprehensive measure of productivity gains. It accounts for output that is not caused by specified inputs (capital, land, labor, human resource, etc), but by technological changes and institutional improvements, etc. The debate over whether Vietnam's economic growth is built on capital accumulation or TFP increases has existed for some time. Previous academic work[8] found that TFP growth increased significantly in Vietnam in the 1990s and again after 2000. However, they also show that capital's contribution to output growth increased considerably throughout this period.

We have adopted the same growth accounting approach and used data for the period 1986-2006 to update the research results on growth contribution from capital, labor and TFP (see Appendix for details and description of data). Our estimation result confirms that Vietnam has enjoyed higher TFP growth in years subsequent to the market-oriented reform, with average annual TFP growth rising from 2.83% in 1986-1991 to 5.10% in 1992-1996. After that, average TFP growth was negatively affected in the post Asian financial crisis period, falling to 1.87% in 1997-1999,[9] but recovering from this dip to 2.27% in 2000-2006 (see Exhibit 4).

Exhibit 4: TFP growth has been an important source of economic growth



Source: CEIC, Goldman Sachs Economics Research.

[8] Le Dang Doah et al (2002), and Vo Tri Than and Nguyen Anh Duong (2007).

[9] The dip in productivity growth in the post-1997 period could have been partially caused by the business cycle effect. Tran Tho Dat (2004) attempted to filter this effect by deducting the capacity utilization ratio from the TFP growth estimates. Due to the decline in the capacity utilization ratio, the adjusted TFP series still shows a decline in growth in 1999, but it is much less significant than the unadjusted series (Vo Tri Thanh et al [2007]).

Our analysis also shows TFP growth has been an important source of economic growth in Vietnam. From *Doi Moi* in 1986-2006, the average annual growth rate of TFP has been 3.05%, and TFP growth contributed an average of 45% to overall GDP growth. Meanwhile, capital and labor contributed 31% and 24%, respectively.

What is unique about Vietnam's growth experience is that the contribution of productivity growth to output growth has been quite significant since the beginning of the reform. This was not true for China, where productivity only began to contribute more meaningfully to output growth almost five years after the reform initiated, or India, where productivity growth has seen a substantial leap only in the past five years. This could be because Vietnam's agricultural reform was informally introduced well before the official initiation of reforms in 1987 and 1989, and agricultural sector output accounted for a large share of total output at that time.

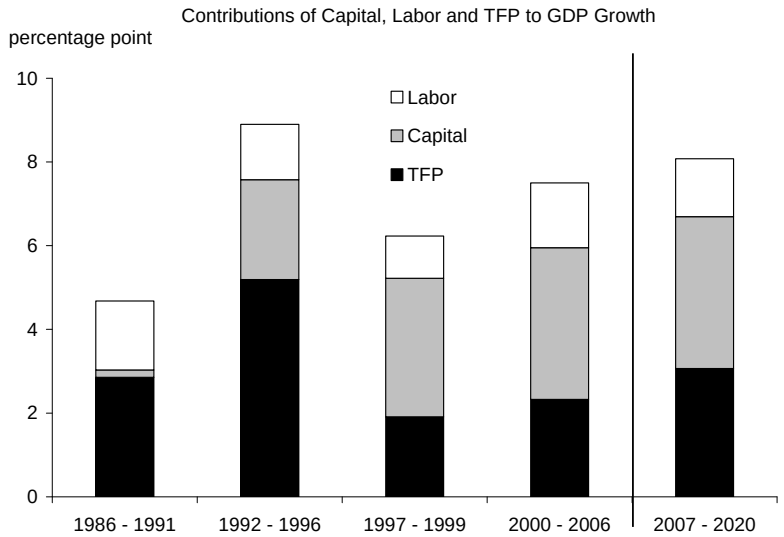
2. We forecast Vietnam's annual average real GDP growth will reach 8% yoy in 2007-2020

In order to forecast Vietnam's future growth, we made some fairly conservative assumptions on capital stock, labor and TFP growth (see Appendix for details). We assumed Vietnam will continue to accumulate capital, but in average at a slower pace than during the past five years. Our assumptions on labor and TFP growth are based on our best estimate for population, labor participation, unemployment and technological changes in the future, with no abrupt changes from their current levels.

We estimate Vietnam's annual average GDP growth to be 8% in 2007- 2020 (see Exhibit 5). Our forecast result indicates that the share of contribution from TFP growth will rise over time, while capital stock will likely remain as the most important element to output growth.

The implication of our forecast is positive: if Vietnam manages to stay on this growth path, the government's target of doubling GDP from its year-2000 level by 2010 and again by 2020 will be achievable.

Exhibit 5: We forecast average real GDP growth will reach 8% in the next 14 years with rising contribution from productivity growth



Source: CEIC, Goldman Sachs Economics Research.

In addition, despite the expected population increase in the next decade, GDP per capita will continue to grow at an average pace of 6.9%yoy, lending further support to Vietnam's poverty reduction endeavors. Compared with neighboring ASEAN economies, such a per capita income growth rate would place Vietnam ahead of Malaysia, Indonesia and Thailand during their fastest-growing periods.

III. Key drivers of productivity increase

Technological progress, especially in the form of technology transfer through FDI, has been an important driver of productivity growth. But, more importantly, we believe the productivity improvement in Vietnam should be attributed to the following structural changes in institutions:

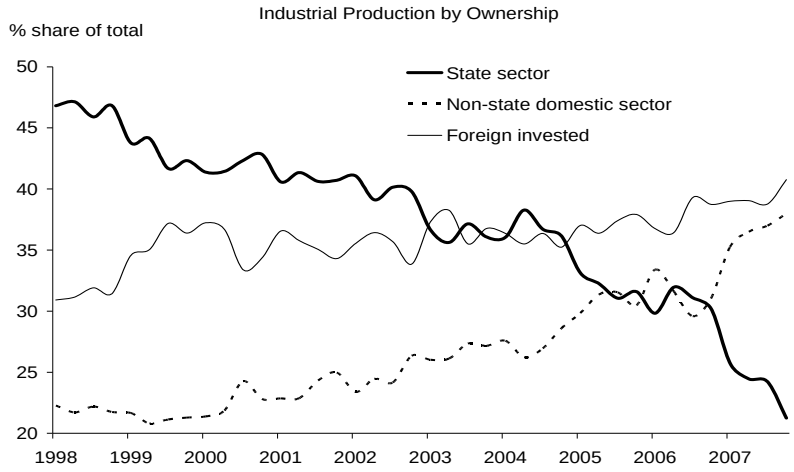
1. Distribution of reform dividends enhanced efficiency gains

In our view, the deregulation of the economy and the fundamental shift from a centrally-planned economy to a market-based economy has provided a consistent payoff in economic growth. Past experience in transitional economies suggests efficiency gains could have come from at least three sources:

- Economic and financial resources are allowed to be allocated to more productive uses.
- Private ownership provides a better incentive system to reward workers and farmers, and thus encourage them to be more productive.
- The introduction to foreign markets and foreign direct investment (FDI) encourages firms to be more innovative and competitive. In the case of Vietnam, the market mechanism introduced after *Doi Moi* allowed private and foreign-invested businesses to reduce efficiency losses caused by the state sector and spurred the overall productivity growth.

Over time, SOE reforms and land de-collectivization have brought significant changes to both urban and rural areas (see Box 2 for details). In cities, the once-dominant state sectors have gradually given way to the private sector and foreign-invested firms in terms of production and investment in the industrial and service sectors. This has been more noticeable since 2003 (see Exhibits 6 and 7).

Exhibit 6: The state sector has given way to non-state sectors in industrial production



Source: CEIC, Goldman Sachs Economics Research.

Box 2: Market reforms and land de-collectivization after *Doi Moi*

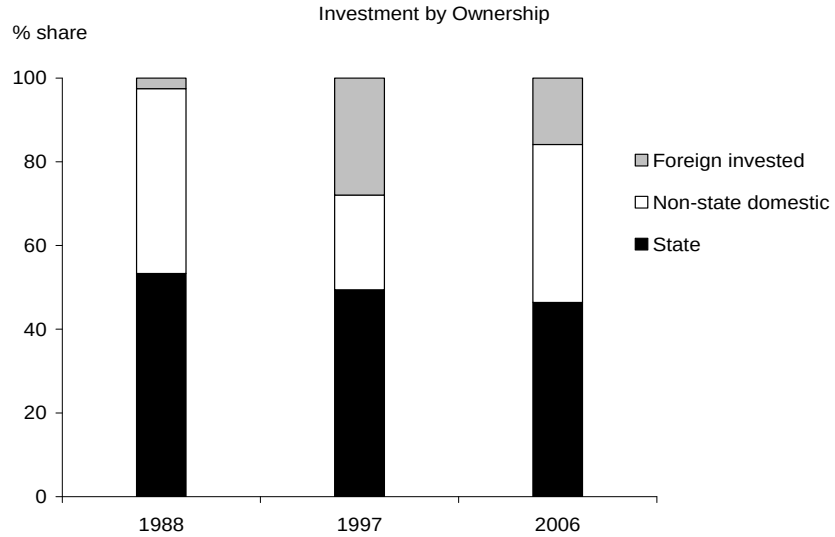
Continued expansion of the private sector has been recognized as a key driver behind Vietnam's macroeconomic success since *Doi Moi*. In the past two decades, tens of thousands of private firms have been established and have excelled in market competition to become the backbone of many industrial sectors. The private sector's accomplishments should be at least partly attributed to the market reforms that the Vietnamese government has undertaken since *Doi Moi*, which in large part resemble the transitional policies adopted in China since 1978.

After the government formally recognized the multi-component structure of the economy in 1987, it gradually relaxed restrictions on market entry and allowed market competition among SOEs and private firms. The government passed a series of laws (from the Law on Private Enterprises and Company Law in 1991 to the common Investment Law in 2005) to create and strengthen the legal framework for private investment. Under this set of new laws, about 45,000 private enterprises registered in the 1990s and 90,000 more registered between 2000 and June 2004.[i] Establishing the legal environment was perceived as the first step towards creating a more level playing field for all enterprises.

The micro reform in agriculture was first introduced through Directive 100 in 1981. It established a contract system that created new incentives for farmers and contributed to agricultural output increase in 1982–1985.[ii] In the following years, the government institutionalized long-term land use rights to farming households for land belonging to collectives and other resources through the new Land Law (1987) and Amended Law (1993). Although land remained the property of the State, farmers were given the right to make independent decisions on cultivation on allocated land and keep a large proportion (at least 40%) of the contracted farm yield and all surplus production. The scheduled privatization effectively covered four million hectares of land and almost three-quarters of the country's workforce.[iii] The de-collectivization process in Vietnam has largely emancipated productivity growth in agricultural areas and released surplus labor to work in industrial and service sectors in urban areas. But, going forward, we expect continued productivity growth in agriculture will require less uncertainty in land tenure and more flexible policies on farm size.[iv]

[i] Vo Tri Thanh (2007).
[ii] Le Dang Doanh et al (2002).
[iii] Ravallion and Dominique van de Walle (2001).
[iv] Marsh and MacAulay (2006).

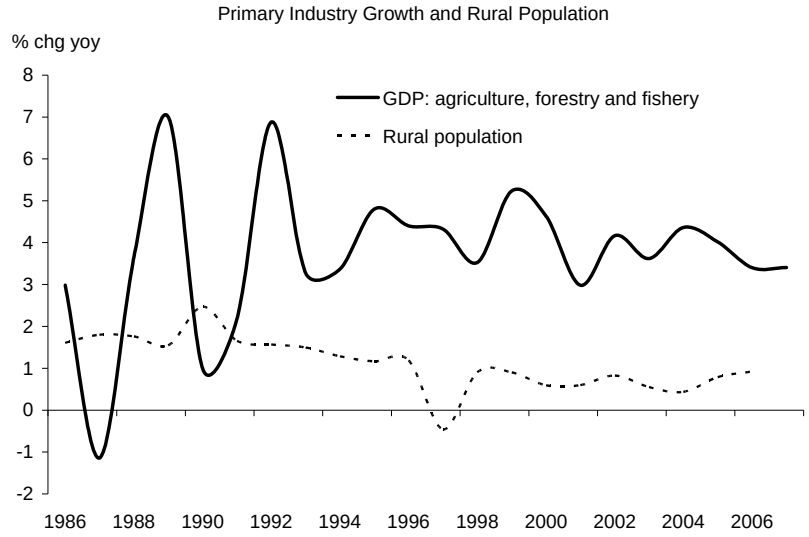
Exhibit 7: The non-state sector and foreign firms now account for more than half of the investment



Source: CEIC, Goldman Sachs Economics Research.

In rural areas, individual households were given the long-term right to use the collectives' land and other resources. For the first time, farmers could make independent decisions on what to grow on their allocated land and profit directly from their own work. Notwithstanding the large-scale migration to urban areas, which has kept rural population growth well below urban growth, primary industry output growth remains high (see Exhibit 8).

Exhibit 8: Primary industry manages to maintain fast growth despite rapid urbanization process…



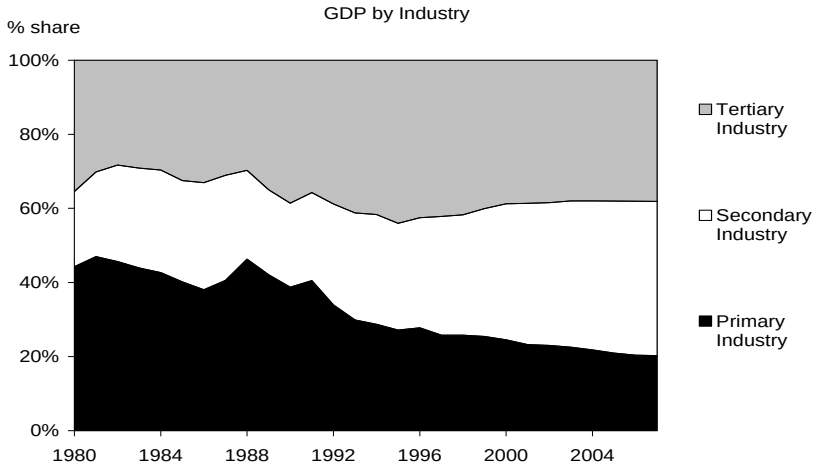
Source: CEIC, Goldman Sachs Economics Research.

2. Rapid industrialization and urbanization allocated resources to more productive uses

As Vietnam transformed into a market-based economy, its natural resources and abundant labor provided the foundation for accelerated industrialization, especially with the help of foreign capital and technology transfer through FDI. The reallocation of labor from low-productivity agriculture sector to manufacturing and service sector, especially the non-state sector, has contributed to a significant increase in overall measured productivity growth.

The expansion of industrial output accelerated visibly in the early 1990s, and again after 2000 as reforms forged ahead. As a share of GDP, industrial and construction output overtook agriculture, fishery and forestry output in 1994 and service sector output in 2003 (see Exhibit 9). By 2007, secondary industry output was more than twice as large as primary industry output.

Exhibit 9: ...while secondary industry expands visibly



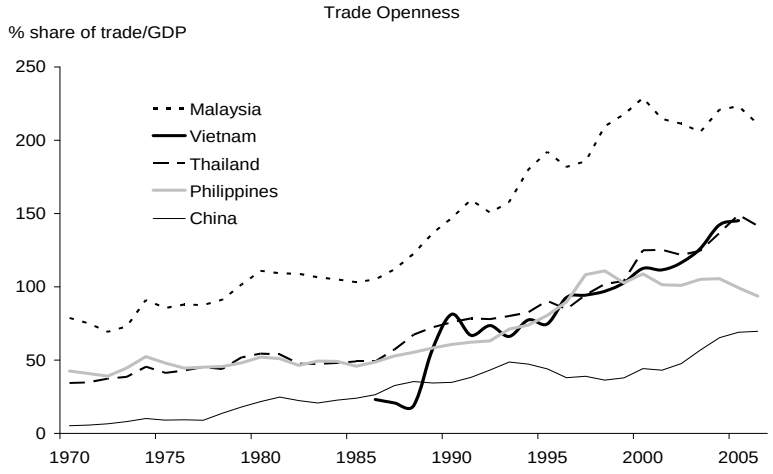
Source: CEIC, Goldman Sachs Economics Research.

In the meantime, the increase in rural migrants added to the industrial labor force. Starting from the late 1980s, Vietnam has been breaking away from the restrictive *Ho Khau*/household registration system[10] (see Box 3 for details). More than 10 million rural laborers were released from their rural domiciles to work in cities, providing abundant labor for the shift from an agriculture-dominant economy to a more industrial-based economy.

3. Opening-up policies allowed trade and foreign investment to increase firms' competitiveness

Vietnam's trade- and FDI-friendly policies since the introduction of reforms have made a noteworthy contribution to its success in export development. At the same time, the termination of the US embargo in 1992, and the enactment of the US-Vietnam bilateral trade agreement in 2000 all contributed to accelerating Vietnam's integration into the world market. Today, Vietnam is a much more open economy, with total trade (exports plus imports) growing to 145% of GDP, compared with merely 19% 20 years ago (see Exhibit 10). In global trade, Vietnam has played an increasingly important role on the margin, with its share in world trade tripling from 0.1% in 1988 to 0.3% in 2004.

Exhibit 10: A big leap in Vietnam's trade openness in the past 20 years



* Trade openness is measured as a country's exports and imports divided by its GDP in a given year.
Source: IFS, IMF.

[10] Le Thanh Sang (2004).

Box 3: The evolution of the *Ho Khau* system in Vietnam

In a centrally-planned economy, many social and legal institutions have facilitated the government's control over land, capital and resources, including the Household Registration System (or *Ho Khau*). Like the Hukou system in China, the *Ho Khau* system in Vietnam used to tie laborers to their residential areas through rationed food and limited access to housing, education and social services. No rural-urban or rural-rural migration is allowed under the strict *Ho Khau* system.

In the late 1980s, economic reforms led to price liberalization and the rise of the private sector undermined the state monopoly on housing, education and transportation, making migration to cities a viable option for many agricultural laborers. In addition, de-collectivization of agricultural land has significantly increased agricultural productivity and released rural laborers from farming work. In the meantime, the *Ho Khau* system also evolved to allow temporary residents to hold *So Tam Tru* (temporary residency registration), enabling them to reside and work in urban areas legally.

As a result, migration within Vietnam and across borders with other countries has continued to thrive. A census reported that approximately 4.5 million people (or 6.5% of the total population) changed their place of residence in 1994-1999, many of these were young, unmarried women who moved to work in labor-intensive industries.[i] More recently, policy changes in the *Ho Khau* system were made to allow long-time city dwellers to apply for permanent residency by presenting valid proof of legal housing, a stable income, and at least three years of provisional residence,[ii] and this has led to a potential elimination of the registration system and urban-rural discrimination.

Although no specific time-line was mentioned, we expect the Vietnamese government to continue to reform the *Ho Khau* system (or alternatively de-link welfare and household registration) to facilitate migration by providing the necessary social services for migrant workers and expedite the urbanization process.

[i] Dang Nguyen Anh, Cecilia Tacoli and Hoang Xuan Thanh (2003).

[ii] Viet Nam News (December 4, 2005).

IV. Conditions to keep Vietnam on this growth path

Among the N-11 economies we identified as having BRICs-like growth potential, Vietnam's GES scores have been high, and it has managed to improve its score at a faster pace than the developing country average. The GES index examines a country's structural conditions and policy settings, which can be broadly divided into five categories: macroeconomic stability, macroeconomic conditions, technology capability, human capital and political conditions. Without analyzing the details of the GES sub-components, we look at the key factors driving Vietnam's high growth in these five areas:

1. Macroeconomic stability

a) Fiscal policy and debt sustainability

Vietnam has managed to maintain a relatively prudent fiscal position despite the tendency to rely on public investment to boost growth. The annual budget deficit has increased slightly from an average of 3.5% of GDP in the 1990s to an average of 4.9% of GDP after 2000. Yet, total public debt is projected to be around 43% of GDP in 2007,[11] down from the average level of 51% in the previous 10 years. The current public debt level is still much higher than China's level at 14.5% in 2007, but we consider it to be within manageable limits, given the pace of the increase in fiscal revenue and the government's financing capabilities.

[11] World Bank (2007).

So far, the Ministry of Finance has steered clear of excessive borrowing, whereas it will likely face increasing pressure to raise public-sector wages, making it more difficult for budget control.

b) Inflation

Vietnam has managed to bring down inflation from elevated levels after the 1980s and has kept it within a manageable range for most of the time since 1996. As official prices were aligned towards market prices in the 1980s, Vietnam's CPI inflation rose to several hundred percent per year. In 1989, a stabilization program enacted policy measures—such as increasing the nominal deposit interest rate to keep the real interest rate positive, reducing monetary financing of the budget deficit and changing the exchange rate—which helped lower inflation, first to double-digit and then to single-digit levels in the early 1990s (see Exhibit 11). Bringing inflation back under control was considered one of the most impressive successes in the early days of reform in Vietnam.[12]

Exhibit 11: Vietnam has managed to stay away from hyper inflation since the mid-1990s

Source: CEIC, Goldman Sachs Economics Research.

In 1994–1995, inflationary pressures reappeared due to food supply shocks, buoyant public investment and monetary expansion, but eased off after the government intervened via the stabilizing fund.[13] After 1995, inflation was kept at manageable levels for 12 years, before surprising on the upside again towards the end of 2007. In the near term, inflation could pose a serious challenge to economic policies and weigh on the growth outlook (see section V for details).

[12] Le Dang Doanh et al (2002).

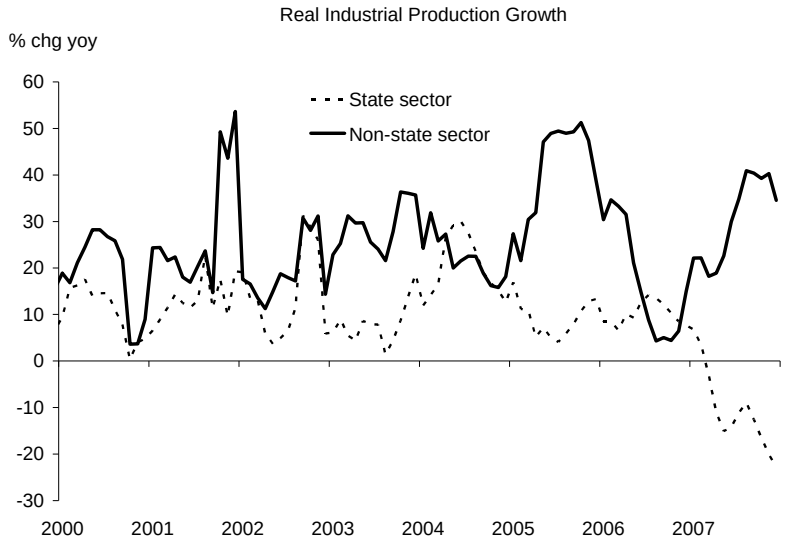
[13] Nguyen Tri Hung (1999).

2. Macroeconomic conditions

a) Further SOE reforms to increase efficiency

Since the market mechanism was established, SOEs have declined relative to private or foreign-invested industrial firms. In recent years, it has become clear that industrial production in the non-state sector has started to grow much faster than the state sector (see Exhibit 12). This is because: i) private firms have greater flexibility and competitiveness; and ii) the SOEs gradually exited many important industrial areas.

Exhibit 12: Industrial production in the non-state sector has overtaken that of the state sector by an increasingly large margin



Source: CEIC, Goldman Sachs Economics Research.

Since 2002, the SOE reforms have mainly taken the form of partial privatization by publicly listing part of the SOE assets, while the state remains as the largest shareholder. This process began with small and medium sized SOEs and accelerated to reach large SOEs in 2005. In the next few years, a greater number of SOEs, including some in key industrial areas, are scheduled to be equitized.

The government perceives the continuation and completion of SOE reforms as a necessary step to improve resource allocation, which also receives extensive public support. Therefore, although the equitization process may take longer than expected to complete depending on the changes in market conditions, it will unlikely be reversed, which implies a potential distribution of reform dividends in the future.

b) Deeper integration into the world economy

Thanks to the opening-up policy adopted at an early stage of economic development, the once-isolated Vietnamese economy became one of the most open economies and the sixth most popular FDI destination in the world in 2007. Following its WTO accession on January 1, 2007, Vietnam will most likely integrate further into the world economy with deepened trade and investment ties. Previous studies have shown that WTO accession is likely to bring a substantial welfare gain through better market access, as well as the recourse to improved policy instruments and institutions.[14] For Vietnam, more liberalized access to foreign capital and markets after WTO will likely increase domestic firms' competitiveness further and expedite Vietnam's transformation into a market economy.

Like most emerging market economies, Vietnam has so far been more prepared to conduct inter-industry trade (based on factor endowment differences) than intra-industry trade. More specifically, Vietnam exports industrial inputs and labor-intensive manufactured products, and imports capital-intensive or technology-intensive goods.

This is likely to change soon as Vietnam climbs up the value chain and becomes an integral part of the East Asian production sharing network. Geographical proximity and similar demand and supply structure have enabled many of Vietnam's neighboring economies to become partners in cross-border production networks. Once Vietnam is equipped with a sophisticated infrastructure base, more capital-intensive equipment investment and adequate skilled labor, it will have the potential to stimulate intra-industry trade growth significantly within the region.

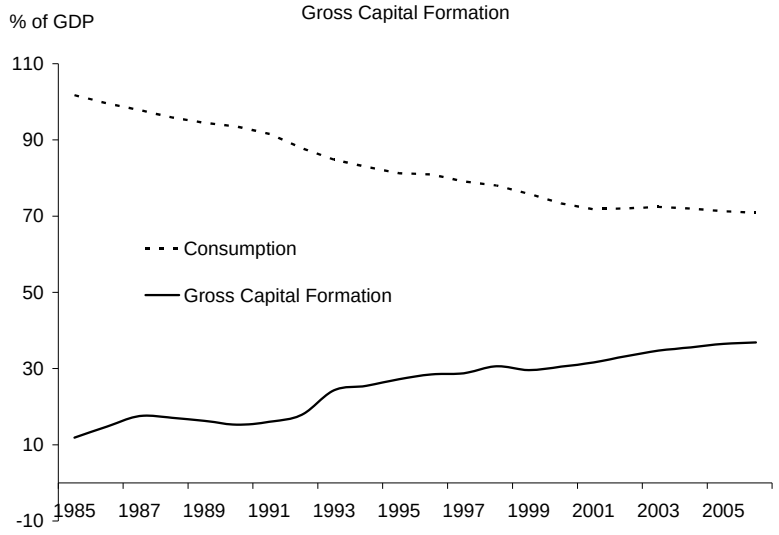
As Vietnam opened up to the world, it also benefited from a booming tourism industry. Vietnam's rich natural landscape, diverse ecology and multi-ethnic culture have attracted foreign visitors as well as Vietnamese people living overseas, especially after the tourism infrastructure was improved, and private-sector and FDI participation in this industry flourished. In 2007, 2.6 million international tourists visited Vietnam, almost 26% up from the record in 2006. Going forward, Vietnam can expect the tourism industry to continue to provide employment opportunities in services, promote domestic consumption and attract more FDI projects, as it learns from the experience of other countries (such as Thailand) in the development of tourism.

c) More investment for industrialization and urbanization

Investment has become a more dominant driver of Vietnam's economic growth since the mid- 1990s. In the past 20 years, the investment-to-GDP ratio more than doubled from 18% in 1987 to 37% in 2006 (see Exhibit 13). Some observers believe the fast investment growth will likely be unsustainable in the future as the economy expands. We have a different view. We believe Vietnam is still at an early stage of its economic development and will require substantially more capital to help with its urbanization and industrialization processes.

[14] Bacchetta and Drabek (2002) and Yang (1999).

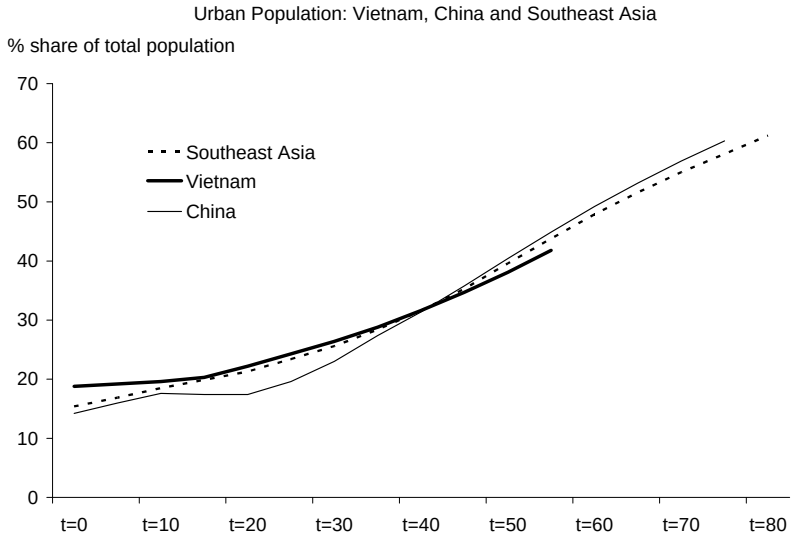
Exhibit 13: Investment has become a more dominant driver of Vietnam's economic growth since the mid-1990s



Source: CEIC, Goldman Sachs Economics Research.

First of all, the urbanization process will require substantial infrastructure construction as well as residential investment as urban areas expand and rural areas transform into suburbs of cities. According to United Nations Population Division (UNPD) estimates, Vietnam's urban population will likely continue to increase by another 15 percentage points (ppt) by 2030, which still leaves plenty of room for Vietnam to catch up with China and other economies in the region (see Exhibit 14). To provide enough production equipment, housing and infrastructure for these migrants to live and work in the cities, Vietnam will have to invest much more in urban areas in the next 20 years.

Exhibit 14: More "catch-up" remaining for the urbanization play in Vietnam



Note: Vietnam 1975–2030, China: 1955–2025, and Southeast Asia: 1950–2050.
Source: United Nations Population Division.

So far, Vietnam has managed to provide abundant laborers to the industrial and service sectors by mobilizing migrant workers from rural areas to work and live temporarily around the cities. This will probably change soon as more factories are set up in areas further away from the largest cities to cut costs; this would require more investment away from the metropolitan areas and incidentally expedite the urbanization process.

From a cross-country comparison perspective, Vietnam also has to invest more to make up for its insufficient capital stock. After more than a decade of fast investment growth, the current per-capita capital stock level in Vietnam corresponds to that of China in 1996. It suggests Vietnam will likely have to accumulate more capital on a per-capita basis as it moves towards becoming a developed economy (see Exhibit 15).

Exhibit 15: Vietnam has to invest more to catch up

(Capital stock in 2004, current price)

	Capital Stock/GDP	Capital stock per capita (USD)
US	2.9	152,357
Japan	4.4	158,352
China	2.5	3,751
Vietnam	2.7	1,484
India	2.2	1,282

Source: Nehru, Vikram and Ashok Dhareshwar, 1993, Goldman Sachs update, A New Database on Physical Capital Stock: Sources, Methodology and Results, the World Bank, CEIC, Goldman Sachs Economics Research.

Many have argued against investment growth sustainability by referring to decreasing investment efficiency in Vietnam. We agree it is important to monitor how much output each additional unit of investment brings to a fast-growing economy. However, in our view, Vietnam may not see a decline in the marginal investment required for an additional unit of output (measured by the incremental-capital-output ratio, i.e., ICOR), due to its rapid capital deepening process.

It is true that both Vietnam's gross ICOR[15] and net ICOR[16] have risen notably from their levels in the 1990s, but both levels are within reasonable range if compared with that in China or other emerging market economies in the region. In 2006, Vietnam's gross ICOR was estimated to be 4.5 and net ICOR 3.2, slightly lower than China's (gross ICOR: 4.9 and net ICOR: 3.6) in the same year. Our earlier study[17] has shown that newly industrialized economies (such as Korea, Singapore, Malaysia and Taiwan) have fluctuating ICORs that ranged between 4 and 10 in 1980–2004. Fluctuations in ICORs do not necessarily represent deep structural changes, as they also incorporate information on economic structural and institutional changes, and short-run adjustment to shocks.

[15] Gross ICOR = Investment/GDP change (in comparable price terms).

[16] Net ICOR = Capital stock formation change/GDP change (in comparable price terms).

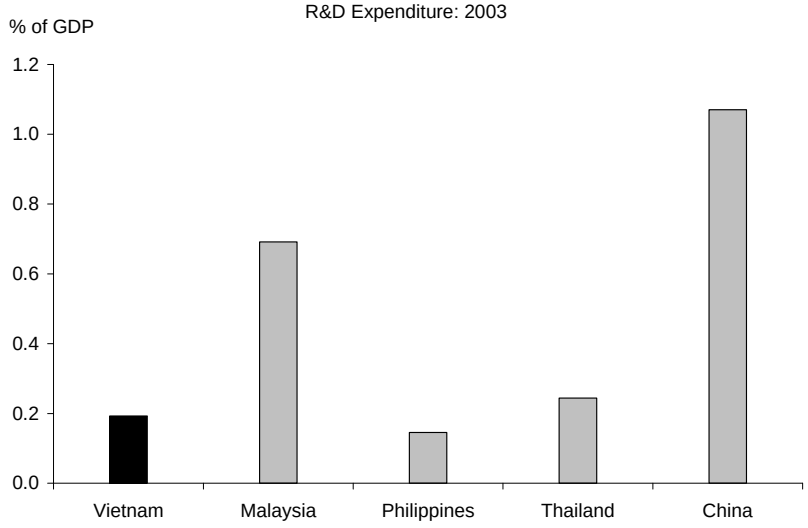
[17] Hong Liang (2006).

3. Technology capability

Technology transfer through FDI and domestic adaptation and assimilation have all contributed to technological progress in Vietnam, and we expect this to continue into the future, as Vietnam plays a more important role in the global production network. In addition, Vietnam's relatively late start in industrialization coincided with more recent technological development, which has led to a rapid increase of Vietnam's technology capability at low costs. For example, the technology variables we use in our GES include penetration of personal computers and the use of the internet. The costs of these applications are much lower when Vietnam develops them than when they first appeared as cutting-edge technology years ago.

Thus far, Vietnam's research and development (R&D) expenditure as a share of output still lags that of many other countries in the region (see Exhibit 16). However, although we accept that R&D expenses tend to be higher in developed economies and Vietnam could be on the way there, we still believe it is vital for Vietnam to seek technological progress through innovation, especially to prepare for a time when reform dividends from privatization diminish.

Exhibit 16: Vietnam has to increase R&D expenditure to boost future productivity growth

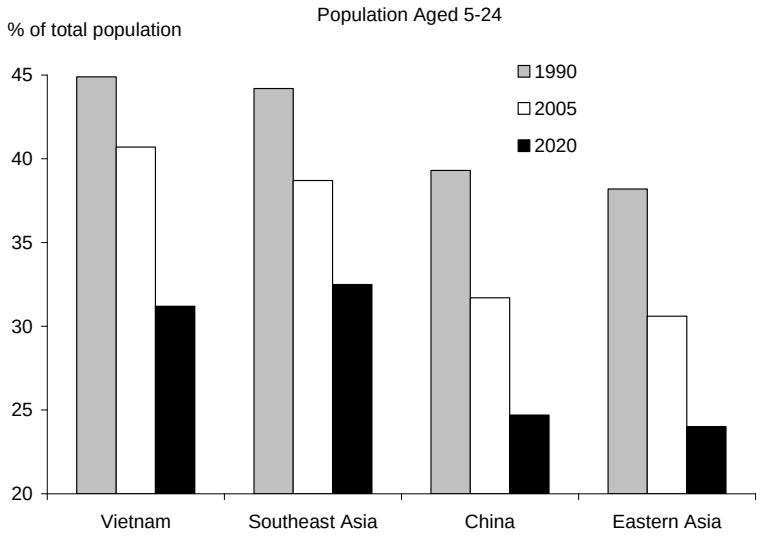


Source: UNESCO.

4. Human capital

Vietnam has more demographic advantages than the ageing East Asian economies. First, in the past 10 years, Vietnam's annual average population growth was 1.41%, which is faster than East Asian and Southeast Asian population growth rates (at 0.74% and 1.48% respectively). Second, Vietnam has a much younger population structure than China and East Asia (see Exhibit 17). More than 40% of the population was aged 5-24 as of 2005, and they will likely become the core labor force in coming years.

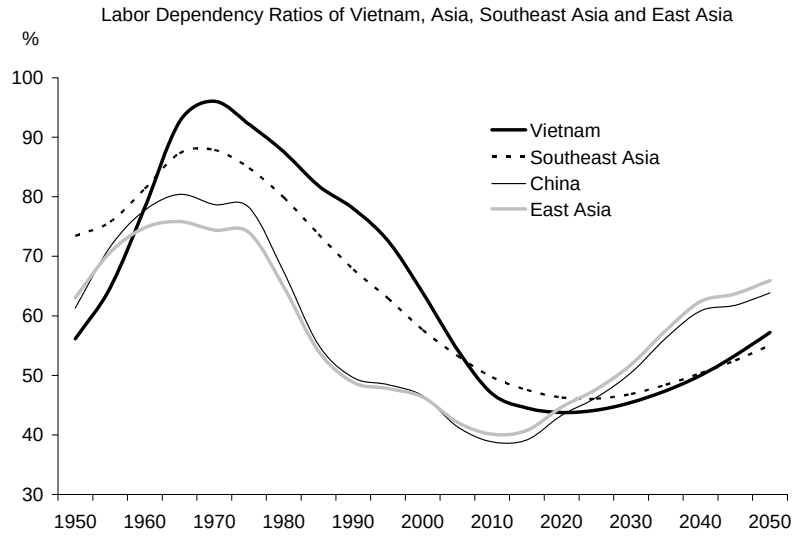
Exhibit 17: Vietnam has a higher proportion of young people than East Asian countries



Source: United Nations Population Division.

A vigorously growing young population suggests continued delivery of the demographic bonus for a sustained period of time. From the early 1970s till now, Vietnam has benefited from strong labor force growth. The gains from this demographic bonus are expected to last for another 20 years, until Vietnam's dependency ratio rises more substantially after 2030. According to the UN Population Division's forecast, this shift from demographic bonus to deficit will occur in Vietnam almost 15 years later than in China (see Exhibit 18).

Exhibit 18: Vietnam will continue to enjoy a demographic bonus in the next decade



Note: Labor Dependency Ratio is calculated as the young (aged 0–14) and senior (aged 65 and above) divided by the economically active population (aged 15–64).

Source: United Nations Population Division.

On the other hand, if Vietnam can do more to enhance laborers' training and education, it will not only relieve the pressing shortage in skilled labor but also help accumulate human capital needed for future growth. Admittedly, the educational attainment of the labor force in Vietnam has continued to rise since the late 1980s. However, in a regional context, Vietnam's gross enrollment ratios still lag behind the regional average on most counts (see Exhibit 19). We see more improvement opportunities for the government to provide subsidized education, especially for girls and in the minority areas in the mountains.[18]

Exhibit 19: Vietnam has to accumulate more human capital to catch up with its neighbors

Gross enrolment ratio: 2003

	Primary	Lower secondary	Upper secondary	All levels combined (except pre-primary)
Vietnam	**99**	**85**	**52**	**63**
Indonesia	114	77	45	66
Malaysia	97	96	52	72
Philippines	112	89	66	81
Thailand	108	83	55	74
China	115	97	42	68

Source: UNESCO.

5. Political conditions

The Vietnamese government receives wide support for its economic reform agenda. Most Vietnamese today believe it is important to maintain high income growth as well as a stable political environment that nurtures it. The government recognized their demand and embraces unwavering reform measures to promote economic growth. Therefore, despite some sporadic anti-government demonstrations, we believe the risks for widespread social unrest remain low.[19]

Lastly, Vietnam also has the "late-mover advantage" over China and other more developed East Asian economies in the region in the sense that it can learn from their experience. Although it is unlikely to predict whether these economies will continue to do well in the next 20 years, Vietnam certainly has the advantage of being a follower, and will be able to learn both from their achievements and from the pitfalls they have experienced.

V. Potential risks on the horizon

We have summarized the drivers and conditions for growth in Vietnam. However, certain risks, especially in the macroeconomic stability area, could potentially throw Vietnam off this growth path and steer the economic growth in a downward direction. Since the consequences of mismanaging any of the following issues could be severe, we believe each warrants careful examination.

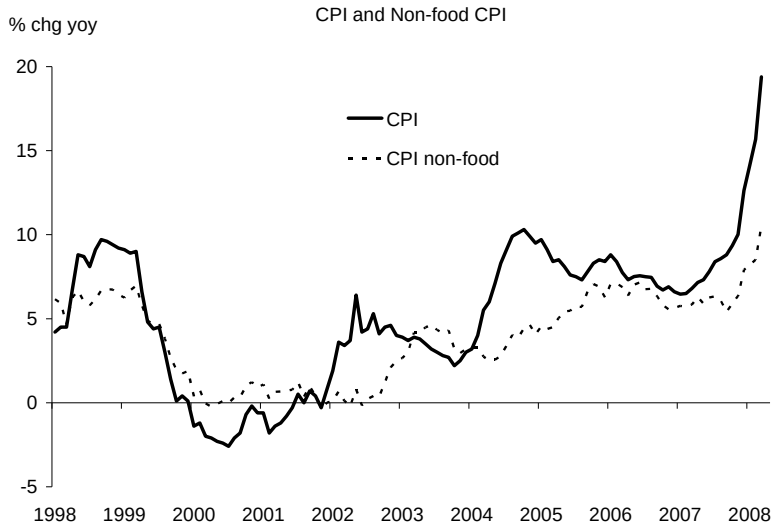
[18] Do Thi Bich Loan (undated).

[19] EIU (2007).

1. Inflation risk in the near term

Towards the end of 2007, CPI inflation in Vietnam rose to a level not seen since 1995 (see Exhibit 20). The inflation surge was caused by a sharp increase in food prices, which coincided with a rise in food and fuel prices in global commodity markets. But shortly afterwards, in early 2008, inflationary pressures fed through into widespread non-food prices, such as housing & house maintenance, and transportation costs.

Exhibit 20: CPI inflation has risen to a 12-year high



Source: CEIC, Goldman Sachs Economics Research.

Although internationally tradable goods contributed to this rise in inflation, we think the recent domestic credit expansion was the main cause of high inflation levels in Vietnam. Data collected by the IMF[20] showed a substantial acceleration in outstanding domestic credit growth from slightly above 20% in 1Q2006 to 50% in 4Q2007. The rapid credit expansion was partly due to aggressive business development by joint-stock banks since 2006, and partly due to commercial banks' efforts to increase total outstanding loans to dilute their lending against security collateral so as to meet the 3% requirement set by the State Bank of Vietnam in late 2007.[21]

As a result of the monetary expansion, domestic demand continued to strengthen, evidenced by a higher infrastructure utilization rate, power shortages, a tighter labor market and wider current account deficits. According to a SBV preliminary estimate, Vietnam's current account deficit may have reached about 10% of GDP in 2007. In 1Q2008, the external imbalance deteriorated further, posting a trade deficit of US$7.36 billion, almost four times as large as that for 1Q2007 (US$1.93 billion).

[20] IMF (2008). The State Bank of Vietnam has not published updated monthly (or quarterly) money supply or credit data for 2007.

[21] The State Bank of Vietnam recently revised this requirement so that all commercial banks are allowed to lend against stock collateral up to no more than 20% of the banks' chartered capital in Feb 2008.

In the short term, the rise in inflation could jeopardize real growth in Vietnam, as is the tendency in emerging market economies.[22] Experience from other countries as well as from Vietnam's own past suggests uncertainties arising from unanchored inflation expectations could disrupt normal production and consumption practices, and depress investment, thus lowering growth. As CPI inflation moved into double-digit territory, the government accepted that it will be difficult to achieve its initial growth target of 8.5%–9% for this year.[23] In addition, the inflation control measures the government plans to introduce[24] will likely ease growth momentum in domestic demand in the near term, while supporting the growth outlook in the long run.[25]

After the periods of hyper-inflation in the 1980s, we believe the Vietnamese government will be determined to rein in inflation. Over the past three months, the policy balance between controlling inflation and promoting growth has clearly tilted towards the former. That said, stabilizing inflation is more challenging in a more open economy nowadays than before, as we show in the following section. On balance, we think the government should manage to maintain macroeconomic stability, as long as it continues to prioritize inflation control over growth until inflation falls to a manageable level.

2. The Vietnamese government's ability to maintain fiscal discipline will be tested

Vietnam has benefited from a prudent fiscal budget and manageable debt levels so far, but due to increasing inflationary pressure in the past year, fiscal consolidation will likely be a favorable policy option to help cyclical management and maintain long-term fiscal balance in the next few years (see Box 4).

The potential gains from a prudent fiscal stance on stable economic growth are apparent, especially at a time when inflationary pressures have built up to a level unprecedented in the past 12 years. However, whether the authorities will be able to keep fiscal expenditures under control during a cyclical boom remains to be seen.

3. Monetary policy is key to cyclical management

On the back of increasing inflationary pressures, the effectiveness of monetary policy has been challenged, especially when fiscal policy is still pro-cyclical.

The test on the central bank has become critical since the buoyant performance of Vietnam's equity market attracted more capital inflows in 2H2006 – 1H2007, which left an excessive liquidity overhang in the domestic monetary system. Monetary tightening through interest rate hikes, reserve requirement ratio hikes, and central bank bond issuances are the few measures left in the government's toolbox to absorb liquidity and bring inflation back under control (see Box 5).

[22] Easterly (1996) found consistent cross-time and cross-sample evidence showing that negative per capita growth occurred before and during the peak of the high inflation.

[23] Reuters report, March 26, 2008.

[24] The government has put forward a seven-point plan for inflation control, which includes tighter monetary policy, a reduction in public expenditure and investment, facilitating food production and processing, exports control to ensure the supply of essential goods, incentives for savings in production and consumption, market management to avoid speculation, and provision of subsidies to the poor (Viet Nam News, March 31, 2008).

[25] Easterly (1996) shows growth improved as early as in the first year of inflation decline after the peak and accelerated to high positive growth thereafter.

Box 4: Fiscal consolidation in an inflationary environment

According to an IMF study on emerging market economies,[i] high fiscal deficits generally lead to higher inflation in the long run, as governments tend to use seignorage to finance them. In addition, the central bank often responds to inflation with tighter monetary policies, which push up nominal and real interest rates and thus the cost of financing domestic currency-denominated government debt. Therefore, considering the need to curb inflation and to coordinate with monetary tightening, international agencies have encouraged the authorities to tighten fiscal policy by reducing expenditure.[ii]

However, this task has turned out to be challenging in practice. First, Vietnam has to eliminate the minimum wage gap between domestic and foreign sectors by 2010 as part of its international commitment on the WTO's national treatment principle.[iii] To fulfill this target, the government has increased the domestic sector minimum wage by 214% (or 168% in real terms) since 2003. Since domestic civil servant wages are linked to the domestic-sector minimum wage, the government had to pay a larger wage check, which accounted for about 16%-17% of budgeted expenditure in 2005-2006.[iv] Further plans for minimum wage rises were placed on hold in October 2007 because of inflation concerns, but will likely return to the government's agenda soon if inflation comes under control.

Second, even during the current episode of cyclical boom, the government still seems to have the tendency to use revenue windfalls on new investment projects to remove infrastructure bottlenecks and boost growth, while ignoring the impact of strengthening aggregate demand on inflation.[v] The government's recent revenue gain from oil and land resources was largely offset by increased government funding of SOEs through sovereign bond issuance. We therefore see room for fiscal policy to be more countercyclical.

[i] IMF (2001).

[ii] Achieving lower deficits through cutting expenditure rather than raising taxes has the merit of not involving institutional changes in taxes and thus is more suitable for cyclical adjustment. In addition, it is probably more efficient to allow private firms to make investment decisions rather than public investment, given that public investment tends to have a lower rate of return than private investment in Vietnam.

[iii] World Bank (2007).

[iv] World Bank (2007).

[v] IMF (2007).

Box 5: Vietnam's monetary policy measures and exchange rate regime

1) Interest rates:

After the liberalization of deposit and lending interest rates, the State Bank of Vietnam (SBV) only intervenes through the prime rate, rediscount rate and refinance rate.[i] However, due to market expectations on the VND appreciation, the central bank is constrained on further interest rate hikes for fear they may attract more hot money inflows and exacerbate the liquidity problem.

2) Open market operations and reserve requirement ratio:

The State Bank of Vietnam has the right to use repo/reverse repo, central bank bond issuance/retirement and reserve requirement ratio adjustment to absorb or inject liquidity into the banking system. In addition, the central bank once enacted a suspension of foreign exchange activities in non-current account transactions to prevent further liquidity injection through capital inflows in late 2007. Other non-conventional sterilization measures include issuance of short-term deposit certificates (in late 2007) and involuntary issuance of promissory notes to commercial banks (in March 2008).

3) Credit control:

The monetary authority has no direct control over commercial banks' loan extensions (except through regulations on loans in specific categories such as equities).

[i] The State Bank of Vietnam invoked a deposit rate cap in February 2008 of 12% p.a. for commercial banks. However, this measure was adopted to prevent excessive competition among commercial banks on bidding up deposit rates, not as a traditional monetary policy measure to adjust the level of deposit rates.

Box 5: Vietnam's monetary policy measures and exchange rate regime…continued

4) Exchange rate regime:

The SBV officially maintains a managed floating exchange rate, but this regime is classified by the IMF as a conventional de facto fixed peg, based on the fact that the VND has depreciated against the USD at a less-than-2%-per-year pace since 2003, with a daily trading band capped at +/-1%.

Since December 2007, the VND has been allowed to appreciate against the USD at approximately 0.4% per month, possibly reflecting the shift of the central bank's desire to use currency appreciation to help dampen inflationary pressures. The market had widely expected the monetary authorities to allow a faster VND appreciation to curb inflationary pressures. However, the VND depreciated against the dollar by 1.8% shortly after the SBV reopened the foreign exchange counter to buy dollars on March 25. The depreciation of the VND can be partly attributed to the growing demand for the USD from rising imports and partly to expectations that the central bank may have to hold down the value of the VND to bolster export growth.

So far, the combination of tightening measures adopted by the SBV has left nominal interest rates in Vietnam higher than before, but real deposit interest rates remain negative (with the nominal rate capped at 12% p.a. and CPI inflation running at up to 19.4%yoy in March 2008). Owing to data limitations, the impact of these measures on money supply growth remains unclear. However, a recent IMF survey shows that Vietnam's domestic credit growth is almost 50% in 4Q2007 compared to the SBV's annual target of 17 – 21% yoy for 2007.[26] In addition, World Bank reported Vietnam's monetary growth in 2007 was 47%.[27] In our view, it suggests the central bank will have to tighten monetary policy further to regain monetary control, especially if it cannot allow any VND appreciation, to curb inflationary pressures.

The Vietnamese central bank's battle against inflation confirms it is increasingly difficult to maintain monetary control in a more open economy, a problem shared by many of Vietnam's neighbors, including China. In the context of higher energy and food prices globally, emerging market economies with managed exchange rate regimes will likely find it a Herculean task to repress the short-term inflationary pressures created by foreign exchange intervention.

4. Macroeconomic conditions may meet new challenges

In addition to policy pitfalls, Vietnam could potentially encounter constraints as the result of fast economic growth. Some further overheating could trigger supply-side bottlenecks in roads, ports and power generators, etc. Successful stories of export-oriented manufacturers will likely become more and more difficult to replicate due to increasing raw material costs and a lack of skilled and managerial labor.

With exports accounting for 68% of total GDP and strong import demand, Vietnam needs to guard against any adverse impact from excessive reliance on trade and foreign capital. At a relatively early development stage, Vietnam has already faced increasing foreign protectionism, which is much earlier than China, Korea and Japan did. In addition, with a more liberalized capital account, Vietnam is also subject to volatilities caused by cross-border capital movements.

[26] IMF (2008).

[27] World Bank (2008).

5. New sources of social discontent could emerge

Although we deem the risks of political unrest to be low given the widespread public support for the government's economic reforms, we see potential sources of social discontent emerging from increasing income inequality, rising corruption concerns and growing tension between environmental constraints and industrialization demands.

In contrast to the conventional perception that socialist countries should see little difference in individual incomes, Vietnam has seen an increasing gap between the 'haves' and 'have-nots'. The gini coefficient saw a significant increase from 35.6 in 1995 to 40.7 around 1999, and asset inflation in recent years has probably stretched the income gap even wider.[28] What is concerning is the fact that Vietnam has reached the same inequality level as China (China's gini coefficient around 1999 was 40.4) at a time when its per capita income level is much lower than China's.

Wealth accumulated by corrupt officials who have abused their power has fuelled the animosity against the rich. The current party leadership initiated an anti-corruption campaign in April 2006 and dismissed a few tainted officials to demonstrate their grave concerns about this issue. Nevertheless, it will probably take more than a one-time campaign and more severe punishment to reduce public discontent in the longer term.

Rapid industrialization and urbanization is testing the boundaries of Vietnam's environmental capacity, especially in the vicinity of large cities such as Hanoi and Ho Chi Minh City. Some small-scale protests against potential pollution from new factories and the elimination of green space have been organized. Until the government tightens the environmental protection code and implements it rigorously, the battle over resources between industrial usage and civil consumption will likely continue.

VI. Market implications of Vietnam's economic success

We believe Vietnam has the growth potential and conditions to produce the next economic miracle, as long as it manages to keep the abovementioned risks at bay. Given its hitherto consistent track record as a country committed to further SOE reforms, opening up policies and other institutional changes to facilitate urbanization and industrialization, we remain cautiously optimistic on Vietnam's pursuit of a sustainable growth path in the long term.

Recently, the uncertainties from rising inflationary pressures have weighed heavily on local equity prices. The Vietnam's market index plunged by more than 40% in 1Q2008, wiping out most of its gains since its last sharp rise of 120% between October 2006 and March 2007. In addition to removing some froth in the market, the index's recent underperformance likely reflected investors' concerns about deteriorating macro stability in a highly inflationary environment, the US slowdown, policy tightening so far, and policy headwinds going forward. Therefore, Vietnam needs to curb inflationary pressures if it is to ensure a stable macro environment conducive to sustainable earnings growth.

[28] National human development report (2001).

In the long term, we believe Vietnamese assets that rely on domestic demand themes will likely perform better. Owing to the relatively late start of Vietnamese stock markets and the absence of adequate research coverage, a historical reference to the impact of the last US recession on local equity valuation is not possible. However, we think that domestic demand names should stand a better chance of weathering external uncertainties in the short term and offering further upside potential in earnings growth in the long run.

On Vietnam's domestic consumption, we believe the story will likely be a mix of urban consumer base expansion and an upgrade of consumption habits. As Vietnamese consumers gain more purchasing power, more rural residents will adopt urban consumption patterns as they migrate to cities. This could translate into positive catalysts for the consumer appliances, finance, property, tourism, retail and telecommunication sectors, etc. At the same time, urban residents will tend to upgrade their expenditure habits to resemble more those in developed countries, and spend more on entertainment, media, air travel, pharmaceuticals, automobiles and luxury goods. Therefore, we believe equities that can leverage such demand growth through the exposure of manufacturing, service provision, logistics and wholesale/retail with strong brand names will most likely benefit from Vietnam's rapid changes.

In addition, Vietnam's industrialization and urbanization trends point to potential upside for sectors serving heavy-industry sector development and infrastructure investment. With a rich endowment of energy resources, Vietnam is keen to develop its own capabilities in metal processing, the chemical industry, and machinery and equipment manufacturing to fulfill the future needs of industrialization and urbanization. This projected development of heavy industry and rapid development of the export and tourism industries will all require substantially more infrastructure investment.

Lastly, more foreign firms could potentially benefit from Vietnam's growth through the expansion of the local market, as well as Vietnam's increasingly important role in the cross-border production sharing network. It is worth noting that Vietnam has recently begun to serve as the next outsourcing destination for manufacturing firms moving out of not only developed economies (e.g., Korea, Japan and Taiwan), but also developing economies such as China and Malaysia. Vietnam has clearly become more attractive to multinationals when investors fret about its neighbors' fast currency appreciation, rising labor costs, tighter regulation on labor and environment, and termination of favorable policies for low-tech FDIs. That said, Vietnam will have to deliver on necessary infrastructure and skilled labor supply issues to take advantage of this opportunity.

Investors should, of course, be mindful of risks associated with investing in Vietnam, including regulatory changes, low transparency in corporate governance, and the limited universe of investable stocks. Since the Vietnamese equity markets are still at an early stage of development, these constraints are perhaps more important in Vietnam than in other more "mature" emerging market economies. In addition, despite the positive perspectives of future earnings, Vietnamese stocks can be susceptible to highly fluctuating valuations. The lack of quality data and adequate research coverage on Vietnamese stocks suggests the difficulty of stock-picking in these markets should not be underestimated.

Appendix: Total Factor Productivity estimation

1. TFP estimation

We adopted the growth accounting method to estimate productivity changes in Vietnam.

First, we assume the production function takes the following form:

$$Y_t = A_t \cdot F(K_t, L_t) \quad (1)$$

where Y_t is total output, K_t is total capital stock and L_t is total labor input. In addition, A_t is independent of capital and labor growth but measures the efficiency of their combination. In other words, A_t reflects the productivity gain beyond factor accumulation (such as technical progress and institution changes) and is therefore often referred to as total factor productivity.

We take the conventional assumptions on production function in neoclassical economic theory, which include competitive markets for labor and capital services and constant returns to scale, and therefore factor elasticities equal to the competitive factor shares in output, to arrive at:

$$\varphi_t = q_t - \alpha_t k - (1-\alpha_t) l_t \quad (2)$$

where q_t, l_t, and k_t denote the growth rates of output, labor and capital, and φ_t the rate of total factor productivity growth. Capital and labor shares are denoted as α_t and $(1-\alpha_t)$.

With discrete data, equation (2) takes the following form (Chambers (1988)):

$$\varphi_t = \ln\frac{Q_t}{Q_{t-1}} - \Theta_K \ln\frac{K_t}{K_{t-1}} - \Theta_L \ln\frac{L_t}{L_{t-1}} \quad (3)$$

where $\Theta_K = \ln\frac{\theta_K + \theta_{K-1}}{2}$ and $\Theta_L = \ln\frac{\theta_L + \theta_{L-1}}{2}$ are the Tornqvist weighted value share index as θ_i measures the share of each aggregate factor in total factor payments.

In our exercise, we took an extremely simplifying but common assumption on the form of production function and assume it to be Cobb-Douglas shaped. As a result, equation (3) is essentially:

$$\ln A_t = \ln Q_t - \alpha \ln K_t - (1-\alpha)\ln L_t$$

2. Data used in our estimation

i) GDP: We used gross domestic product in 1994 prices as our output series from the General Statistical Office. We understand the preferred series to measure the output of an economy transforming from a centrally-planned economy to a market economy is the factor-cost GDP series, but we were obliged to use the market price series due to lack of net indirect tax data.

ii) Capital stock: We had to estimate the aggregate capital stock series with the Perpetual Inventory Method due to the lack of data in Vietnam.[29] We took the consumption of fixed capital (depreciation) data, which were only available from 1995-1999, and the assumption of a uniform depreciation rate of δ = 0.05[30] to construct five gross capital stock series with the following formulae:

Forward calculations: $K_{t+1} = I_{t+1} + (1-\delta)K_t$

[29] Le Dang Doanh et al (2002).

[30] This value was used in Le Dang Doanh et al (2002) and several other previous works.

Backward calculations: $K_{t-1} = (K_t - I_t) / (1-\delta)$

The final capital stock series is calculated as the average of the five series from the above calculations.

iii) Labor: Total employment data are available from the General Statistics Office and we made a slight adjustment to make up for the discrepancies with the data from the Ministry of Labor, Invalids and Social Affairs (MOLISA), as used in most works on TFP recently.

iv) Labor capital ratio: We assumed the capital income share is 0.4 and labor 0.6., which is close to the estimation from Tho Dat Tran (2004).

3. Estimation results

Our analysis generates a strikingly similar result to that in Le Dang Doah et al (2002) in the overlapping years, and extends the estimate to 2001-2006. Our result suggests TFP growth has been a key source of output growth for Vietnam since its reform began. We estimate the annual growth rate of total factor productivity from *Doi Moi* in 1986 to 2006 to be 3.05%, which suggests TFP growth contributes more than 40% of GDP growth (see Exhibit A1).

Exhibit A1: TFP growth has been a key source of output growth for Vietnam since its reform began

	Average		Averaget ppt			Average share of		
	Growth		contribution to growth			contribution to growth		
	GDP	A	A	K	L	A	K	L
1986 - 2006	6.85	3.05	3.10	2.30	1.45	45%	31%	24%
1986 - 1991	4.68	2.83	2.85	0.17	1.65	60%	3%	37%
1992 - 1996	8.90	5.10	5.19	2.39	1.32	58%	27%	15%
1997 - 1999	6.23	1.87	1.91	3.31	1.01	26%	56%	18%
2000 - 2006	7.50	2.27	2.33	3.63	1.55	31%	48%	21%
2007 - 2020	8.07	2.99	3.06	3.63	1.38	38%	45%	17%

Source:

4. Forecast assumptions and results

We made general assumptions on factor growth to predict the medium-term growth in Vietnam:

i) Assumptions:

a. Capital stock: We forecast that gross capital formation growth will stabilize at current levels till 2010 before a steady slowdown towards 2020. We also ensured the investment/GDP ratio remains stable between 38%–41% over years.

b. Labor: We adopted the population forecast from United National Population Division for our future labor forecast (people aged 15-64 years). Assuming a rather stable labor participation ratio and unemployment rate, we reached the total employee numbers.

c. TFP growth: We believe the technological progress, human capital accumulation, continued reform dividend and benefits from WTO accession will support further TFP growth in Vietnam. Our analysis implies that in the next 13 years, Vietnam will likely enjoy TFP growth above the level it has experienced in the past 10 years, and possibly closer to the TFP growth level at the early days of reforms.

ii) Results:

The annual average GDP growth for Vietnam in 2007-2020 is estimated to be 8.07%. This makes the target of doubling the year-2000 GDP level by 2010, and again by 2020 achievable. Our results show the share of contribution from TFP growth will increase over time, while capital stock remains the most important element in the production function.

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