

# **The Vietnamese Defense Industry – Market Opportunities and Entry Strategies, Analyses and Forecasts to 2015**

Market Intelligence Report

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## 1. Introduction

### 1.1 About this Report

This report offers insights into the market opportunities and entry strategies adopted by foreign original equipment manufacturers (OEMs) to gain a market share in the Vietnamese defense industry. In particular, it offers in-depth analysis of the following:

- **Market opportunity and attractiveness:** detailed analysis of the current industry size and growth expectations during 2011–2015, including details of the key growth stimulators. It also benchmarks the industry against key global markets and provides a detailed understanding of specific areas where there are emerging opportunities.
- **Procurement dynamics:** trend analysis of imports and exports, together with their impact and implications on the Vietnamese defense industry.
- **Industry structure:** five forces analysis to identify the various power centers in the industry and how these are expected to develop in the future.
- **Market entry strategy:** analysis of possible ways to enter the market, together with detailed descriptions of how existing players have achieved this, including key contracts, alliances and strategic initiatives.
- **Competitive landscape and strategic insights:** analysis of the competitive landscape of the defense industry in Vietnam. It provides an overview of key defense companies both domestically and internationally, together with insights such as key alliances, strategic initiatives and a brief financial analysis.
- **Business environment and country risk:** a range of drivers at country level, assessing business environment and country risk. It covers historical and forecast values for a range of indicators, evaluating business confidence, economic performance, infrastructure quality and availability, labor force, demographics, and political and social risk.

### 1.2 Definitions

For the purposes of this report, the following timeframes apply:

- **Review period:** 2006–2010
- **Forecast Period:** 2011–2015

The following are definitions of military expenditure:

- **Revenue expenditure** includes troop training, institutional education, construction and maintenance of various undertakings. It also covers the salaries, allowances, pensions, transportation, food, insurance, welfare benefits and miscellaneous expenditures pertaining to all unit allowances for training, contingency and other grants for officers, non-commissioned officers, enlisted men and contracted civilians.
- **Capital expenditure (capex)** covers research and development (R&D), procurement, maintenance, transportation and storage of weaponry and other equipment. It also includes expenditure on aircraft and aero engines, heavy and medium vehicles, naval equipment and expenditure on the purchase of land, construction, plant and machinery.

The following are definitions of defense categories:

- **Military hardware** refers to the broad range of machinery, systems, equipment and weapons used by defense forces.
- **Air defense systems** are defined as all measures designed to nullify or reduce the effectiveness of hostile air action. They include ground-based and air-based weapon systems, associated sensor systems, command and control arrangements and passive measures. This may be to protect naval, ground and air forces wherever they are positioned, but does not include missile defense systems.
- **Missile defense systems** are systems, weapons, or technologies involved in the detection, tracking, interception and destruction of attacking missiles.
- **Naval defense systems** are used to protect sea lanes, ferry troops or attack other navies, ports or shore installations. It includes surface ships, amphibious ships, submarines and seaborne aviation.
- **Homeland security (HLS)** involves the protection of a country's civilians and critical infrastructure from natural or man-made disasters. Its margins extend to border and maritime patrol, customs checks in ports and airports, search and rescue operations, disaster recovery, combating terrorism and cyber attacks.

The following are miscellaneous definitions:

- **Indirect offsets** involve both barter and counter-trade deals, investment in the buying country, or the transfer of technology unrelated to the weapons being sold.
- **Direct offsets** is defined as an arrangement wherein the purchaser receives work or technology directly related to the weapons sale, typically by producing the weapon system or its components under license.
- **Multipliers** are additional credits assigned over and above the market value provided to offsets for a technology, product or service being offered.
- **Command, control and communications and intelligence system (C3I)** refers to an information system employed by a military's top command to direct its forces. This system provides the military with information on various parameters associated with executing a strategy during a military exercise. The parameters include reconnaissance and surveillance, troop positions, inventory levels and weather conditions. The communication system enables the transfer of images and videos which are captured by surveillance systems and data and voice between the command and control center. The system also aids in joint operations between the army, navy and air force.
- **Maintenance, repair and overhaul (MRO)** involves the servicing of a defense system with the objective of restoring it to a state where it can perform its intended function. This could be routine maintenance, replacement of faulty spare parts or checking the entire system to ensure smooth functioning.
- **Airborne early warning and control systems (AEW&C)** are airborne radar systems used by the military to detect the movement of aircraft in its airspace. Used at high altitudes, they are

used in both defensive and offensive air operations and have the ability to help distinguish between civilian and military aircraft.

### **1.3 Methodology**

ICD Research's dedicated research and analysis teams consist of experienced professionals with a background in industry research and consulting in the defense sector. The following research methodology is followed for all databases and reports.

#### **1.3.1 Secondary research**

The research process begins with exhaustive secondary research to source reliable qualitative and quantitative information related to the defense market. The secondary research sources that are typically referred to include, but are not limited to:

- Industry associations
- National government documents and statistical databases
- Company websites, annual reports, financial reports, broker reports, investor presentations
- Industry trade journals and other literature
- Internal and external proprietary databases
- News articles, press releases and webcasts specific to the companies operating in the market

#### **1.3.2 Primary research**

ICD Research conducts hundreds of primary interviews a year with industry participants and commentators in order to validate its data and analysis. A typical research interview fulfils the following functions:

- Provides first-hand information on market size, market trends, growth trends, competitive landscape and future outlook.
- Helps to validate and strengthen secondary research findings.
- Further develops the analysis team's expertise and market understanding.
- Primary research involves e-mail interactions, telephonic interviews and face-to-face interviews for each market category, division and sub-division across different geographies.

The participants who typically take part in such a process include, but are not limited to:

- Industry participants: CEOs, VPs, business development managers, market intelligence managers and national sales managers.
- External experts: investment bankers, valuation experts, research analysts and key opinion leaders specializing in defense markets.

### 1.3.3 Conventions

- Currency conversions are performed on the basis of average annual conversion rate format calculations.
- All the values in tables, with the exception of compounded annual growth rate (CAGR) and compounded annual rate of change (CARC) are displayed to one decimal place; therefore, growth rates may appear inconsistent with absolute values due to this rounding method.

## 1.4 ICD Research Terrorism Index

The ICD Research Terrorism Index classifies countries across the world into one of the following categories based on the risk of terrorism:

- Worst affected
- Highly affected
- Moderately affected
- Some risk
- Low risk

It takes into account the total number of terrorist incidents, the total number of people affected by these attacks, and the presence of foreign terrorist organizations in a country. Based on these parameters, the terrorism index is developed using a weighted average scorecard.

## 1.5 About ICD Research

ICD Research is a full-service market research agency and premium business information provider, specializing in industry analysis in a broad set of B2B and B2C markets. Our products and services help companies make better decisions, win business and position themselves more effectively.

ICD Research's areas of expertise include online research, qualitative and quantitative research, industry analysis, custom approaches, and actionable insights.

ICD Research has access to over 500 in-house analysts and journalists, and a global media presence in over 30 professional markets, enabling us to conduct unique and insightful research via our trusted business communities.

## 1.6 About Strategic Defence Intelligence ([www.strategicdefenceintelligence.com](http://www.strategicdefenceintelligence.com))

This report is one of a series that is available to subscribers of our premium research platform: Strategic Defence Intelligence. Strategic Defence Intelligence provides a stream of continuously updated customer and competitor intelligence as well as detailed research reports providing an unrivalled source of global information on the latest developments in the defence industry.

Strategic Defence Intelligence's unique monitoring platform tracks global defence activity for over 2,500 companies and 65 product categories in real-time in a highly structured manner, giving a comprehensive and easily searchable picture of all defence industry activity. The site features: daily updated analysis, comment and news; company and customer profiles; defence spending, tenders and contracts; product and technology intelligence; a research and analysis database giving access to industry and competitor

## INTRODUCTION



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## 2. Executive Summary

### **Vietnam's defense expenditure expected to increase at a CAGR of 14.32% during the forecast period**

Vietnamese defense expenditure, estimated to be US\$2.8 billion in 2011, registered a CAGR of 19.13% during the review period and is expected to grow at a CAGR of 14.32% during the forecast period to reach an estimated US\$4.7 billion in 2015. Defense expenditure growth is accompanied by a modest growth in defense expenditure as a percentage of GDP from 2.5% in 2011 to 2.8% in 2015. Overall, the country is expected to spend an estimated US\$18.6 billion on its armed forces during the forecast period, of which approximately US\$6.4 billion will be allocated for capital expenditure.

During the review period, the country allocated an average of 31% of its defense budget for capital expenditure and 69% for revenue expenditure. However, during the forecast period, the share of capital expenditure in the overall defense budget is predicted to increase to an average of 35%. This growth is fuelled by the country's modernization of its armed forces and has a number of procurement programs planned for the forecast period. In 2009, Vietnam's capital expenditure increased slightly after deals for the procurement of six Kilo class submarines and 12 Su-30 aircrafts were signed with Russia. Deliveries of these and other weapons platforms are scheduled during the forecast period, which is expected to raise the capital expenditure to 35%.

### **The country's homeland security spending is expected to increase at a CAGR of 12.90% during the forecast period**

Vietnamese homeland security expenditure registered a CAGR of 19.27% during the review period and is expected to grow at a CAGR of 12.90% during the forecast period to reach an estimated US\$2.25 billion in 2015. With the country sharing borders with several other countries, and enjoying a strategic location near the maritime trade route, the chances of illicit drug trafficking and smuggling are heightened. Over the forecast period, homeland security equipment manufacturers will experience increased demand for equipment capable of enhancing seaport and airport security to prevent drug trafficking and smuggling. In addition to these, the country will also invest in border surveillance equipment such as CCTV technology and biometric identification systems. Increased demand is also expected for equipment for the protection of critical infrastructure, borders and maritime security.

### **Russia accounts for the majority of arms supply to the country**

Vietnam's domestic defense production capabilities are relatively underdeveloped, as a result of which the country relies on foreign OEMs to fulfill its military requirements. Traditionally the country has been an importer of weapon systems as domestic military production is small-scale and technologically inferior. During the review period, Russia emerged as the largest supplier of military hardware to Vietnam with a share of 93% of Vietnam's imports, followed by Ukraine with 6% and Romania and Israel sharing less than 1% each. In 2010, Russia accounted for 98% of the country's defense imports. The main equipment which Russia supplies to Vietnam consists of surface combat vessels, submarines and aircraft.

**Foreign OEMs venture into the market through government to government deals and direct commercial sales**

The country's limited domestic defense industrial capability offers an opportunity for a considerable number of foreign OEMs to venture into the Vietnamese defense market. The country's defense industry is largely dominated by Russian defense equipment suppliers, but European suppliers have recently entered Vietnam's defense market through the direct commercial sale of advanced defense systems. Moreover, Vietnam prefers government to government deals in procuring defense systems. The General Import-Export Vanxuan Corporation (VAXUCO), a military goods importer owned by the Vietnamese Ministry of Defense (MOD), is the only designated importer for the MOD for non dual-use military goods, and is authorized to sign purchases on behalf of the MOD. Hence developing government to government relationships is expected to open up business opportunities in the forecast period.

**Lack of private participants and a lack of transparency restrict domestic defense industry growth**

In March 2011, the Vietnamese government passed legislation that prohibits selling stakes of state-owned defense companies to the private sector. The legislation also requires that the state will hold 100% of the charter capital in enterprises involving national defense and security, and military held commercial enterprises. This legislation prevents private participation and thwarts any foreign direct investment into the country's defense sector. Furthermore the country does not give any specifics about the defense budget breakdown or the amount spent on procurement. This lack of transparency within the government budget allocation and procurement plans can discourage investors from entering the country's defense market.

### **3. Market Attractiveness and Emerging Opportunities**

Vietnam is one of the world's fastest-growing defense markets. The country is expected to spend US\$18.6 billion on its armed forces during the forecast period. As a result of years of underfunding in the Vietnamese defense budget, the country's armed forces are expected to undergo an extensive modernization program. This, coupled with economic recovery, is expected to increase Vietnam's defense expenditure to 2015. Vietnamese defense expenditure is also expected to be driven by factors such as modernization plans, territorial disputes with China and China's growing military capability. Defense equipment suppliers and subcontractors can expect increased demand for naval combatants, aerial defense systems and intelligence, surveillance and reconnaissance (ISR) equipment. Additionally, the country is increasing its HLS spending in order to counter threats posed by pirates, illegal trade and human trafficking. Moreover, the HLS market is expected to see increased demand for surveillance and riot and crowd control equipment.

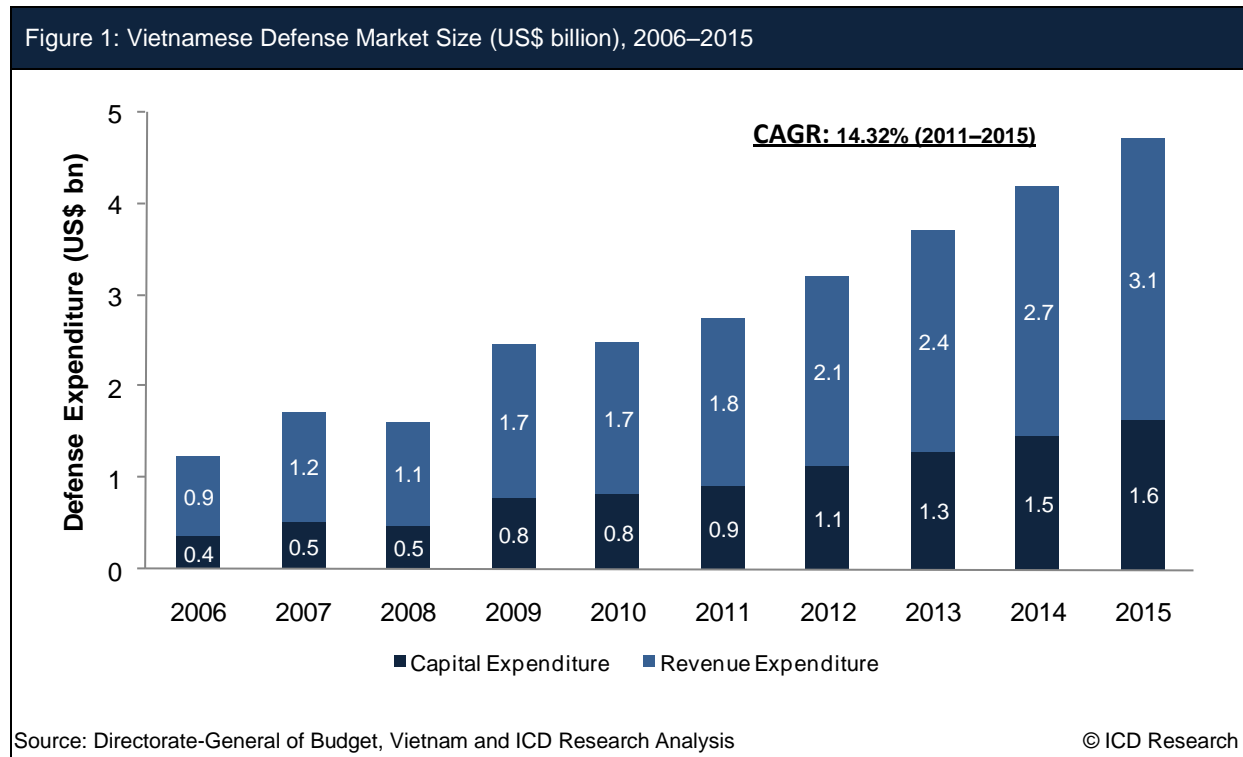


### 3.1 Defense Market Size and Forecast

#### 3.1.1 Defense expenditure is projected to grow at a CAGR of 14.32% during the forecast period

Vietnamese defense expenditure, estimated at US\$2.8 billion in 2011, registered a CAGR of 19.13% during the review period and is expected to grow at a CAGR of 14.32% during the forecast period to reach an estimated US\$4.7 billion in 2015. Defense expenditure growth is expected to be accompanied by a modest growth in defense expenditure as a percentage of GDP from 2.5% in 2011 to 2.8% in 2015. Overall, the country is expected to spend an estimated US\$18.6 billion on its armed forces during the forecast period, of which approximately US\$6.4 billion will be allocated for capital expenditure.

The following figure displays Vietnamese defense expenditure during 2006–2015:



### 3.1.2 Territorial dispute and acquisition of advanced defense systems is expected to drive military spending

Vietnam is expected to spend US\$6.4 billion on the acquisition of weapons systems during the forecast period. Factors such as territorial claims in the South China Sea, Chinese naval build-up and the acquisition of modern military hardware systems to replace outdated and aging equipment are anticipated to drive the country's military spending in the forecast period.

**China's increasing naval power:** China has greatly increased its naval capability during the review period by acquiring new class of submarines and surface vessels. The country has also launched its first aircraft carrier for sea trials in August. These new capability developments are in-line with China's ambitions to possess power projection and blue-water capability and to protect its sea lanes of interest. Moreover China also has expressed claims over the entire South China Sea and especially the Paracel and Spratly Islands over which China, Vietnam and other nations who share the Sea claim in part or full. This has triggered Vietnam to strengthen its naval defense capabilities.

**The need to replace outdated and aging equipment:** At present, the country lacks both naval and aerial defense capabilities to counter modern-day threats from pirates, maritime terrorists and hostile neighbors. In order to counter the threats posed by China, the country needs to procure sophisticated missile defense systems capable of destroying Chinese missiles. The country is also in the process of replacing its existing fleet of surface ships with frigates, and is looking to procure anti-submarine warfare technology which will enable its naval defense force to counter the threat posed by Chinese submarines operating in the Vietnam Strait. Additionally, fighter aircraft currently being used by the country, such as the F-5, Mirage 2000 and F-16, are nearing the end of their operational lives and will need to be replaced or upgraded. With its unstable security situation, the country will focus on enhancing its military capabilities, and in order to modernize its defense forces it is expected to spend an estimated US\$6.9 billion on advanced defense systems during the forecast period.

**3.1.3 Military expenditure as a percentage of GDP is expected to achieve modest growth during the forecast period**

During the review period, Vietnam allocated an average of 2.4% of its GDP towards its defense budget, but, as a consequence of financial constraints, the military expenditure as a percentage of GDP is expected to be reduced to 2.0% in 2011. However, with the country’s economy projected to grow at an average of 10.0% during the forecast period, the country’s defense budget as a percentage of GDP is expected to increase to 2.8% by 2015.

The following figure shows the Vietnamese defense expenditure trend as a percentage of GDP:

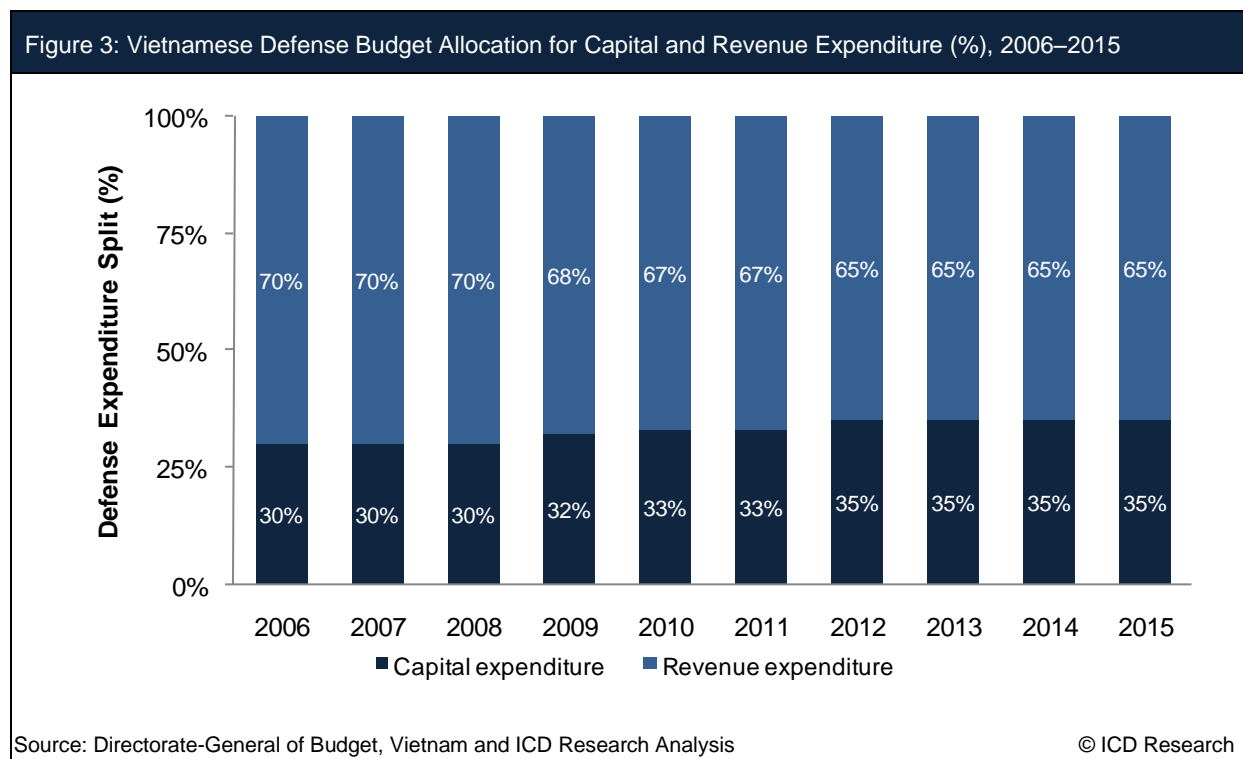


### 3.2 Analysis of Defense Budget Allocation

#### 3.2.1 Share of capital expenditure in the overall defense budget is expected to increase

During the review period, Vietnam allocated an average of 31% of its defense budget for capital expenditure and 69% for revenue expenditure. However, the share of capital expenditure in the overall defense budget is predicted to increase to an average of 35% during the forecast period. This is predominantly due to Vietnam’s armed forces modernization program and procurement programs planned for the forecast period. In 2009, capital expenditure increased slightly after deals for the procurement of six Kilo class submarines and 12 Su-30 aircraft were signed with Russia that year. Deliveries of these and other weapon platforms are scheduled during the forecast period, which is expected to raise the capital expenditure to an average of 35%.

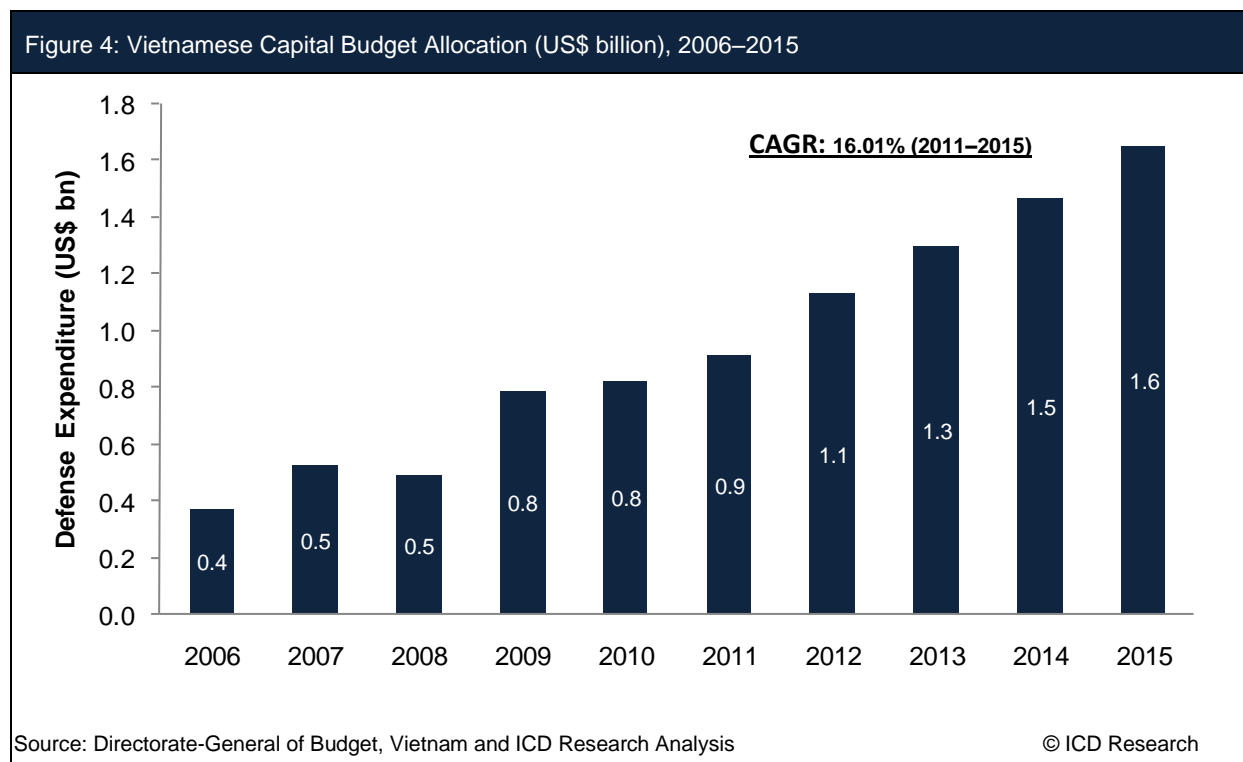
The following figure displays the defense budget allocation of capital and revenue expenditure during 2006–2015:



**3.2.2 Vietnam’s capital expenditure is expected to grow at a CAGR of 12.79% during the forecast period**

The defense capital expenditure of Vietnam, estimated at US\$370 million in 2011, grew at a CAGR of 22.01% during the review period and is projected to increase at a CAGR of 16.01% during the forecast period, to reach an estimated US\$1.6 billion by 2015. Cumulatively, Vietnam is expected to spend US\$6.4 billion on the acquisition of military hardware as well as on the maintenance of its existing fleet of defense systems. The country also has a tense relationship with China, and perceives the modernization of Chinese armed forces, and its territorial claims to the South China Sea and the Spratly Islands, as a threat to its sovereignty. All these factors are predicted to increase Vietnam’s capital expenditure during the forecast period.

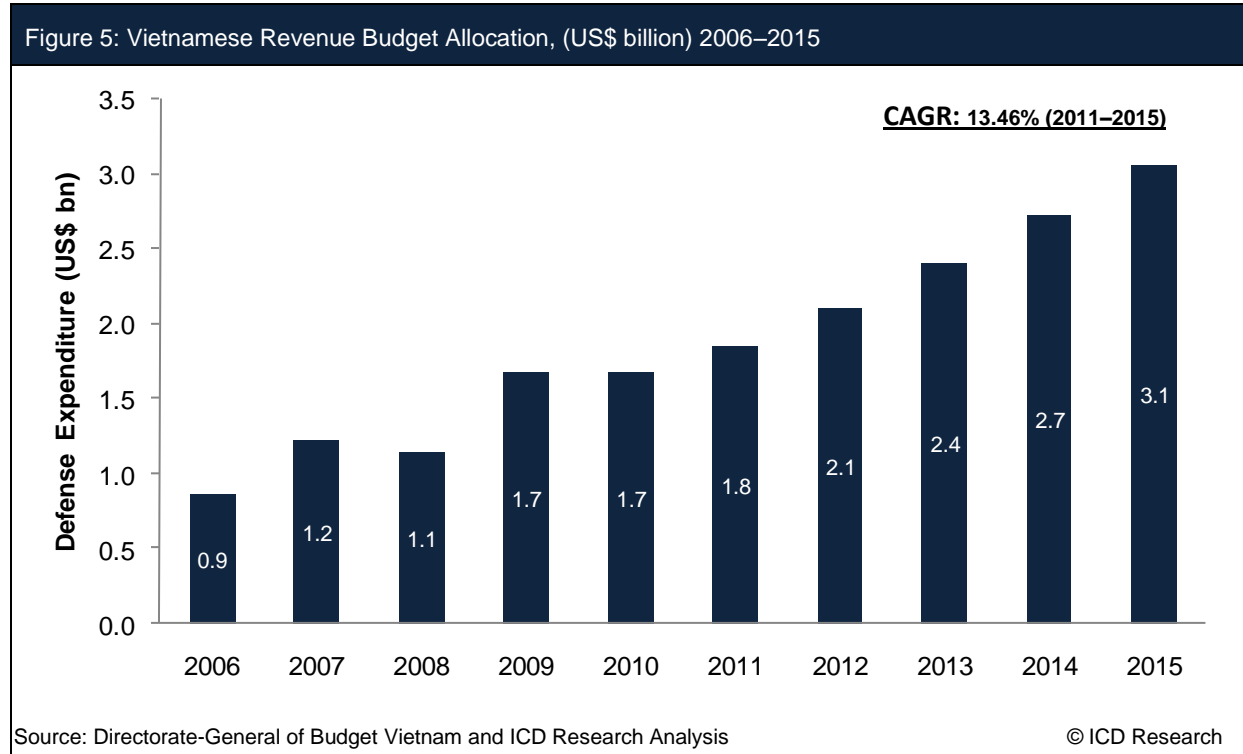
The following figure displays the defense budget’s allocation for capital expenditure during 2006–2015:



**3.2.3 Vietnam is expected to spend US\$12.1 billion on revenue expenses over the forecast period**

Although the share of revenue expenditure in the overall defense budget is projected to decrease during the forecast period, revenue expenses are still expected to account for the majority of defense expenditure in Vietnam. Vietnam’s revenue expenditure, estimated at US\$1.8 billion in 2011, recorded a CAGR of 17.84% during the review period, and is expected to grow at a CAGR of 13.46% during the forecast period to reach an estimated US\$3.1 billion in 2015.

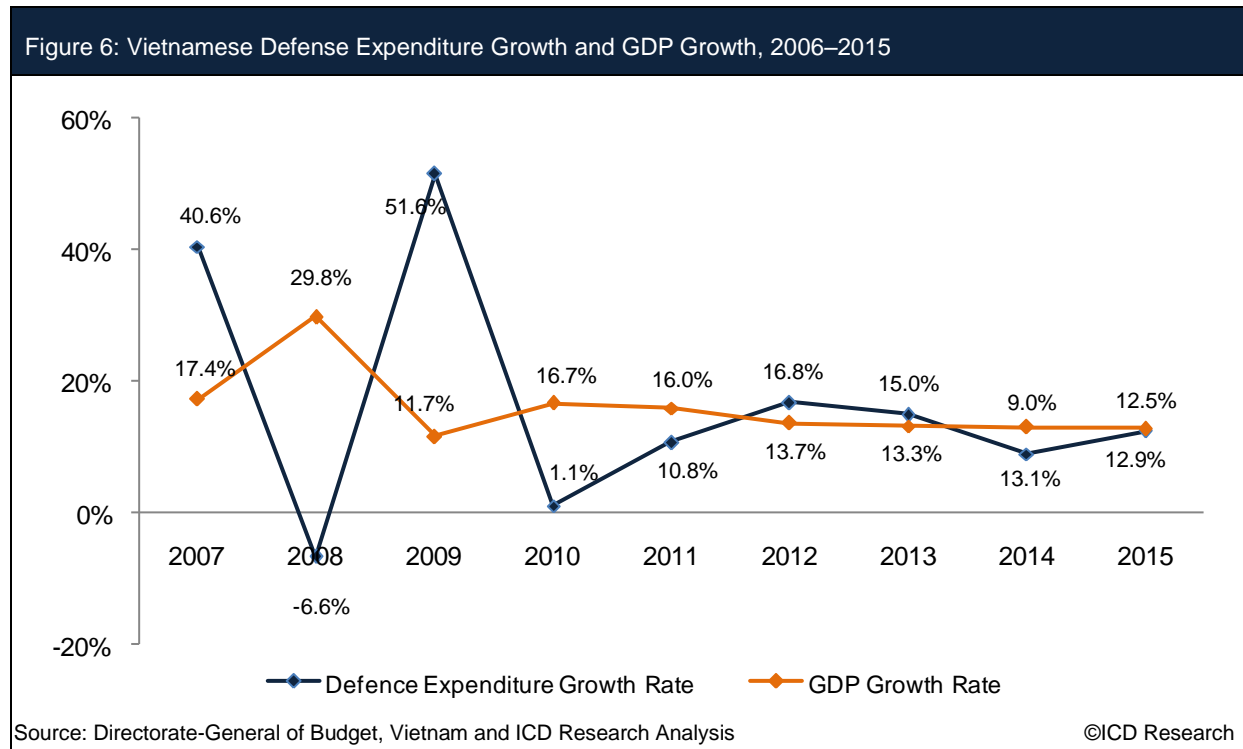
The following figure displays the defense budget’s allocation for revenue expenditure during 2006–2015:



### 3.2.4 Defense expenditure is expected to correspond with national economic growth

During the review period, the country’s defense expenditure and its overall economic growth developed at different rates. Over the forecast period, however, the country’s defense spending growth is expected to correlate more strongly with its GDP growth. Consequently, Vietnam’s economy is expected to grow at a CAGR of 13.74% during the forecast period and the country’s defense expenditure is expected to grow at a CAGR of 14.32%.

The following figure shows the relationship between Vietnam’s defense expenditure and economic growth during 2006–2015:

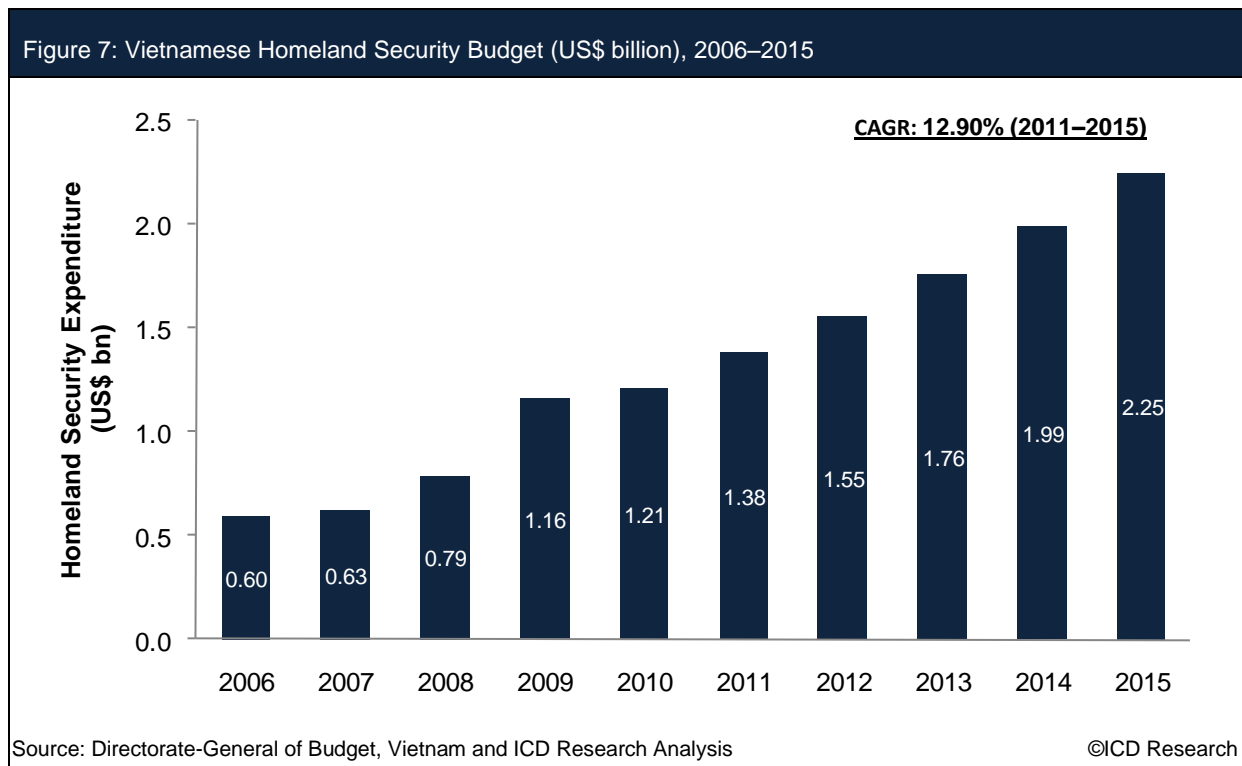


### 3.3 Homeland Security Market Size and Forecast

#### 3.3.1 Homeland security expenditure is expected to grow at a CAGR of 12.90% during the forecast period

Vietnamese homeland security expenditure registered a CAGR of 19.27% during the review period and is expected to grow at a CAGR of 12.90% during the forecast period to reach an estimated US\$2.25 billion in 2015. With the country sharing borders with several other countries, and enjoying a strategic location near maritime trade routes, the chances of illicit drug trafficking and smuggling are heightened. Over the forecast period, homeland security equipment manufacturers expect increased demand for equipment capable of enhancing seaport and airport security. In addition to these, the country will also invest in border surveillance equipment such as CCTV technology and biometric identification systems. Increased demand is also expected for equipment for the protection of critical infrastructure, borders and maritime security.

Below is the homeland security budget allocation for the period 2006–2015





### 3.3.2 Human trafficking, drugs trade and maritime security to drive homeland security spending

The country's homeland security spending over the forecast period is expected to be driven by its efforts to counter internal, cross-border and maritime security threats.

**Human trafficking:** Vietnam is both a source of, and a destination for, human trafficking, with Vietnamese men, women and children trafficked to Cambodia, China, Thailand, Hong Kong, Macau, Malaysia, Taiwan, South Korea, the UK and the Czech Republic for commercial and sexual exploitation. Children are also trafficked into Vietnam from Cambodia for forced labor and sexual exploitation. The main causes for these problems are socio-economic, such as a lack of employment in rural and remote areas, a lack of awareness of fraudulent activities and low education levels. In an effort to combat this problem, Vietnam has created awareness-raising projects and provides training to women and girls in trafficking-prone areas. The country has also passed laws which criminalize human trafficking and strengthened the judicial system to prosecute the convicted. To further prevent such activities, Vietnam will have to invest significantly in surveillance and intelligence technologies such as electronic identification documents, e-passports, automated border crossing systems and CCTV (closed circuit television) systems during the forecast period.

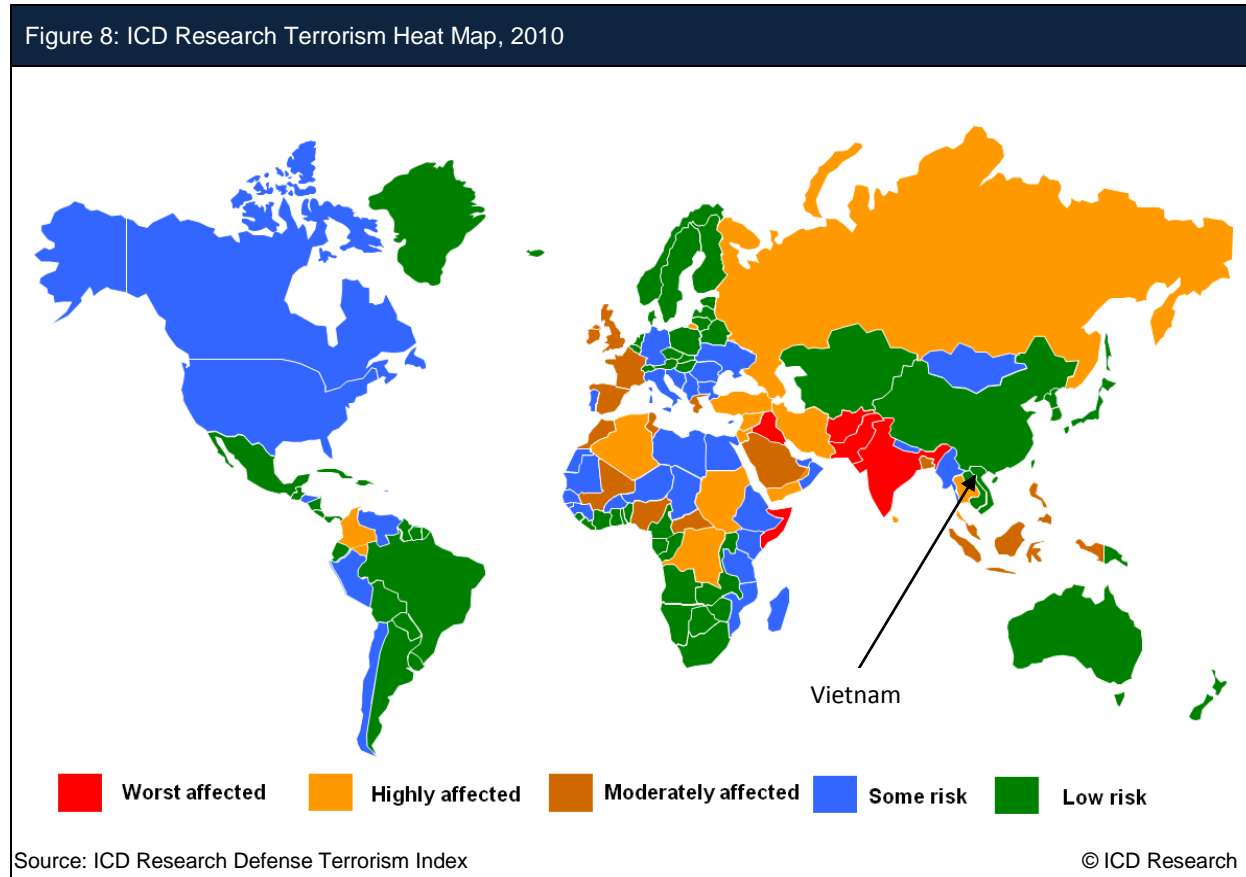
**Illicit drug trade:** With its long coastline of 3,444 kilometers, a large container port at Saigon and strategic location between major South East Asian countries, Vietnam is an attractive destination for the illicit drug trade. The country is also a key producer of opium. In order to control the illicit smuggling of drugs, the country has strengthened bilateral cooperation with Cambodia and other countries in the region and has enhanced international cooperation against drug trafficking through cooperation in criminal investigation, personnel training and information exchange with other regional countries. The Vietnamese government has also intensified cooperation with UN anti-drug agencies, Interpol and ASEAN (Association of South East Asian Nations) police in this regard. During the forecast period the government is expected to invest in trace chemical detectors (TCD) capable of tracing drug residue, and machines with the capability to screen suspects using X-rays or millimetric wave imaging.

**Maritime security threats:** A vast 3,444 kilometer coastline makes the country highly prone to maritime security threats posed by pirates, illicit maritime trade, hostile neighbors with territorial claims and illegal immigrants. The country is projected to invest in strengthening its maritime borders through the acquisition of surveillance systems, high-speed patrol boats, fast attack boats and digital communication systems.

### 3.3.3 Vietnam faces a minimal threat from foreign terrorist organizations

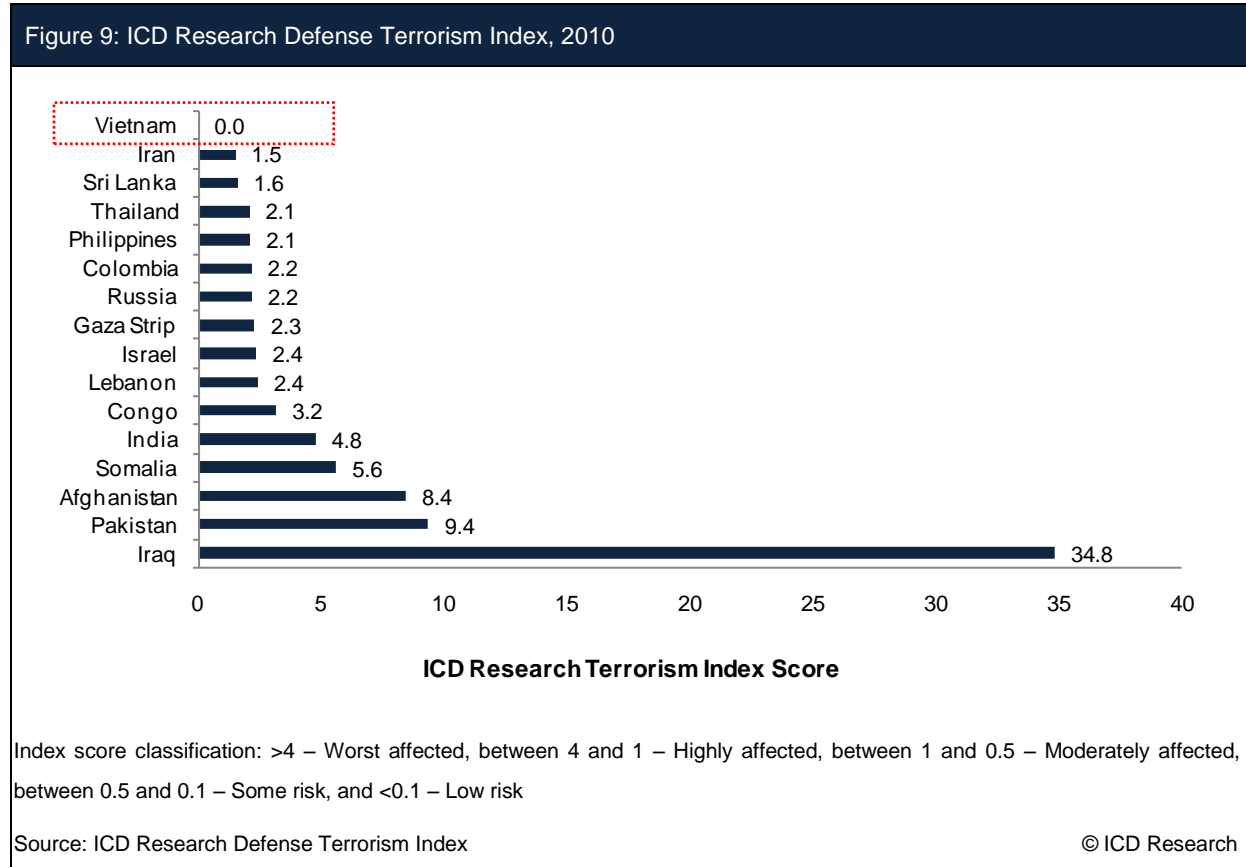
Vietnam falls under the 'low risk' category under the ICD Research Intelligence Defense Terrorism Heat Map, offering a non-threatening environment with minimal terrorist activity.

The following figure displays a heat map based on the ICD Research Intelligence Terrorism Index, which indicates the threat level faced by countries across the world:



The ICD Research Terrorism Index is calculated on the basis of the number of terrorist attacks in a given country, and the existence of a designated foreign terrorist organization within the country itself. Vietnam has an index score of 0.0, which makes it least susceptible to a terrorist attack.

The following figure displays the terrorism index score of the top 15 countries in the ICD Research Terrorism Index:

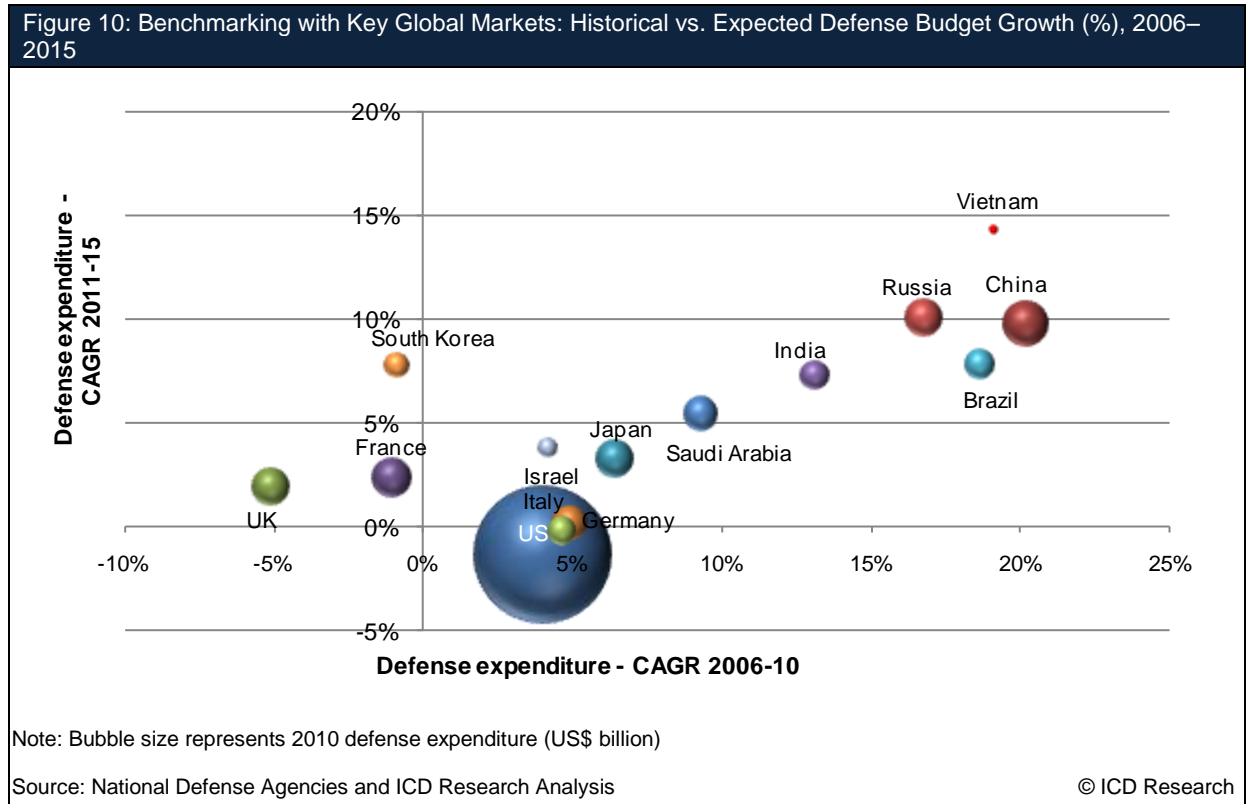


### 3.4 Benchmarking with Key Global Markets

#### 3.4.1 Vietnamese defense expenditure expected to remain modest compared to leading spenders

With an estimated defense expenditure of US\$2.8 billion in 2011, Vietnam’s military expenditure is low when compared to leading defense spenders such as the US, China, France, Germany and Italy. Although the country is seeking to increase its military budget to counter perceived security threats from its hostile neighbor China, its defense budget is very small compared to the leading spenders. However, Vietnamese defense spending is anticipated to grow at a CAGR of 14.32% during the forecast period, much higher than significant spenders such as the US, China, UK, Germany, France and Italy.

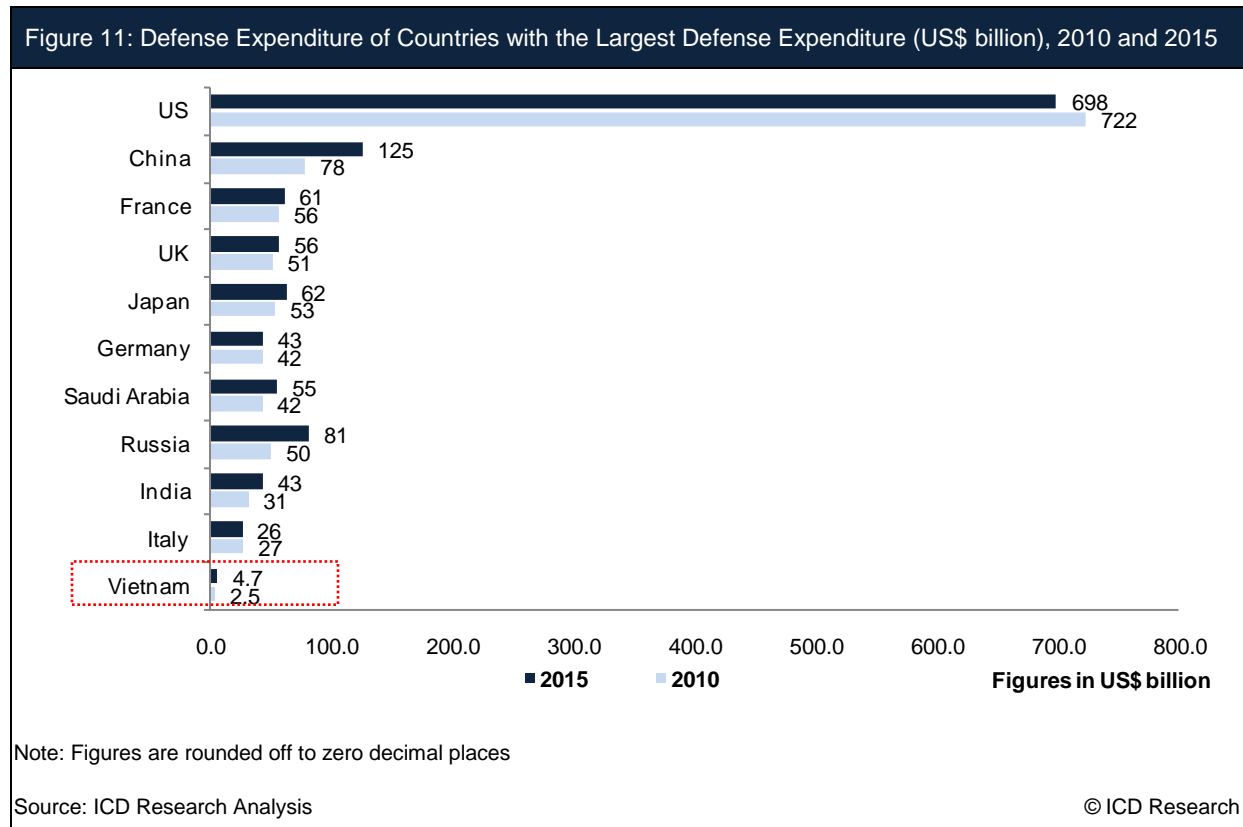
The chart below benchmarks Vietnam’s defense expenditure growth with key global markets:



### 3.4.2 The country will continue to be a significant player in the global arms market

The global defense market is dominated by the US and China, while Vietnam remains a relatively modest contributor. The country's strained relationship with China and the need to replace outdated equipment are the main reasons behind its defense budget increase. Moreover, approximately 35% of the country's defense budget is allocated for capital expenditure, making it a significant participant in the international defense market.

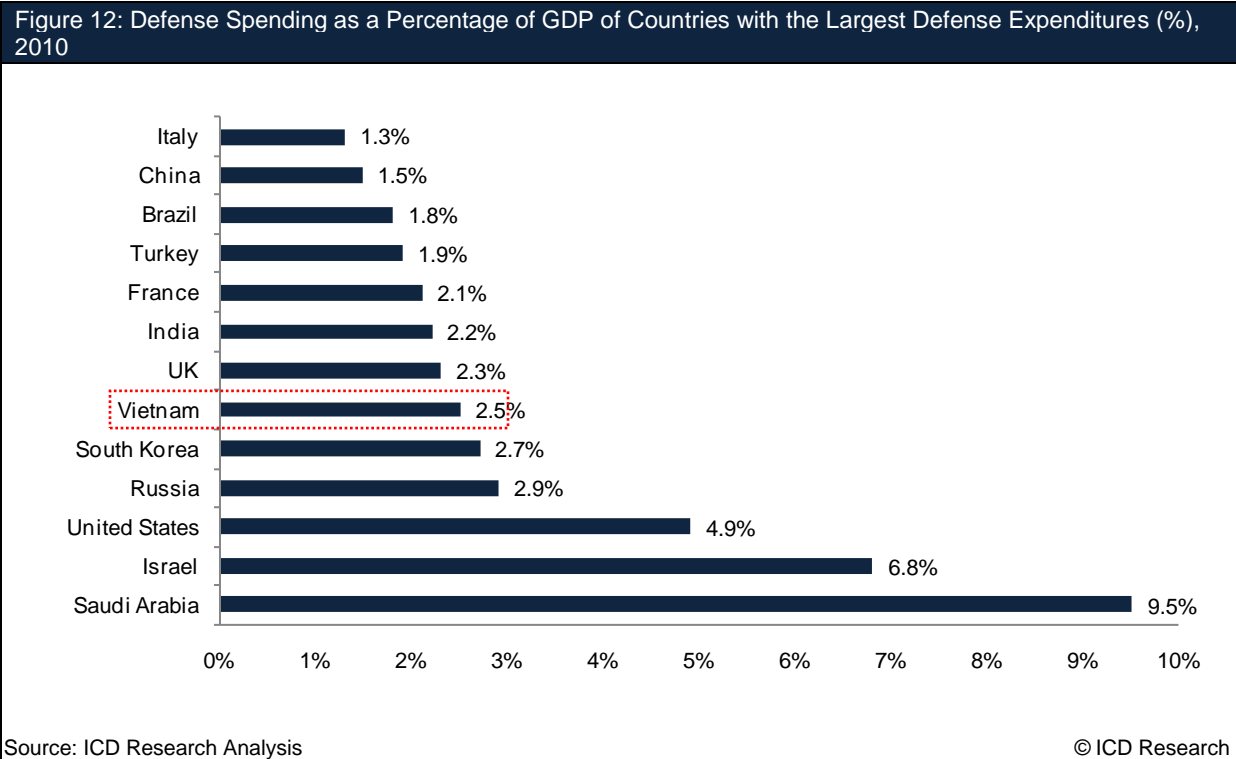
The figure below benchmarks Vietnamese defense expenditure with countries with the largest global defense expenditure:



### 3.4.3 Vietnam's defense expenditure as a percentage of GDP is higher than some leading defense spenders

Vietnam's defense budget as a percentage of GDP was 2.6% in 2010, much higher than some leading defense spenders such as France, India, Turkey, Brazil, Italy, and China. The country has expressed an interest in maintaining its defense spending at 2.5% of its GDP during the forecast period which would continue to be higher than those of some of the world's significant defense spenders.

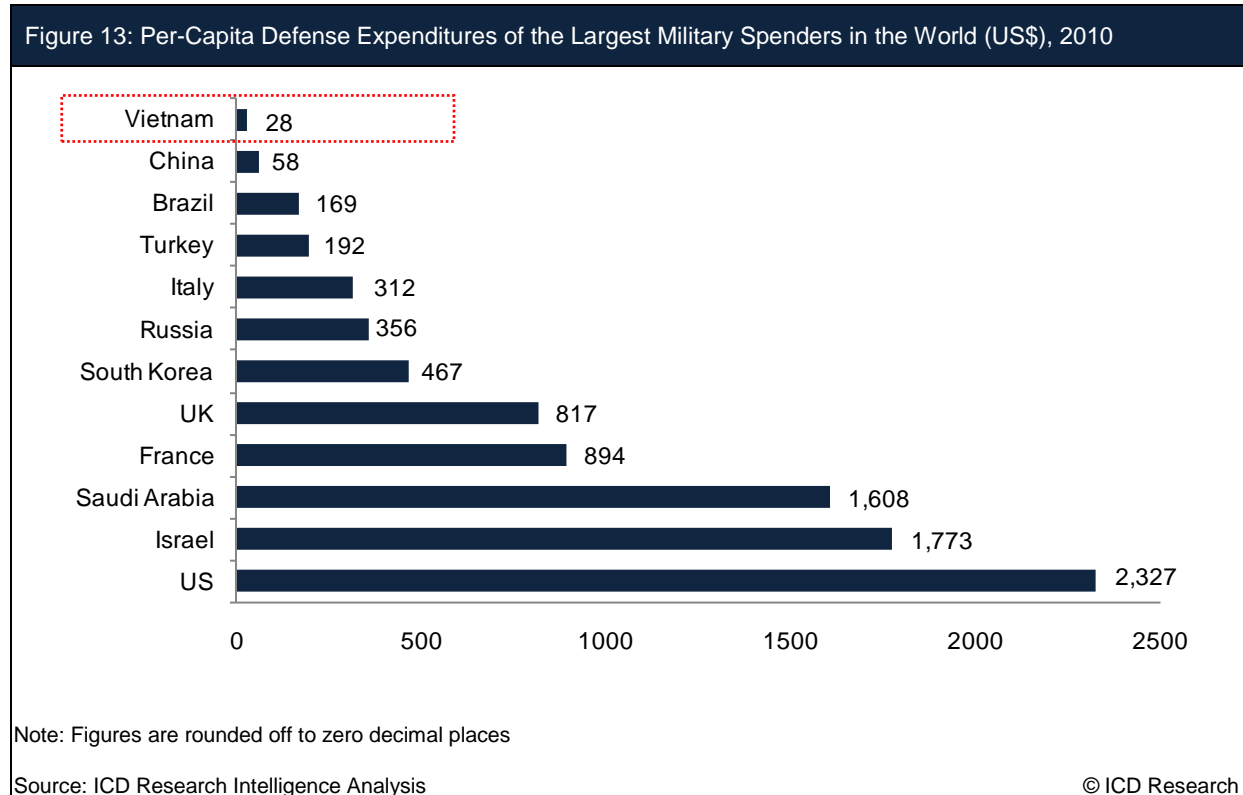
The chart below benchmarks Vietnamese defense expenditure as a percentage of GDP with countries with leading defense expenditure:



### 3.4.4 Vietnam has a moderate per-capita defense expenditure

Vietnam's per-capita defense expenditure, which was US\$28.18 during 2010, is much lower than that of significant spenders such as Russia, Italy, Turkey and China, mostly due to Vietnam's relatively small population and GDP. The country's per-capita military spending is projected to register a CAGR of 12.96% to reach US\$50.23 in 2015, this figure, however, remains lower than some of the world's leading defense spenders.

The following figure shows the per-capita defense expenditures of the world's highest military spenders:



### 3.4.5 Vietnam faces negligible threat from foreign terrorist organizations

According to the ICD Research Intelligence Terrorism Index, Iraq, Pakistan, Afghanistan, Somalia and India are the countries worst affected by terrorism. Based on the index score, Vietnam has a ranking of 204, which indicates minimal threat from foreign terrorist organizations when compared to other countries throughout the world.

The terrorism index is calculated on the basis of the following factors:

- The number of terror attacks that the country has faced
- Total number of people victimized
- The number of foreign terrorist organizations operating in the country

The table below shows the ICD Research Terrorism Index score of the top 50 terror-prone countries in the world:

Rank	Country	Terrorism index score
1	Iraq	34.8
2	Pakistan	9.4
3	Afghanistan	8.4
4	Somalia	5.6
5	India	4.8
6	Democratic Republic of Congo	3.2
7	Lebanon	2.4
8	Israel	2.4
9	Gaza Strip	2.3
10	Russia	2.2
11	Colombia	2.2
12	Philippines	2.1
13	Thailand	2.1
14	Sri Lanka	1.6
15	Iran	1.5



16	Turkey	1.4
17	West Bank	1.3
18	Syria	1.2
19	Algeria	1.1
20	Sudan	1.1
21	Yemen	1.1
22	Indonesia	0.9
23	Nigeria	0.8
24	United Kingdom	0.7
25	Uzbekistan	0.7
26	Greece	0.7
27	Spain	0.6
28	Bangladesh	0.6
29	Central Korean Republic	0.5
30	Saudi Arabia	0.5
31	Mali	0.5
32	Tajikistan	0.5
33	France	0.5
34	Jordan	0.5
35	Malaysia	0.5
36	Morocco	0.5
37	Tunisia	0.5
38	Singapore	0.5
39	Ireland	0.3
40	Ethiopia	0.3

41	Senegal	0.3
42	Georgia	0.3
43	Moldova	0.3
44	Niger	0.3
45	Egypt	0.3
46	Peru	0.3
47	Burma	0.3
48	Nepal	0.3
49	Mauritania	0.3
50	Eritrea	0.2
204	Vietnam	0.0

Source: ICD Research Intelligence Terrorism Index

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### 3.5 Market Opportunities: Key Trends and Growth Stimulators

#### 3.5.1 Demand for aircraft is expected to increase

The Vietnamese Air Force mainly consists of outdated aircraft, most of which are nearing the end of their serviceable life. As a result of a lack of modernization during the past two decades, the strength of Vietnam's air force has declined considerably and now lags behind those of neighboring countries' such as Thailand and Singapore. Moreover, as the country faces no strategic air threat near its borders, it is not expected to significantly modernize its aircraft fleet in the forecast period. Vietnam will, however, need to spend a considerable amount just to maintain its current fleet and procure some new aircraft. Over the forecast period, the country is expected to procure the following categories of military aircraft:

- SU30MKV fighter aircraft
- Airbus military C212
- Unmanned aerial vehicles (UAV)
- Medium transport aircraft
- Trainer aircraft
- Maritime patrol aircraft

#### 3.5.2 Investment in naval defense systems is anticipated to increase

Vietnam is seeking to acquire naval defense systems such as submarines and stealth frigates, to provide the Vietnamese naval defense force with a modest capability against the threat posed by China's growing naval power. The country is also expected to procure coastal patrol vessels, fast missile craft, supply and transport ships, and coastal surveillance equipment to secure its sea lanes from pirates, terrorists, illegal immigrants and hostile neighbors. In 2009, Vietnam also signed an US\$1.8 billion deal with Russia for the procurement of six Kilo class diesel electric submarines. The deal is reportedly worth US\$3.2 billion and includes support, training, weapon systems and the building of a submarine base and repair facility.

- Diesel electric submarine
- Gepard class frigates
- Coastal patrol vessels
- Supply and transport ships

#### 3.5.3 Maintenance repair and overhaul activities to provide excellent market opportunities

As a result of the mostly out-of-date equipment that makes up the country's inventory, it has become imperative for Vietnam to modernize its current fleet to maintain operation readiness. Vietnam's predominantly Soviet inventory has encouraged the country to strike deals with countries such as India, Ukraine and Belarus that can perform repair and overhaul activities and supply spare parts as a result of their Soviet inventories. Moreover, Vietnam's national defense industry encourages and prioritizes international cooperation in repair and personnel training. As such, countries that are willing to help in repairing, overhauling and providing spares for Vietnam's aging Soviet-era fleet may be able to penetrate the market.



## 4. Defense Procurement Market Dynamics

Vietnam is highly dependent on foreign suppliers to meet its demand for advanced military hardware. Limited domestic defense capabilities — along with factors such as strained relations with its neighboring nations, outdated military hardware and territorial disputes — compel Vietnam to procure defense equipment from foreign suppliers. During the review period, the nation imported the majority of its defense equipment from Russia, and Russia is expected to remain dominant in the country's arms industry over the forecast period. However, given the need to modernize its existing inventory, which is mostly outdated, the country is expected to place significant orders with western defense firms. Due to the continued threat from China, Vietnam has recently invested in building relationships with western countries and Vietnam's neighbors to act as a balance against the Chinese military. This move has opened up the country's market to western participants.

Ships accounted for the largest category of imported defense equipment during the review period. Given the Chinese naval build up and the two countries' overlapping claim over the South China Sea, Vietnam is expected to increase its naval capabilities and, as such, ships and submarines should account for the largest share of imported equipment during the forecast period. Moreover, investment in fighter aircraft, support and maritime patrol aircraft is projected to increase during the forecast period. The country has an outdated defense industrial base and, as a result of this, the country does not cater to defense exports.

The following figures are based on trend indicator values (TIV) expressed in US\$ million at constant (1990) prices. Although figures are expressed in US\$, TIVs do not represent the financial value of goods transferred, but are an indication of the volume of arms transferred.

### 4.1 Import Market Dynamics

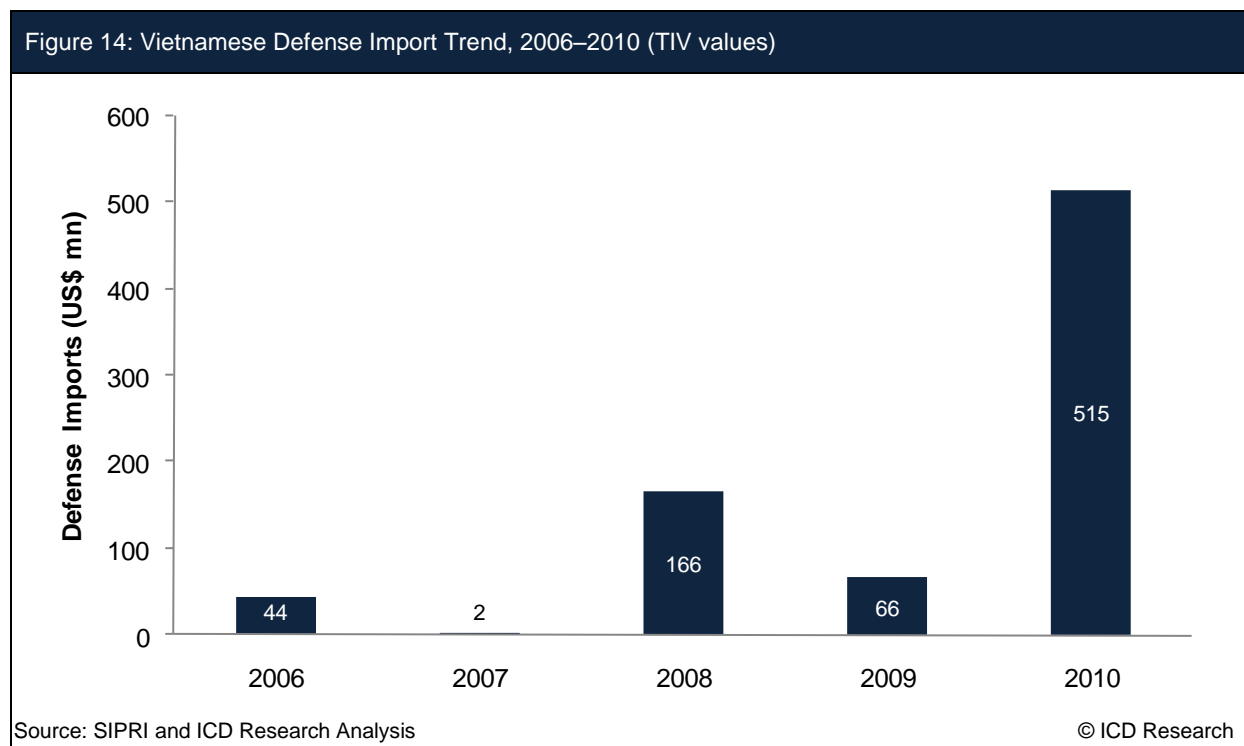
#### 4.1.1 Limited domestic defense capabilities drives the country's defense imports

Vietnam's domestic defense capabilities are relatively underdeveloped and, as such, the country relies on foreign OEMs to fulfill its military requirements. Traditionally the country has been an importer of weapon systems as their internal military production is small-scale and technologically limited. Russia was the country's largest defense supplier during the review period, followed by Ukraine, Romania and Israel. Although the 11<sup>th</sup> national congress of the Vietnam communist party acknowledged that the development of the country's armed forces and defense industry would be one of the key tasks to be undertaken in the forecast period, a real growth in military production is not set to be achieved during the forecast period. This will continue to drive defense imports in the country during the forecast period. An interesting development is that the Vietnamese defense market is expected to be opened up to OEMs from countries other than Russia, since Vietnam has progressively developed good political and military to military relations with a variety of countries. Furthermore, relaxation of defense export policies over Vietnam by the US and other European nations are expected to encourage and increase defense imports to the country.

#### 4.1.2 Defense imports are expected to increase during the forecast period

Despite relying on foreign arms sources, defense imports to Vietnam registered a steep decline from 2006–2007. Arms imports began to rise in 2008, mainly due to the need to counter China’s increasing naval capabilities. During the review period, Vietnam imported arms worth US\$166 million in 2008 and an estimated US\$515 million worth of equipment in 2010. The country’s arms imports are projected to remain at 2010 levels during the forecast period as the country focuses on replacing outdated defense systems and strengthening its Navy and Air Force. Moreover Vietnam’s domestic defense industrial base is underdeveloped and is unable to meet the requirements of its armed forces, which is expected to lead to a significant increase in the overall arms supplies to the country by foreign OEMs during the forecast period.

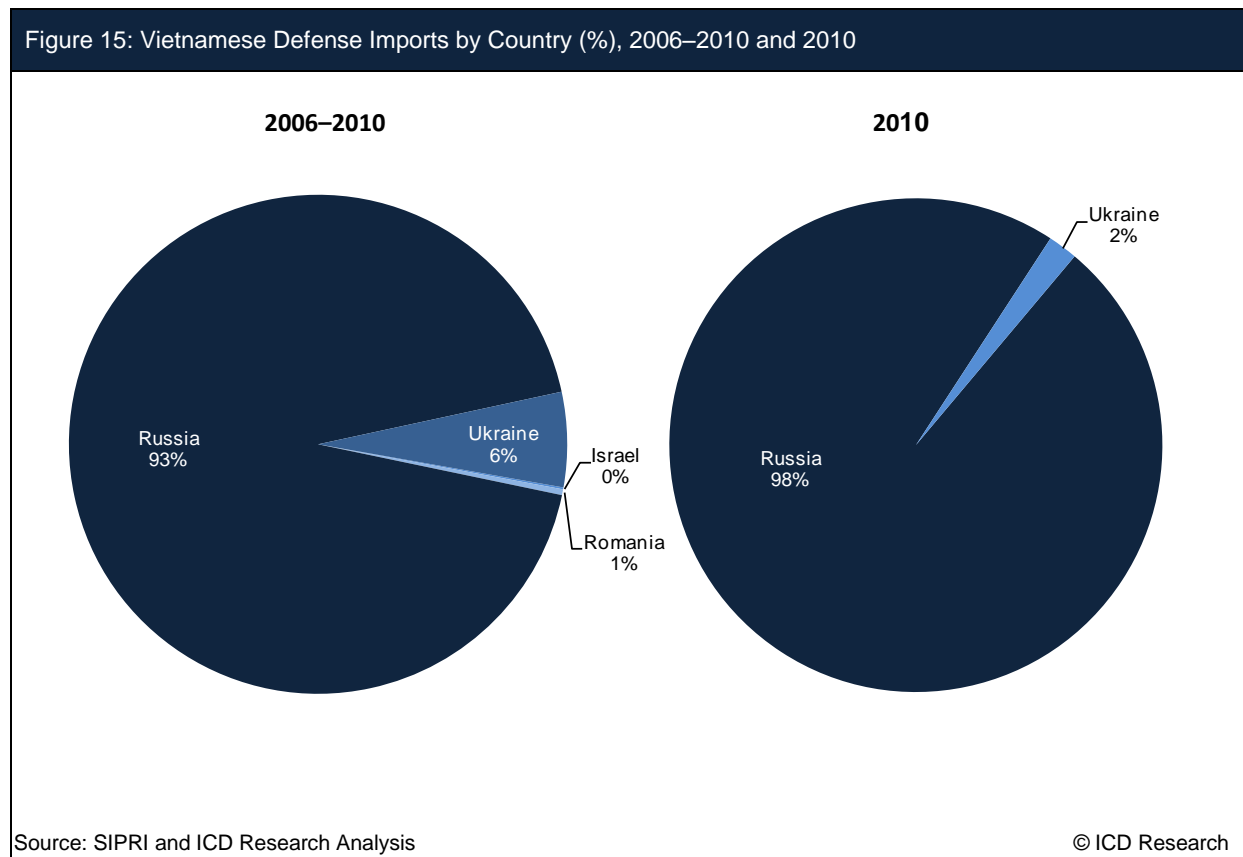
The following figure shows Vietnamese defense import trends during 2006–2010:



### 4.1.3 Russia is a significant defense trade partner of the country

During the review period, Russia emerged as the largest supplier of military hardware to Vietnam with a share of 93% of Vietnamese defense imports, followed by Ukraine with 6%, and Romania and Israel sharing less than 1% each. In 2010 Russia accounted for 98% of the country’s defense imports. Russia has mostly sold surface combat vessels, submarines and aircraft to Vietnam. Russia is Vietnam’s most important defense partner and this is expected to remain unchanged throughout the forecast period. Vietnam has however started to widen its supplier base and has begun procuring equipment from the west. However, due to the deals in place with Russia and its dependence on the country as its traditional defense supplier, its defense market is expected to be dominated by Russia during the forecast period.

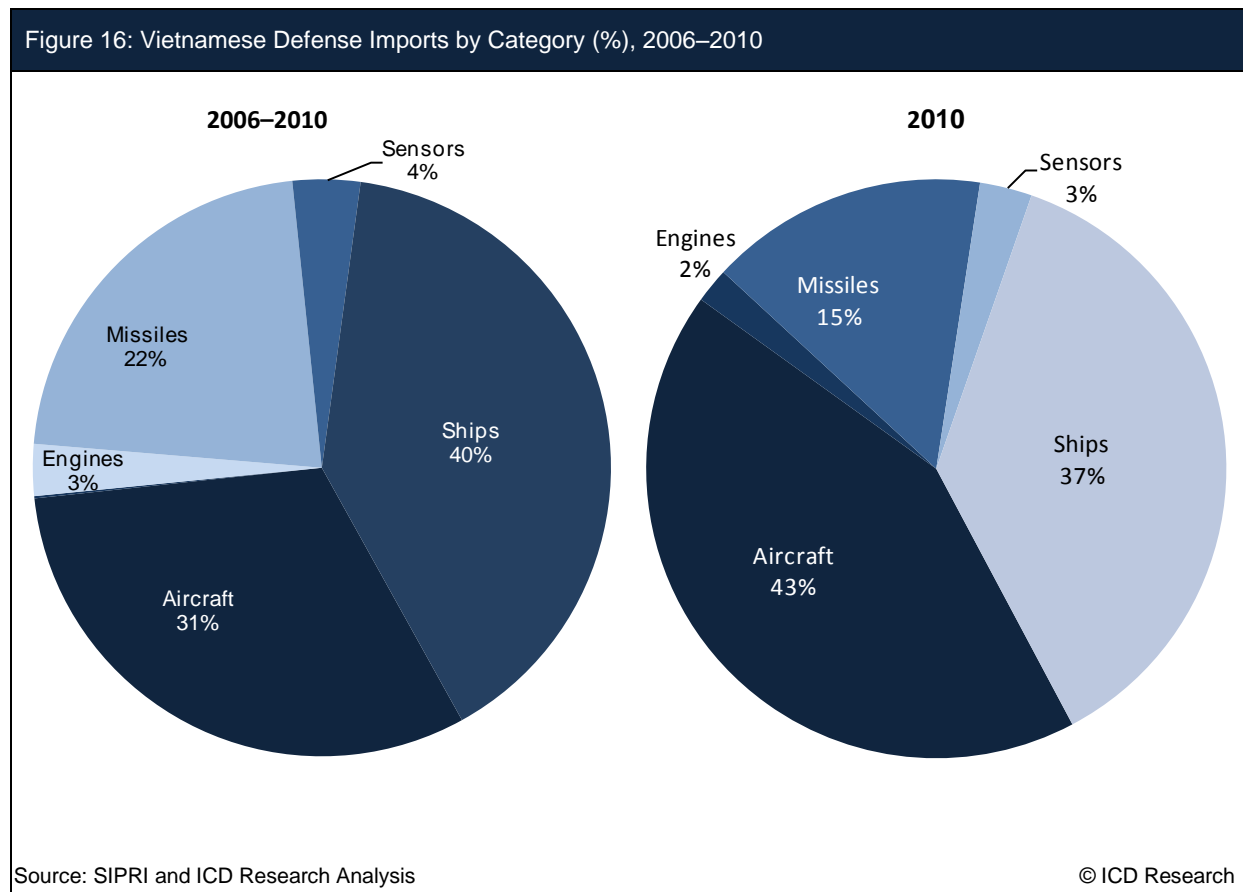
The following figure displays the Vietnamese arms import trends during 2006–2010 and 2010:



**4.1.4 Ships and aircraft account for the majority of defense imports during the review period**

During the review period, ships, aircraft and missiles, with shares of 40%, 31% and 22% respectively, collectively accounted for the majority of the country’s defense imports. During 2010, aircraft, ships and missiles, had shares of 43%, 37% and 15% respectively. During the forecast period, the country is expected to invest in the acquisition of new aircraft and submarines, as well as surface and support ships, in order to enhance its response capabilities and defend itself against an assertive China. The country is also expected to modernize its ground equipment, since much of its current inventory is made up of Soviet and captured US equipment which are becoming outdated and need to be replaced with more modern systems.

The following figure displays Vietnamese defense imports by category during 2006–2010 and 2010:





## 4.2 Export Market Dynamics

### 4.2.1 The country has been unable to access the global defense market

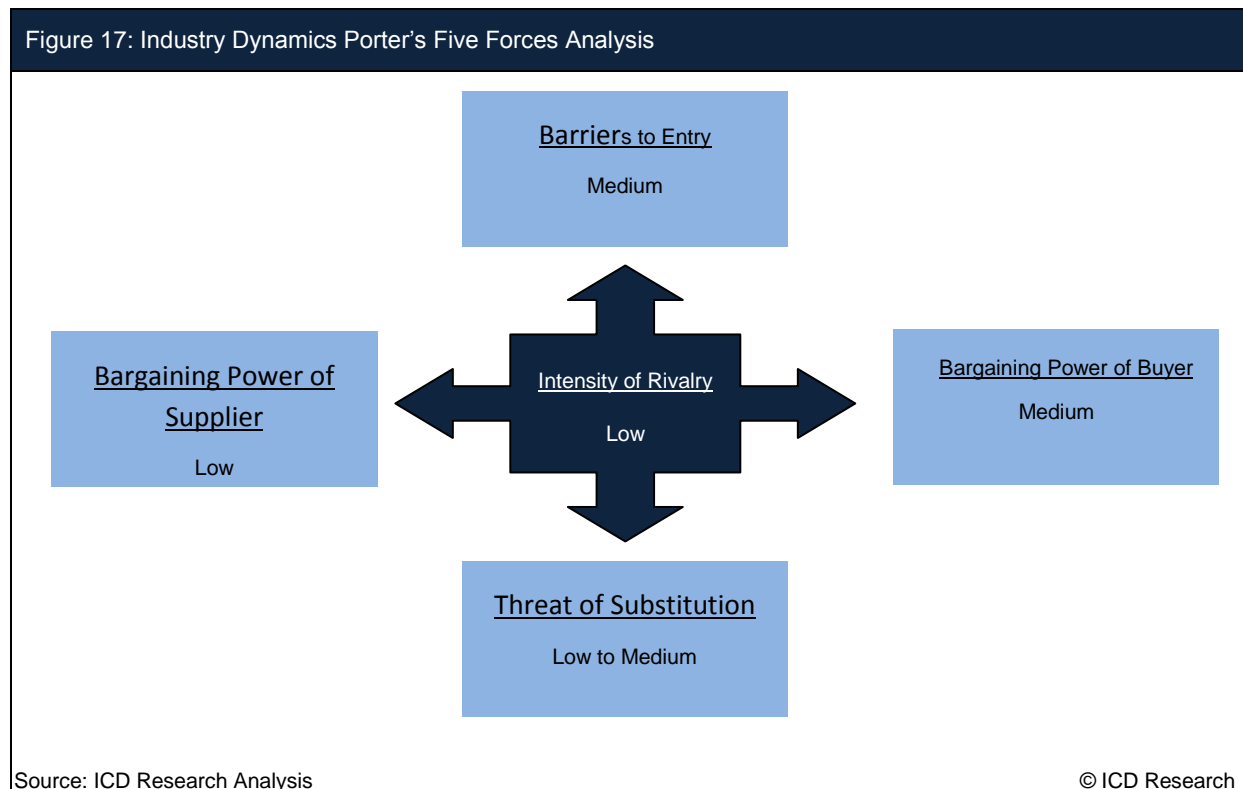
Vietnam's military industrial base is still in a nascent stage of development. The country's defense companies are predominantly government-owned and are operated by the military, which has prevented foreign investment into the defense sector and limited technological innovation. As such, the country's domestic companies are unable to develop and manufacture technologically advanced defense systems, which has effectively prevented Vietnam from producing any significant defense exports during the review period. Despite the projected increase in arms imports and emphasis on technology transfer, it is not expected that Vietnam will have any significant defense exports in the forecast period.

## 5. Industry Dynamics

### 5.1 Five Forces Analysis

Russia accounted for 93% of Vietnam’s defense imports during the review period and Russia is expected to be Vietnam’s predominant arms supplier both during and after the forecast period. Vietnam has limited capital budget and modest defense requirements. However, its close ties with Russia and the mostly government to government deals conducted do not encourage suppliers to exert much bargaining power. Moreover, the western OEMs perceive the current foreign policy of Vietnam to be conducive to enter and expand their business. Hence, western participants who are hoping to utilize the current market entry opportunity to enter the Vietnamese defense industry are not expected to exert much bargaining power either, partly due to the fear of losing contracts to Russia, Vietnam’s largest defense trading partner. On the other hand, despite being the sole buyer of defense goods, the Vietnamese government does not possess very high negotiating power, which is mostly due to its significant reliance on Russia for the procurement of advanced defense systems. Overall, competition among foreign equipment manufacturers is low as the Vietnamese defense market has just started to open up for western OEMs and there is a lack of domestic suppliers catering to the country’s defense sector.

The following subsections provide a Porter’s five forces analysis of the Vietnamese defense industry:



### 5.1.1 **Bargaining power of supplier: low**

Bargaining power of the supplier is expected to be low during the forecast period. This is because the country has traditionally imported weaponry from Russia and has recently started seeking advanced weaponry from western countries. Cost and concerns over compatibility with existing Russian inventory has influenced Vietnam's decisions on defense procurements. Now that the country is developing good relations with the west and has opened its arms market to western firms for the first time, these firms are eager to enter the market. However, given the realities of austerity measures at home, these OEMs are not expected to exert considerable bargaining power either.

### 5.1.2 **Bargaining power of buyer: medium**

Although the government is the sole buyer of military hardware in the country, its bargaining power is medium owing to its high dependence on imported defense systems. A lack of domestic defense capabilities, coupled with a limited number of foreign suppliers willing to supply defense equipment to Vietnam, brings down overall buyer bargaining power in Vietnam's defense industry to medium.

### 5.1.3 **Barrier to entry: medium**

To enhance the capabilities of the domestic arms industry, the government is encouraging foreign investors to enter the market by providing technology transfer deals and promoting co-production and service agreements. Vietnam's limited financial resources, coupled with the priority given for compatibility with traditional Russian weapons systems and training, makes it a tough market to penetrate. Consequently, entry barriers into Vietnam's defense industry are medium.

### 5.1.4 **Intensity of rivalry: low**

Russia is Vietnam's largest defense trading partner and supplied 93% of its defense imports during the review period. Ukraine is the next largest arms exporter to the country. Vietnam has relied mostly on former Soviet states for its military needs and on China to a certain extent. The recent tension between China and Vietnam over territorial claims has, however, ruled out China as a supplier. Furthermore, the US national security legislation that prevented the sale of equipment that contained US technology to Vietnam was lifted in November 1998 and a December 2006 US policy on arms transfer now permits the sale, lease or export of non-lethal defense equipment to Vietnam, albeit on a case to case basis. Even European defense firms are seeking to establish a foothold in the market as a result of strengthening political ties. Vietnam has recently opened its weapons market to western firms, however, given its requirements and limited budget, the intensity of rivalry is expected to be low during the forecast period.

### 5.1.5 **Threat of substitution: low to medium**

Vietnam's defense market has been dominated primarily by Russia, although western defense organizations have recently ventured into the Vietnamese defense market. During the forecast period, Vietnam is expected to follow the policy of procuring high-end equipment such as submarines, ships and aircraft from its tried and tested partner Russia while at the same time procuring low-end, yet important and advanced defense electronics as well as ISR platforms from western countries. As such, the threat of substitution is expected to be low in case of high-end equipment providers and medium in the latter case.

## **6. Market Entry Strategy**

### **6.1 Market Regulation**

#### **6.1.1 Vietnam has not disclosed any offset obligation**

Vietnam has not disclosed any offset obligations imposed on its arms procurement. Vietnam's failure to modernize its defense industrial base and its undeveloped domestic defense market has reduced its bargaining power with regard to offsets. Vietnam does, however, give preference to countries offering technology transfers and encourages cooperation for co-production of weapons systems, setting up repair facilities and personnel and crew training.

## 6.2 Market Entry Route

### 6.2.1 Foreign equipment manufacturers can enter the market through direct commercial sales

As a consequence of its limited domestic defense capabilities, Vietnam depends on foreign defense suppliers to fulfill the majority of its military requirements. This offers an opportunity for a considerable number of foreign OEMs to venture into the Vietnamese defense market. The country's defense industry is largely dominated by Russian defense equipment suppliers; however European suppliers have recently entered Vietnam's military market through the direct sale of advanced defense systems. For example EADS entered the Vietnamese market by the sale of 3 of its Airbus Military C212-400 aircraft to the Vietnamese Coast Guard.

### 6.2.2 Government to government deals are an attractive entry route to the country's defense market

The country prefers government to government deals in procuring defense systems. Almost all of the country's weapons deals with Russia, for example, are through government to government deals signed between the respective head of states during state visits or signed between the Vietnamese government and Rosoboronexport, the Russian agency for arms export, following approval from their respective governments. Also the Ministry of Defense's decision No. 84, dated May 18, 2007, which regulates the import and export of defense equipment, limits the number of businesses involved in the import and export of defense equipment. As such, the General Import-Export Vanxuan Corporation (VAXUCO), which is a military goods importer owned by the MOD, is the only designated importer for the MOD for non dual-use military goods, and is authorized to sign purchases on behalf of the MOD. Given the strengthening of the country's political relations with western nations it would be prudent for these nations and their OEMs to enter into deals on a government to government basis which would increase the probability of succeeding in the Vietnamese defense market

## **6.3 Key Challenges**

### **6.3.1 Lack of private participants and foreign direct investment may restrict domestic defense industry growth**

In March 2011, the Vietnamese government passed legislation that prohibits selling stakes of state-owned defense companies to the private sector. The legislation further stipulates that the state will hold 100% of the charter capital in enterprises which involve national defense, as well as security and military-held commercial enterprises. This legislation prevents private participation and thwarts any foreign direct investment into the country's defense sector.

### **6.3.2 Lack of transparency impedes the growth of Vietnam's defense industry**

Vietnam released its third defense whitepaper in 2009 which revealed the country's defense expenditure for the first time during 2004–2008. This was seen by many as a step towards building confidence with both its neighbors and countries in the west, which is in line with its foreign policy of building cordial relations with other countries. However the whitepaper does not give any specifics about the budget break-down nor on is the amount spent on procurement. This lack of transparency within the government budget allocation and procurement process may discourage investors from entering the country's defense market.

## 7. Competitive Landscape and Strategic Insights

### 7.1 Competitive Landscape Overview

Vietnam's defense market is completely dominated by state-owned enterprises handled by the Ministry of National Defense and the Ministry of Economic Affairs. The Army, through the Ministry of National Defense, owns 140 companies and has shares in another 20 firms. Vietnam's national defense industry is being developed mainly in the direction of self-reliance. However, little progress has been made in this direction due to a lack of private participation and foreign direct investment. To achieve this objective the government announced a plan to privatize its defense industries by 2012. However, the poor financial performance of these state-owned firms and opposition from the armed forces has impeded this privatization. Hence in March 2011, the Vietnamese government implemented legislation that effectively ended the plans to sell stakes of state-owned defense companies to private investors. At the same time, co-operation with defense industries of friendly countries is being nurtured so as to absorb advanced technologies with a view to raising the level of science and technology development and consequently reduce Vietnam's reliance on defense imports.

### 7.2 Key Domestic Companies

#### 7.2.1 Vietnam Shipbuilding Industry Corporation (VINASHIN): overview

The Vietnam Shipbuilding Industry Corporation (VINASHIN) was established in 1996. Apart from building commercial vessels, VINASHIN is involved in the production of supply and transport ships as well as coastal patrol vessels, and is also involved in the repair and overhaul of navy ships. The company has around 30 factories and seven shipyards. It has grown considerably since it received its first export order in 2000 and has continued to receive several international orders from international shipping companies. VINASHIN is currently in collaboration with other foreign shipbuilders for transfer of advanced shipbuilding technologies and is now constructing new ships with a higher level of complexity.

#### 7.2.2 Vietnam Shipbuilding Industry Corporation (VINASHIN): products

Products and services in the company's portfolio include:

- **Surface Ships**
  - Supply and transport ships
    - Truong Sa class ship
  - Coastal patrol vessels
  - Search and rescue ship
  - Repair and overhaul

#### 7.2.3 Vietnam Shipbuilding Industry Corporation (VINASHIN): recent announcements and strategic initiatives

**December 2008:** Vietnam Maritime University (VIMARU), the Vietnam Shipbuilding Industry Group (VINASHIN), and Norway's Marintek and DNV have agreed to collaborate in a co-operative project to enhance Vietnam's shipbuilding capabilities. As part of this co-operation the Norwegian firms will assist in the development of Vietnam's shipbuilding industry through a 3-year training program for VINASHIN shipyard management and staff.

**March 2008:** The Company signed a memorandum of understanding (MoU) with Rolls-Royce to develop its rapidly growing shipbuilding industry. The scope of the partnership will include identifying potential strategic partners for development of shared business interests.

**November 2006:** Vinashin and FPT Corporation (FPT) signed a 3-year strategic alliance agreement to build on each company's strengths to enhance competitiveness. The deal materialized following the country's WTO accession.

**7.2.4 Vietnam Shipbuilding Industry Corporation (VINASHIN): alliances**

Not available

**7.2.5 Vietnam Shipbuilding Industry Corporation (VINASHIN): recent contract awards**

Not available.

**7.2.6 Vietnam Shipbuilding Industry Corporation (VINASHIN): financial analysis**

Not available.



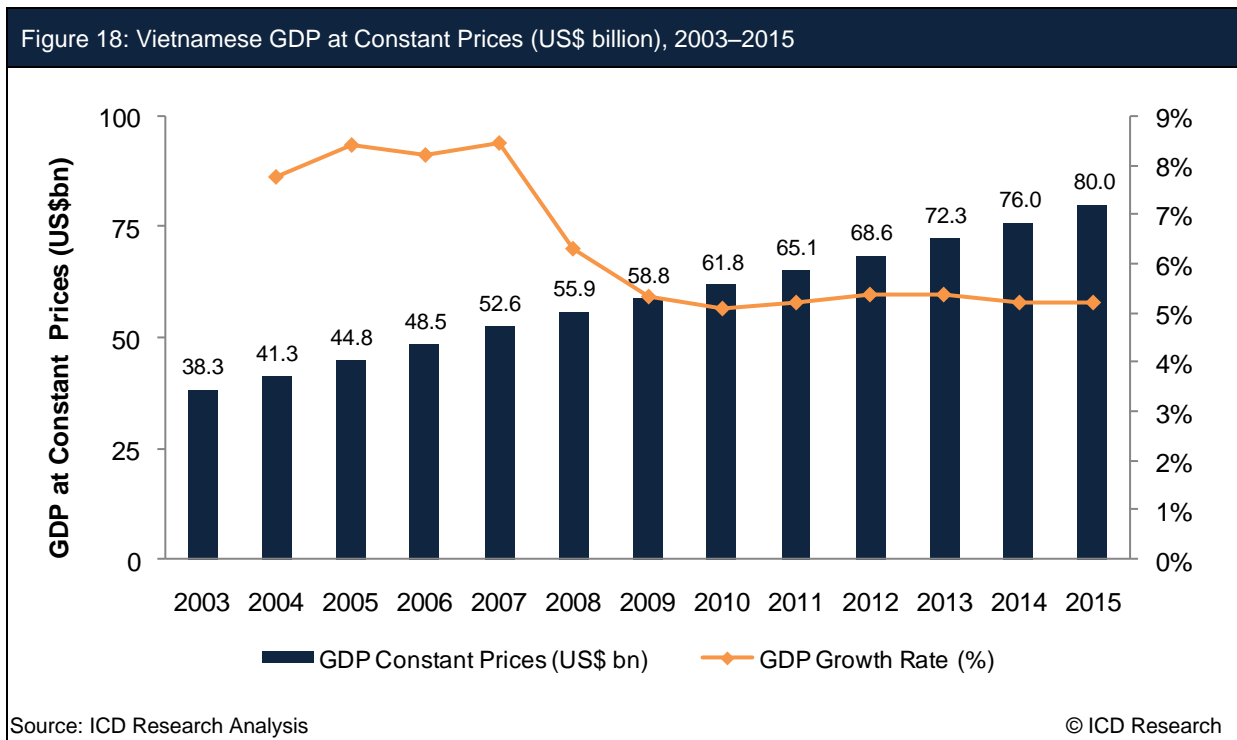
## 8. Business Environment and Country Risk

The following sub-sections detail a range of indicators, which assess the business environment and Vietnam’s country risks.

### 8.1 Economic Performance

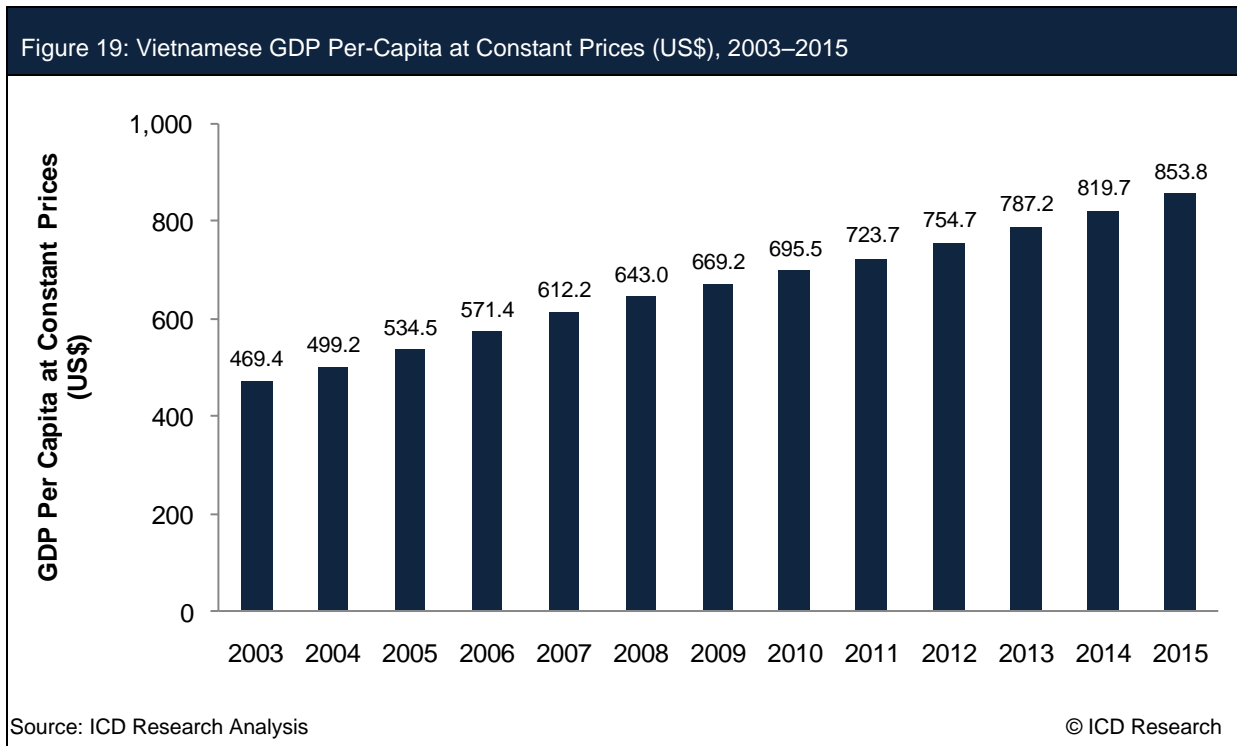
#### 8.1.1 Gross domestic product (GDP) at constant prices (US dollars)

Gross Domestic Product (GDP) at constant prices stood at US\$58.8 billion in 2009, recording a CAGR of 7.42% during 2003–2009. During 2010–2015, GDP at constant prices is expected to grow at a CAGR of 5.28% to reach US\$80 billion by 2015.



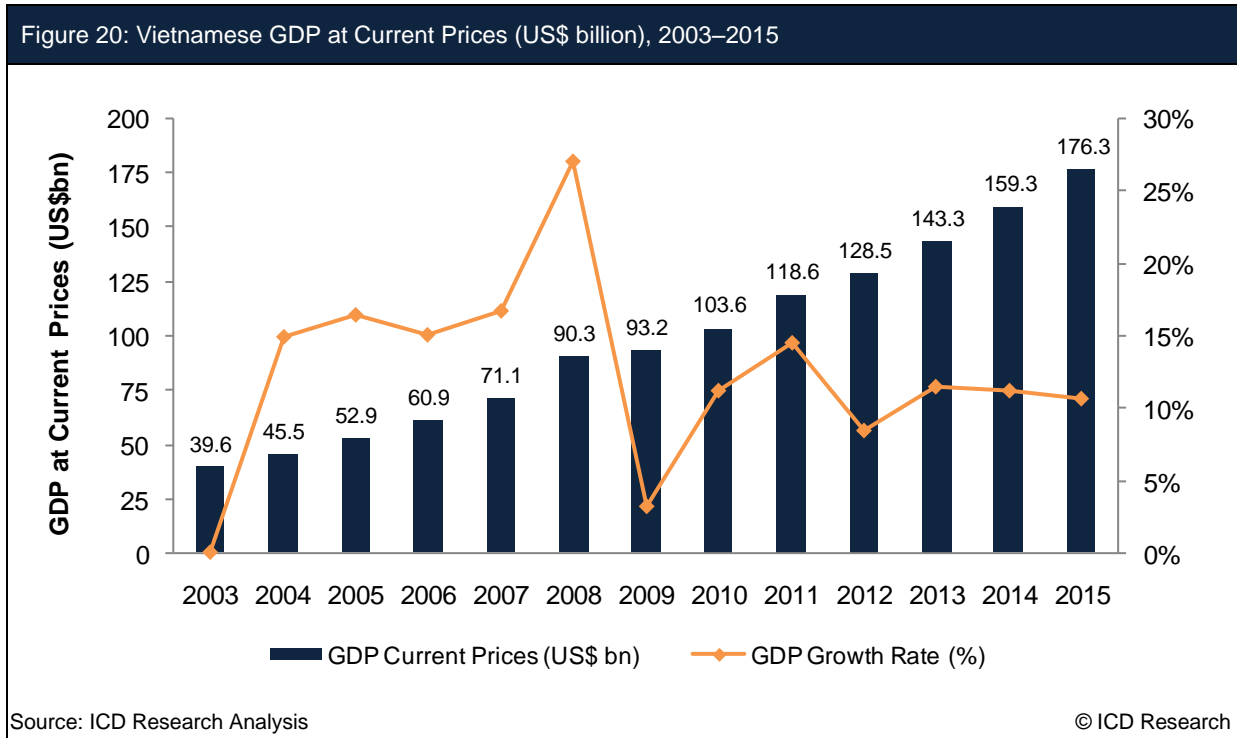
### 8.1.2 GDP per-capita at constant prices (US dollars)

GDP per-capita at constant prices stood at US\$669.2 in 2009, recording a CAGR of 6.09% during 2003–2009. It is expected to grow at a CAGR of 4.19% during 2010–2015 to reach US\$853.8 by 2015.



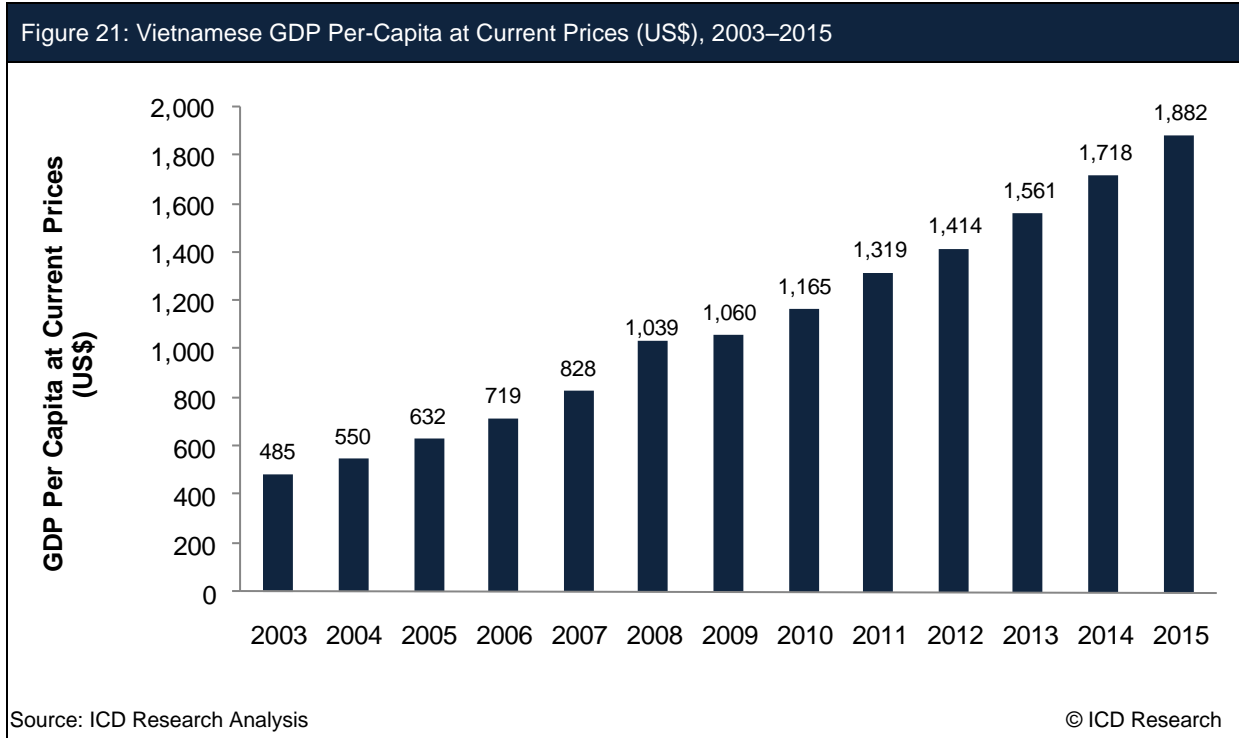
### 8.1.3 GDP at current prices (US dollars)

GDP at current prices stood at US\$9.2 billion in 2009, recording a CAGR of 15.34% during 2003–2009. It is expected to grow at a CAGR of 11.23% during 2010–2015 to reach US\$176.3 billion by 2015.



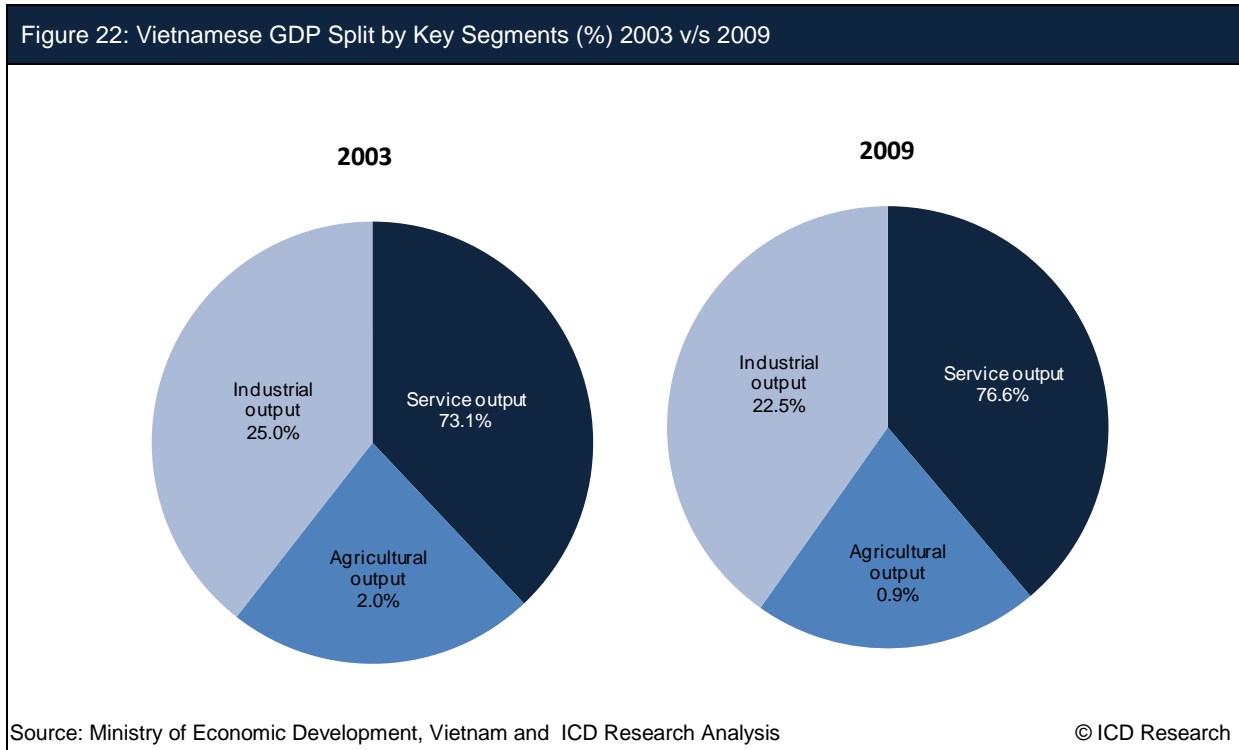
### 8.1.4 GDP per-capita at current prices (US dollars)

GDP per-capita at current prices stood at US\$1,060 in 2009, registering a CAGR of 13.92% during 2003–2009. It is expected to grow at a CAGR of 10.07% during 2010–2015 to reach US\$1,882 by 2015.



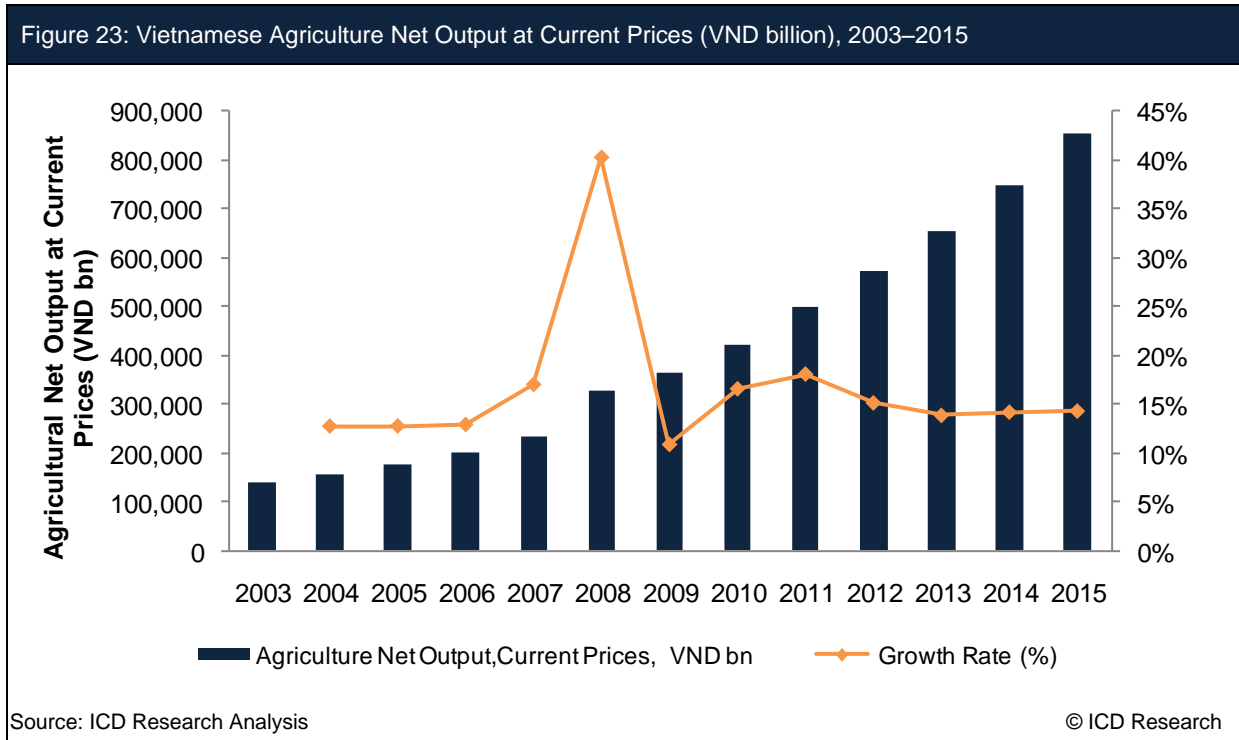
### 8.1.5 GDP split by key segments

The service sector's contribution to the GDP marginally increased from 73.1% in 2003 to 76.6% in 2009. The industrial sector's contribution to the GDP decreased from 25% in 2003 to 22.5% in 2009. The agriculture sector's contribution to the GDP decreased from 2% in 2003 to 0.9% in 2009.



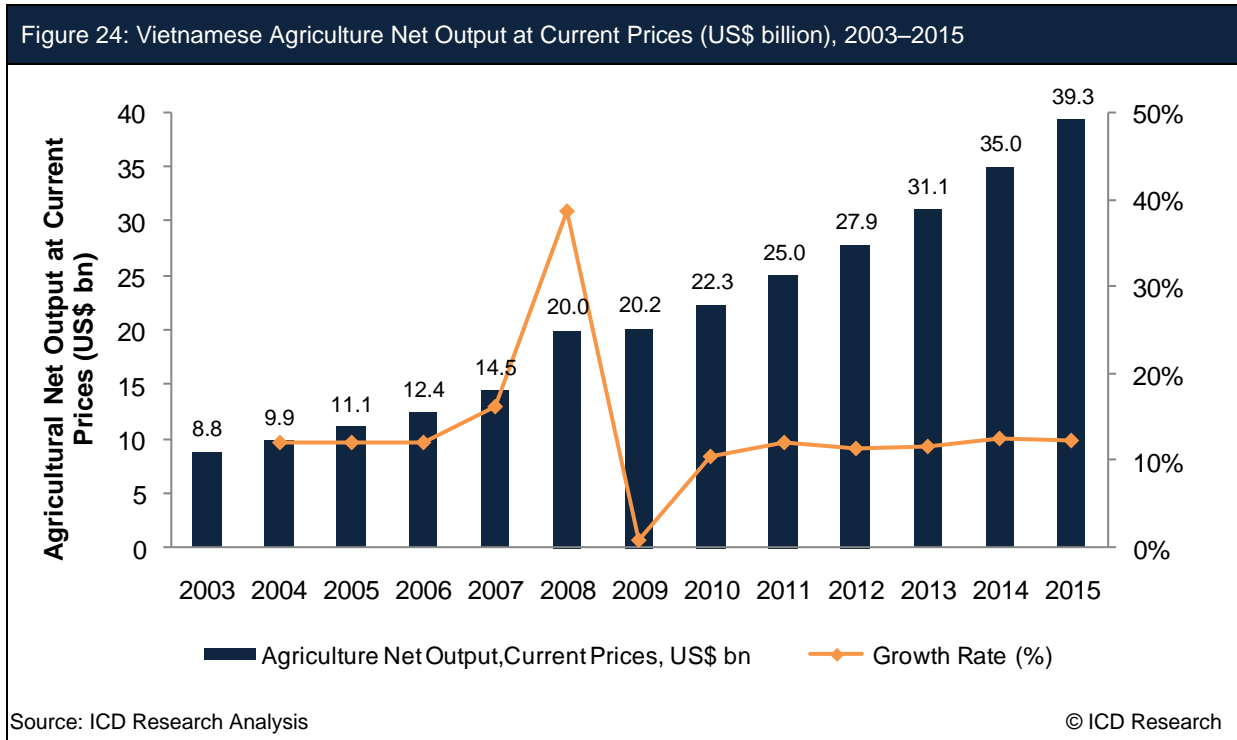
### 8.1.6 Agriculture net output at current prices (Vietnamese dong)

The agricultural net output at current prices stood at VND138284.5 billion in 2003. It registered a CAGR of 17.40% during 2003–2009 and reached VND362149.0 billion in 2009. This sector is expected to grow at a CAGR of 15.14% during 2010–2015 to reach VND854571.6 billion by 2015.



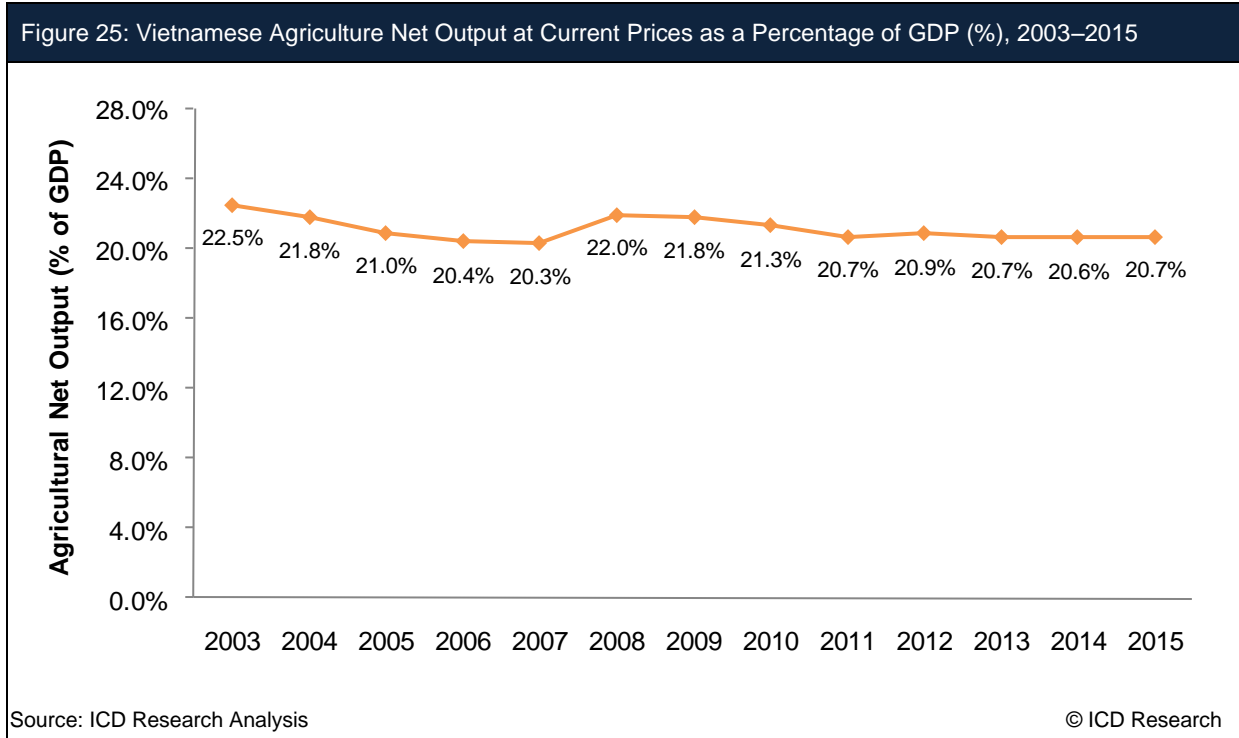
### 8.1.7 Agriculture net output at current prices (US dollars)

The agriculture net output at current prices stood at US\$8.8 billion in 2003. Growing at a CAGR of 14.78% during 2003–2009, the sector reached US\$20.2 billion in 2009. This sector is expected to grow at a CAGR of 12% during 2010–2015 to reach US\$39.3 billion by 2015.



### 8.1.8 Agriculture net output at current prices as percentage of GDP

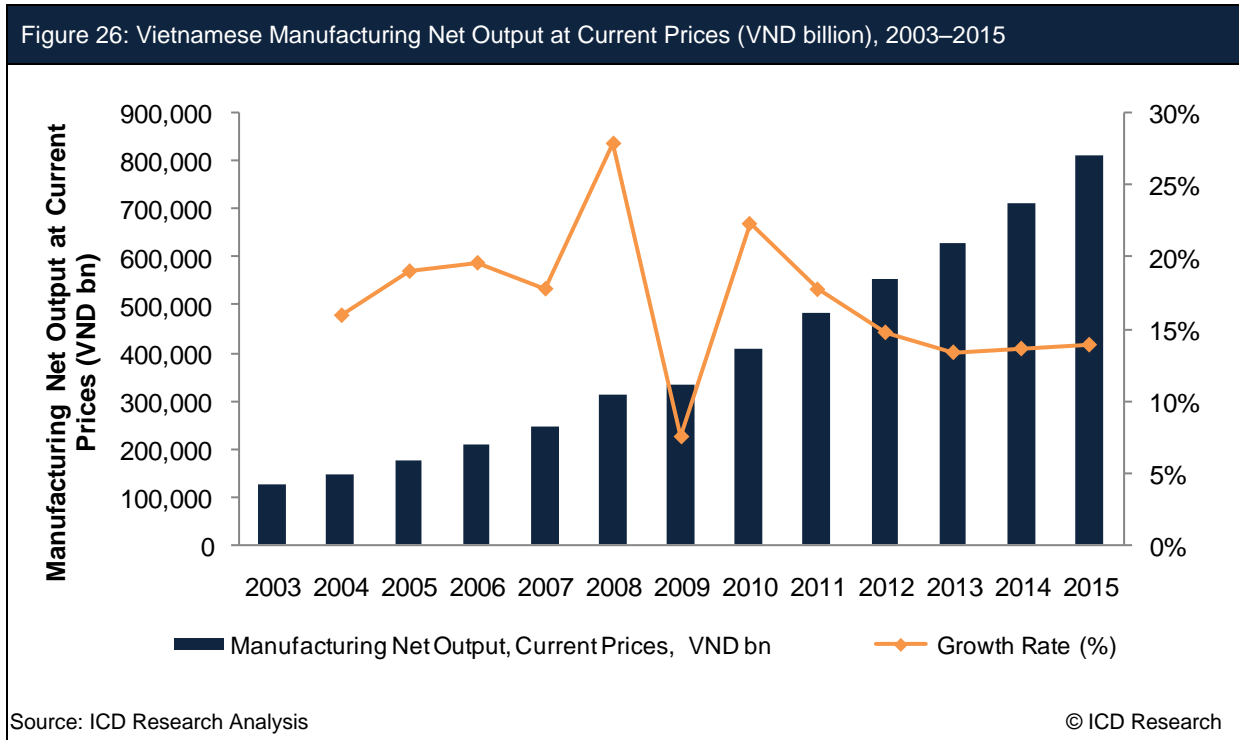
The agriculture net output as a percentage of GDP marginally decreased from 22.5% in 2003 to 21.8% in 2009. It is expected to reach 20.7% by 2015.





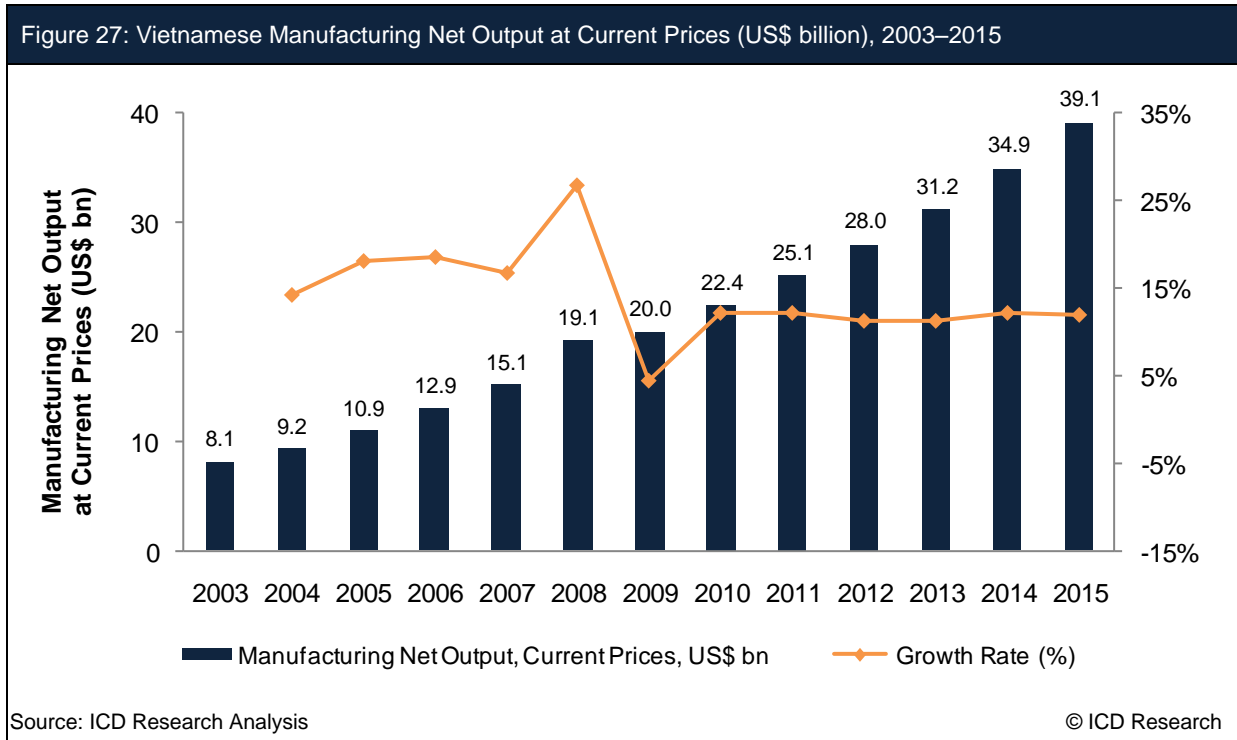
### 8.1.9 Manufacturing net output at current prices (Vietnamese dong)

The manufacturing net output at current prices stood at VND125476 billion in 2003. Growing at a CAGR of 17.80% during 2003–2009, the sector reached VND335237 billion in 2009. The sector is expected to grow at a CAGR of 14.66% during 2010–2015 to reach VND812574.8 billion by 2015.



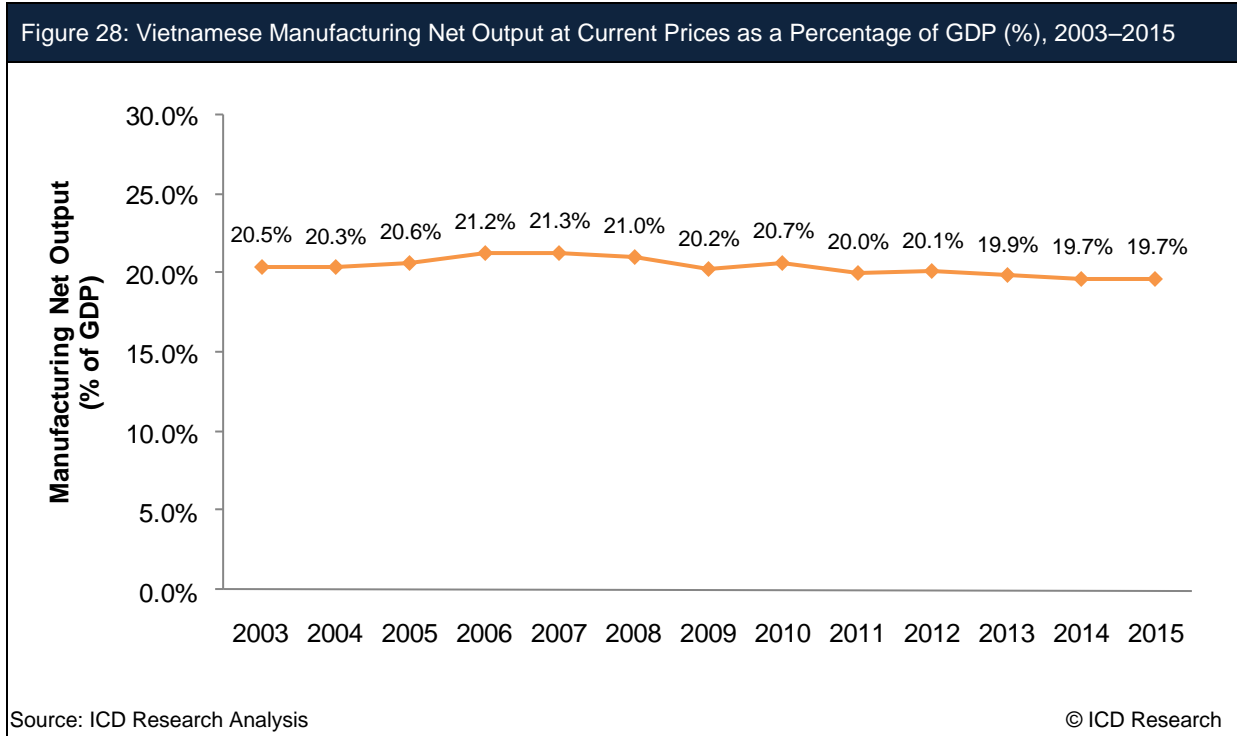
### 8.1.10 Manufacturing net output at current prices (US dollars)

The manufacturing net output at current prices stood at US\$8.1 billion in 2003. The sector registered a CAGR of 16.26% during 2003–2009, to reach US\$20 billion in 2009. During 2010–2015, the sector is expected to grow at a CAGR of 11.80% to reach US\$39.1 billion by 2015.



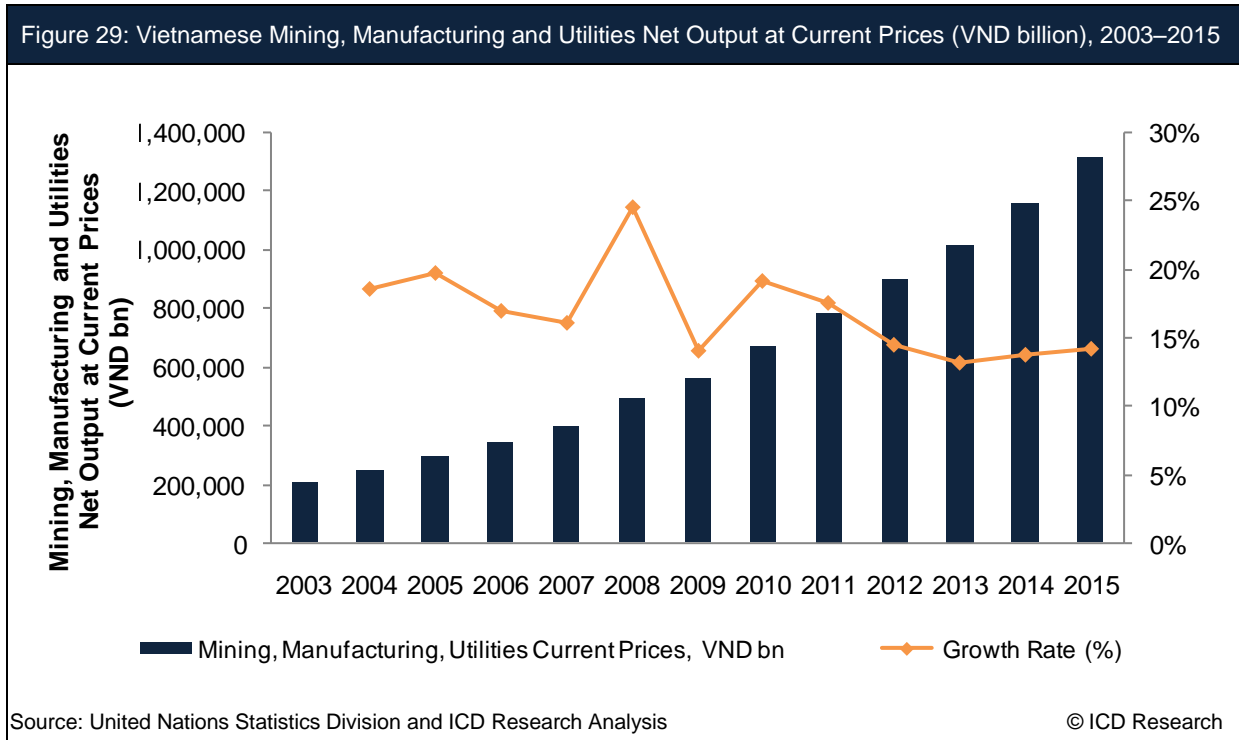
### 8.1.11 Manufacturing net output at current prices as percentage of GDP

The manufacturing net output at current prices as a percentage of GDP decreased from 20.5% in 2003 to 20.2% in 2009. This is expected to further decrease during 2010–2015 to reach 19.7% in 2015.



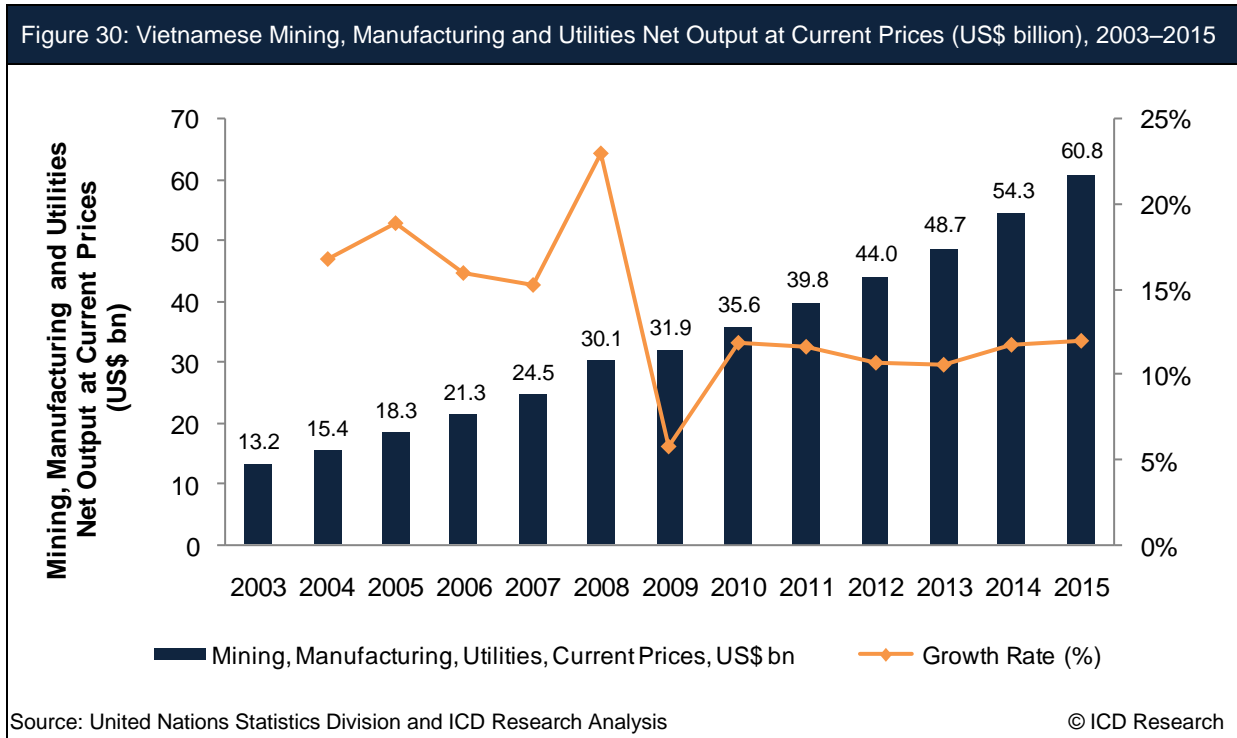
### 8.1.12 Mining, manufacturing and utilities net output at current prices (Vietnamese dong)

The combined net output of mining, manufacturing and utilities at current prices stood at VND205025.9 billion in 2003. The sector valued VND560271 billion in 2009, registering a CAGR of 18.24% during 2003–2009. The sector is likely to grow at a CAGR of 14.54% during 2010–2015 to reach VND1315485.3 billion in 2015.



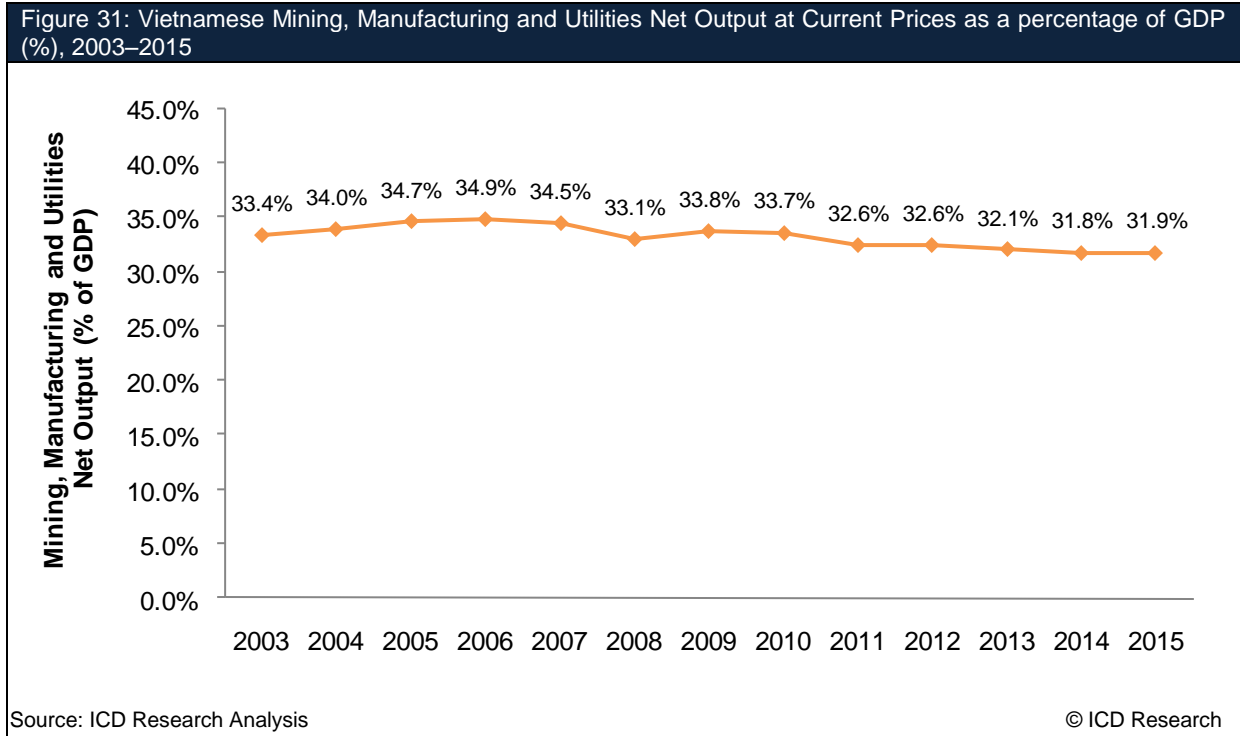
### 8.1.13 Mining, manufacturing and utilities at current prices (US dollars)

The combined net output of mining, manufacturing and utilities at current prices stood at US\$13.2 billion in 2003. The sector registered a CAGR of 15.80% during 2003–2009 to reach US\$31.9 billion in 2009. The sector is expected to register a CAGR of 11.28% during 2010–2015 to reach US\$60.8 billion in 2015.



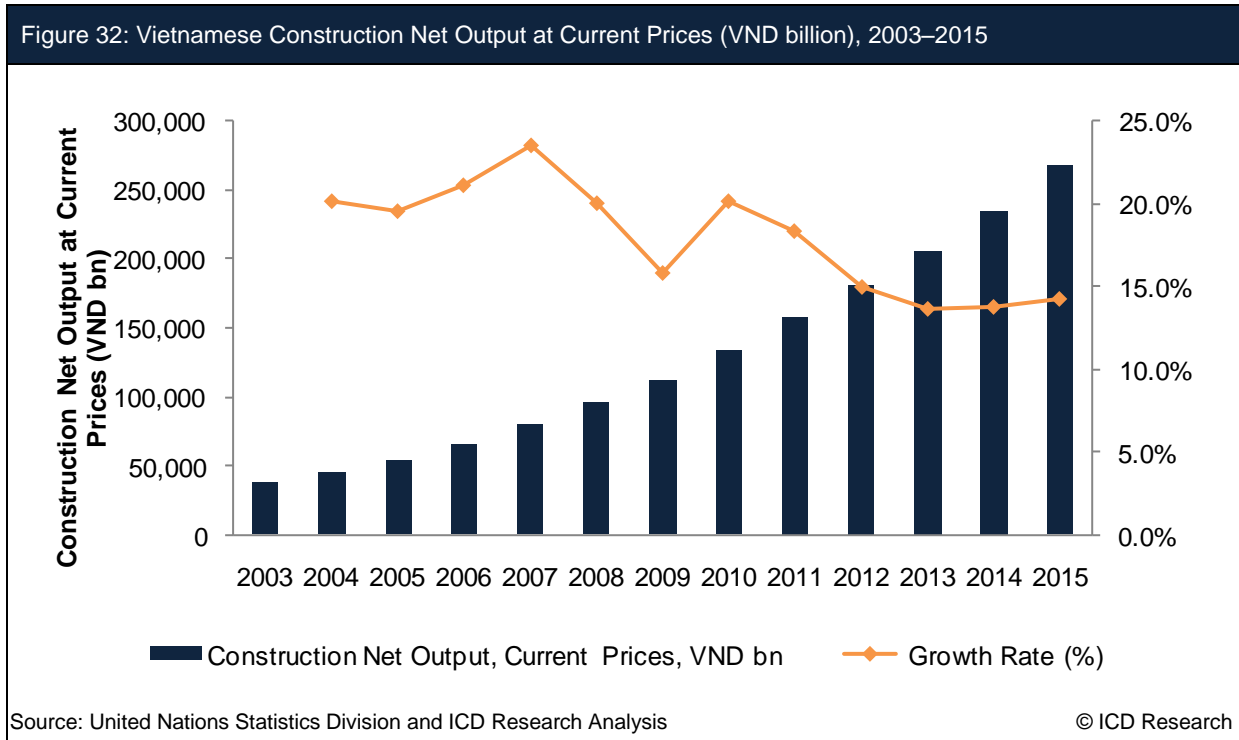
**8.1.14 Mining, manufacturing and utilities at current prices, as percentage of GDP**

The combined net output of mining, manufacturing and utilities at current prices as a percentage of GDP increased from 33.4% in 2003 to 33.8% in 2009. This is expected to decrease to 31.9% in 2015.



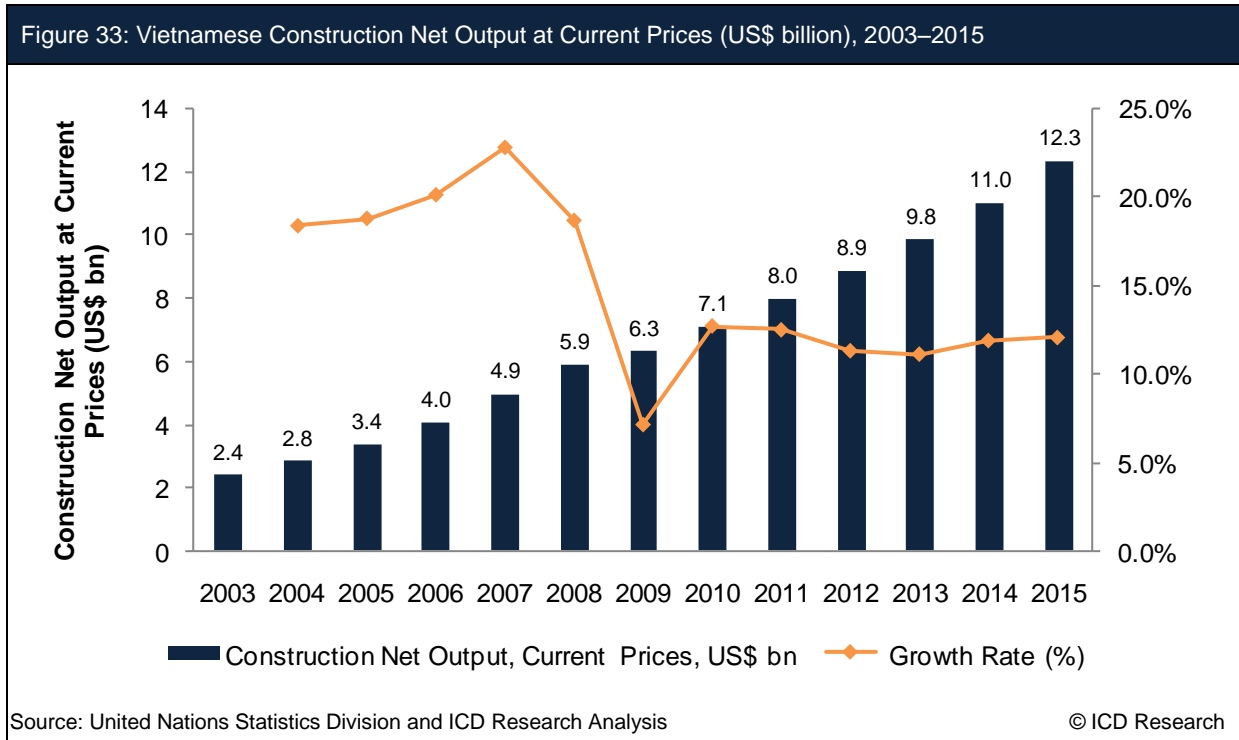
### 8.1.15 Construction net output at current prices (Vietnamese dong)

The construction net output at current prices stood at VND37099.8 billion in 2003. The sector valued VND110794.4 billion in 2009, registering a CAGR of 20% during 2003–2009. The sector is expected to grow at a CAGR of 14.98% during 2010–2015 to reach VND267599.3 billion by 2015.



### 8.1.16 Construction net output at current prices, (US dollars)

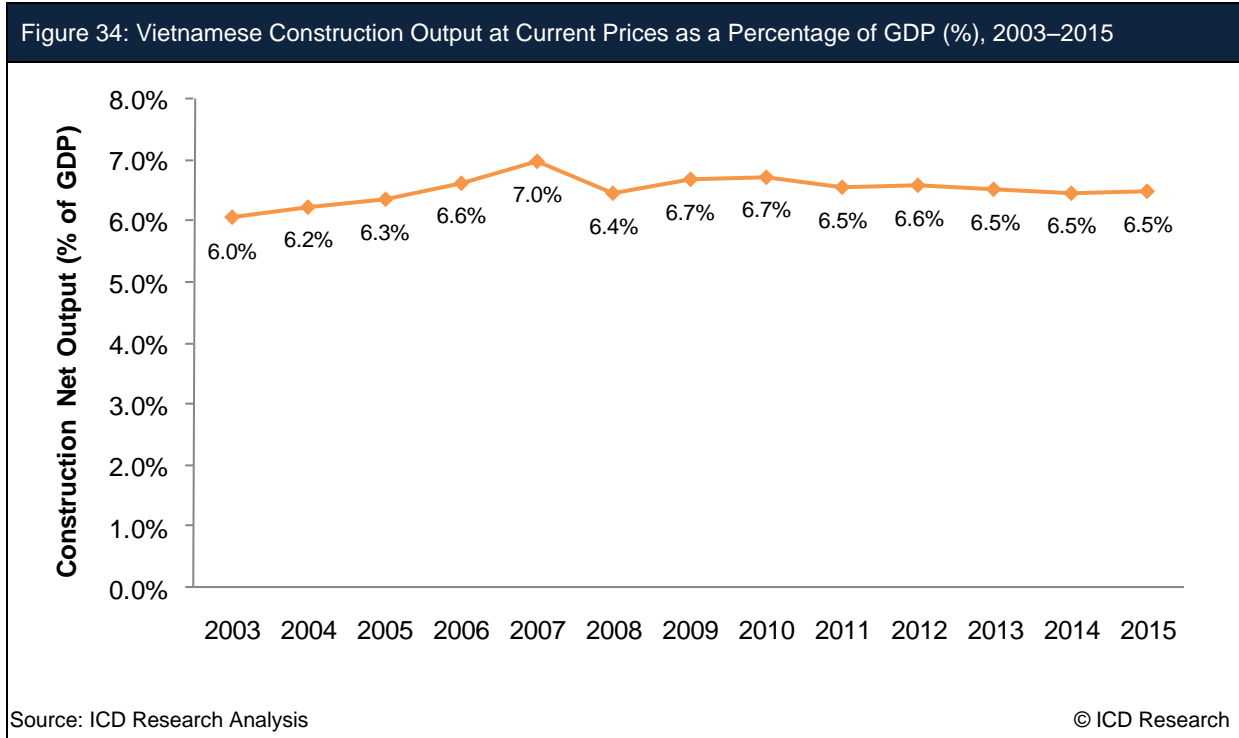
The construction net output at current prices stood at US\$2.4 billion in 2003. Growing at a CAGR of 17.47% during 2003–2009, the sector reached US\$6.3 billion in 2009. It is expected to grow at a CAGR of 11.69% during 2010–2015 to reach US\$12.3 billion by 2015.





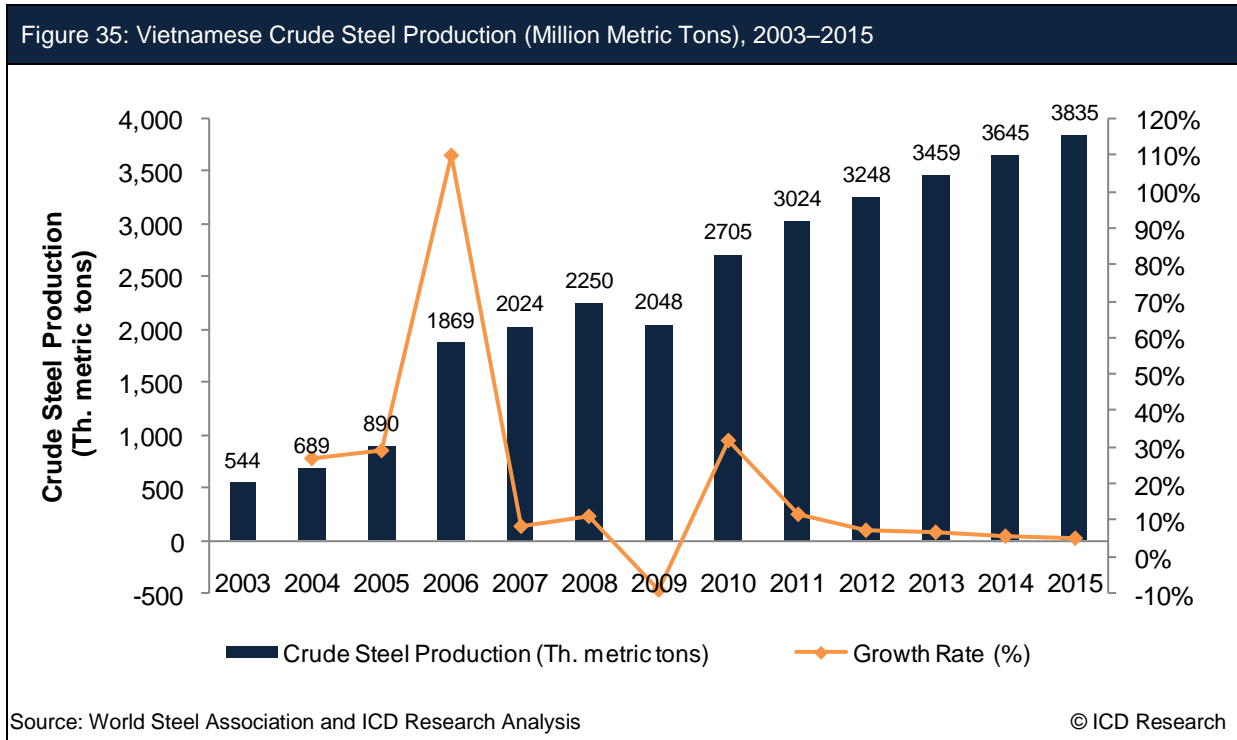
### 8.1.17 Construction net output at current prices as a percentage of GDP

The construction net output at current prices as a percentage of GDP increased from 6.0% in 2003 to 6.7% in 2009. It is expected to reach 6.5% in 2015.



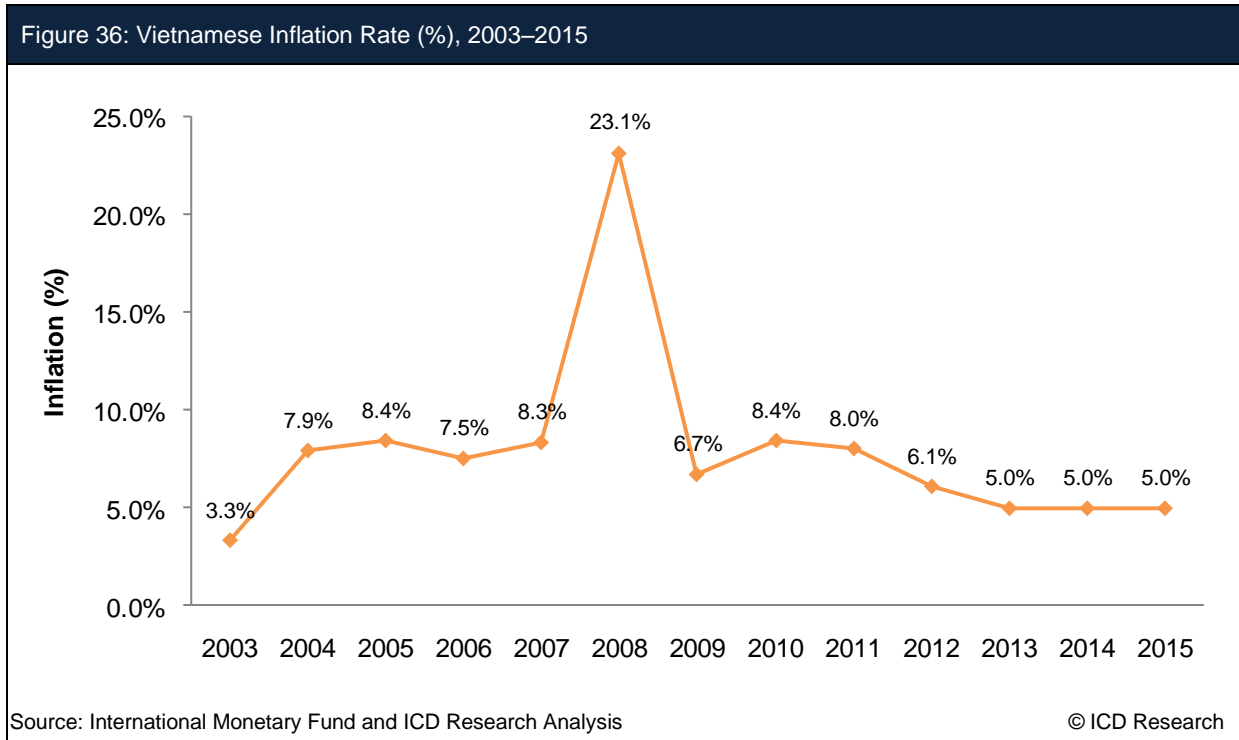
### 8.1.18 Crude steel production

The crude steel production increased from 544 thousand metric tons in 2003 to 2048 thousand metric tons in 2009, registering a CAGR of 24.72% during 2003–2009. It is expected to register a CAGR of 7.23% during 2010–2015 to reach 3835 thousand metric tons by 2015.



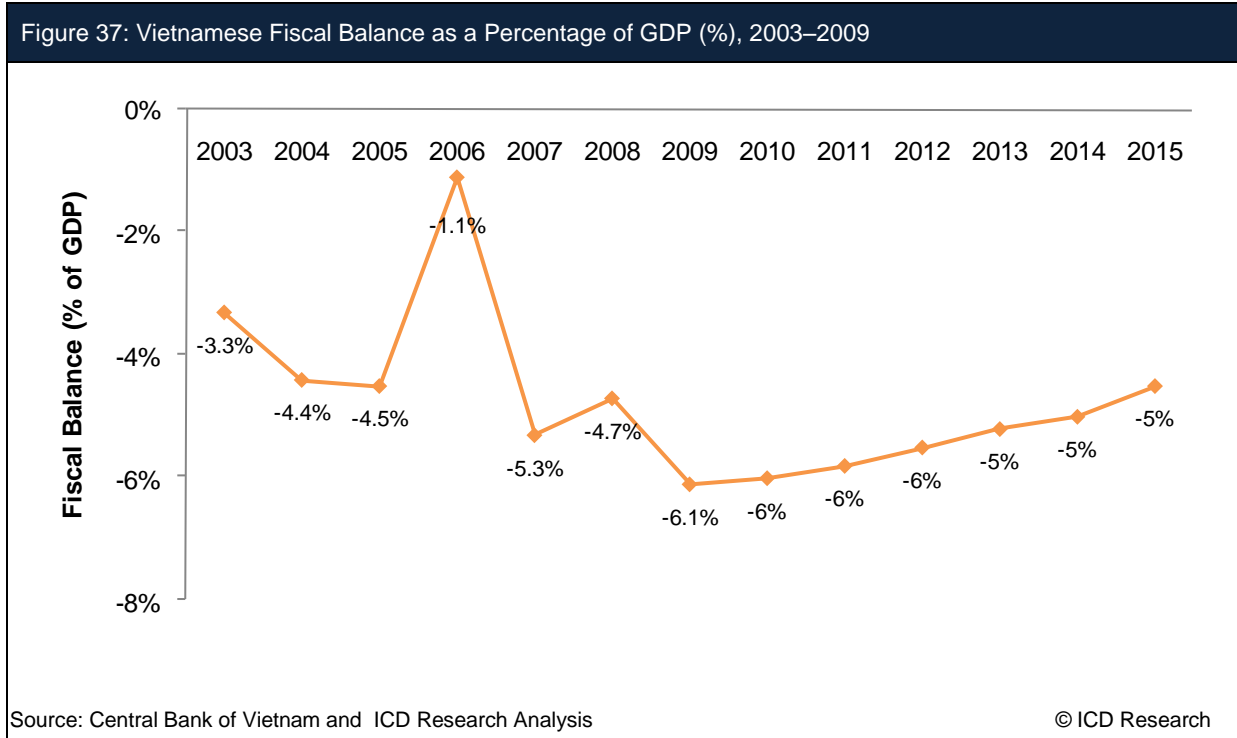
### 8.1.19 Inflation rate

The rate of inflation in Vietnam increased from 3.3% in 2003 to 23.1% in 2008. The inflationary pressure in the economy is expected to ease during 2010–2015 and the inflation rate is expected to decline continuously and reach 5% in 2015.



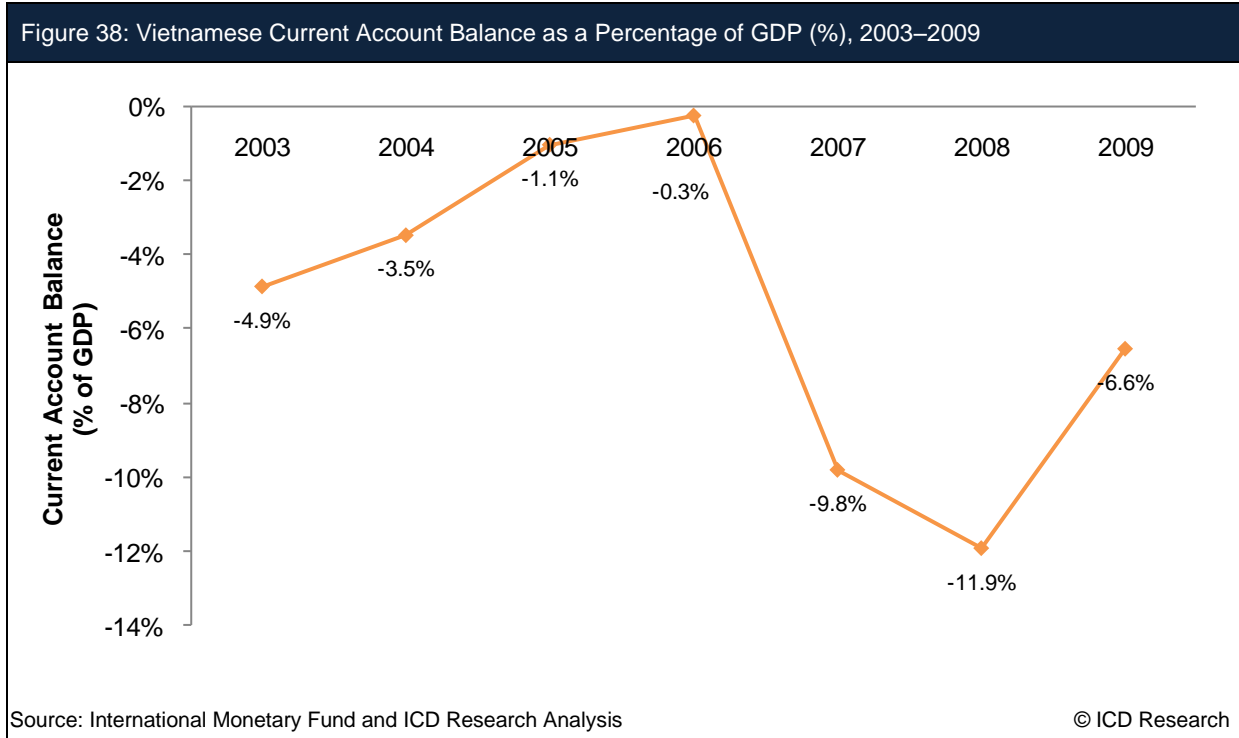
### 8.1.20 Fiscal balance as a percentage of GDP

The fiscal balance has deteriorated during the period 2003–2009. The fiscal deficit declined from its 2003 level of -3.3 to -6.1 in 2009. It is expected to reach -5% in 2015.



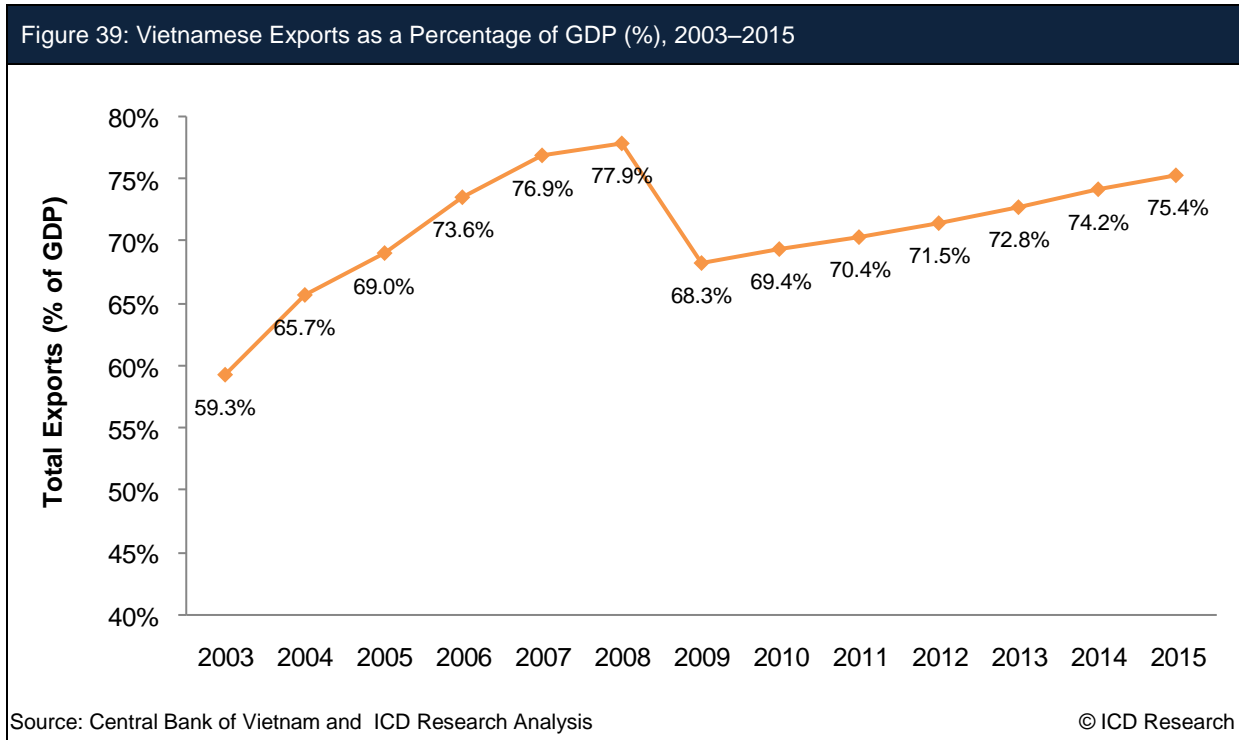
### 8.1.21 Current account balance as a percentage of GDP

The current account balance as a percentage of GDP increased from -4.9% in 2003 to -0.3% in 2006 and deteriorated since then to reach -6.6% in 2009.



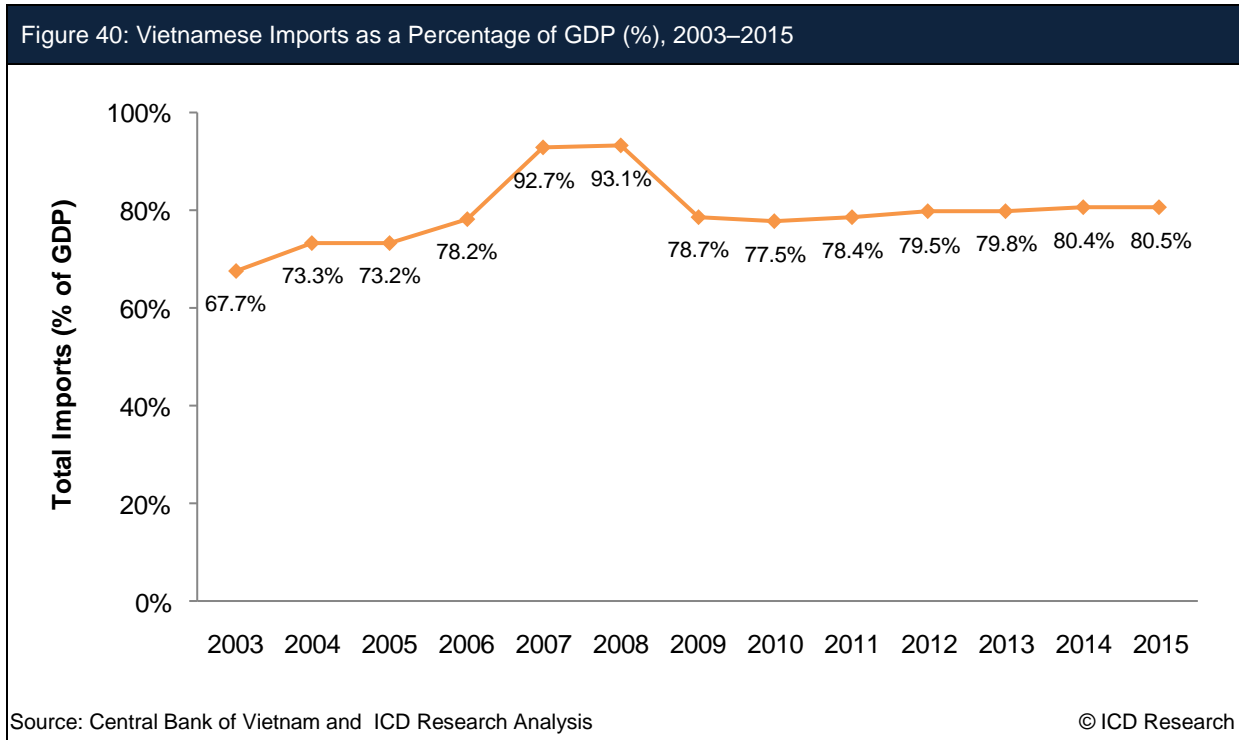
### 8.1.22 Exports as a percentage of GDP

The total export of goods and services as a percentage of GDP stood at 59.3% in 2003. It increased to 77.9% in 2008 before falling to 68.3% in 2009. Exports as a percentage of the GDP are expected to increase to reach 75.4% by 2015.



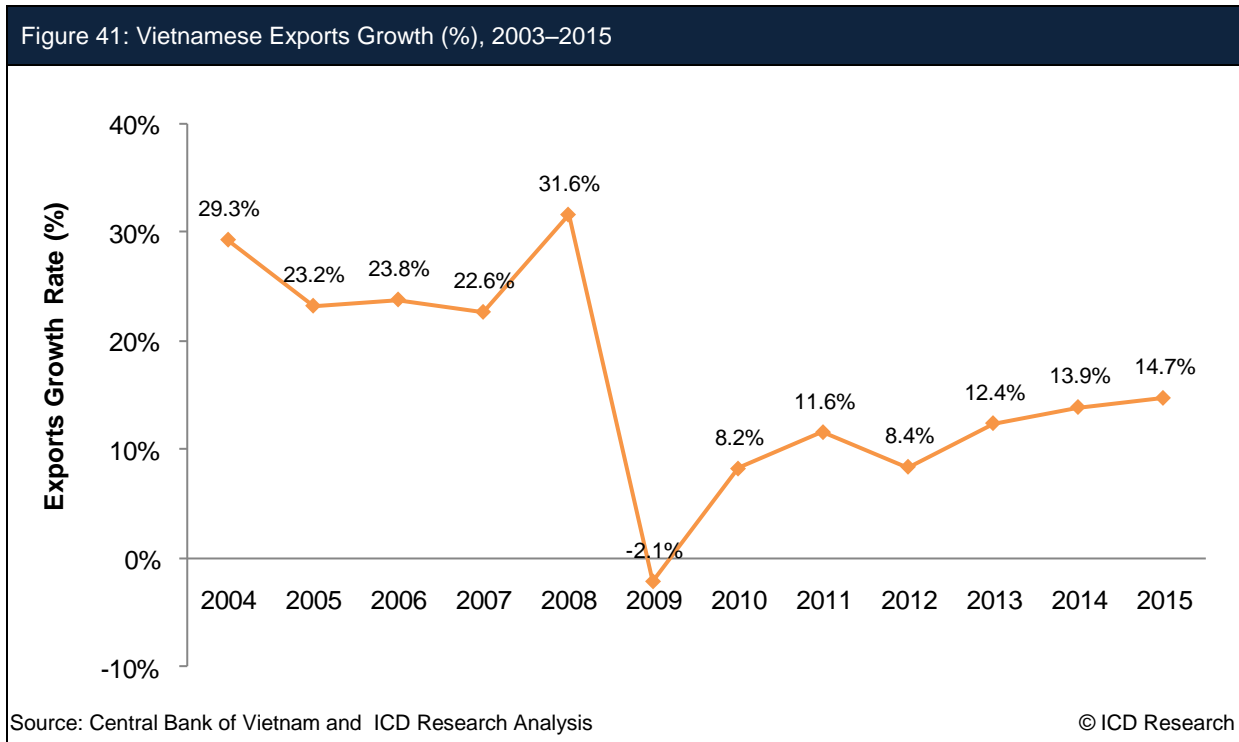
### 8.1.23 Imports as a percentage of GDP

The total imports of goods and services as a percentage of GDP stood at 67.7% in 2003. It increased to 93.1% in 2008 before falling to 78.7% in 2009. Imports as a percentage of GDP are expected to increase to 80.5% by 2015.



### 8.1.24 Exports growth

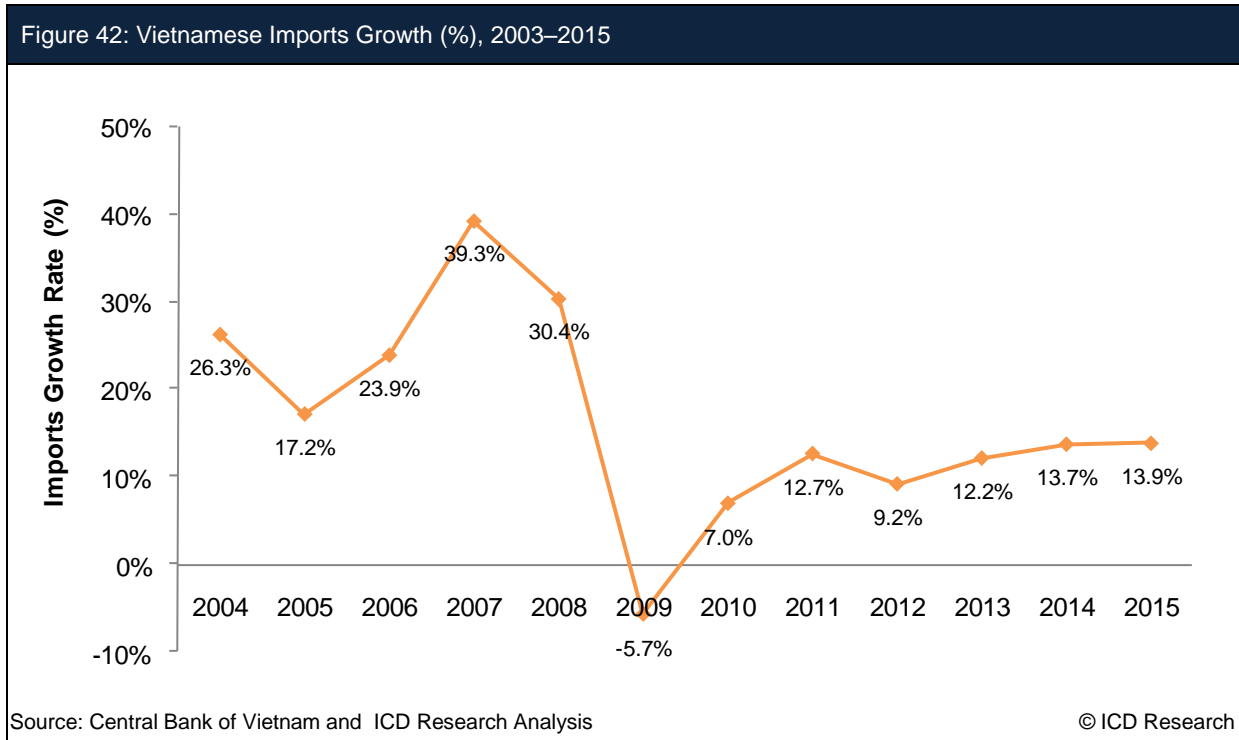
The annual growth of Vietnamese exports of goods and services increased from 29.3% in 2004 to 31.6% in 2008. In 2009 it fell to -2.1% due to the global economic slowdown. During 2010–2015, exports growth is likely to fluctuate between a low of 8.2% and a high of 14.7% and reach 14.7% by 2015.





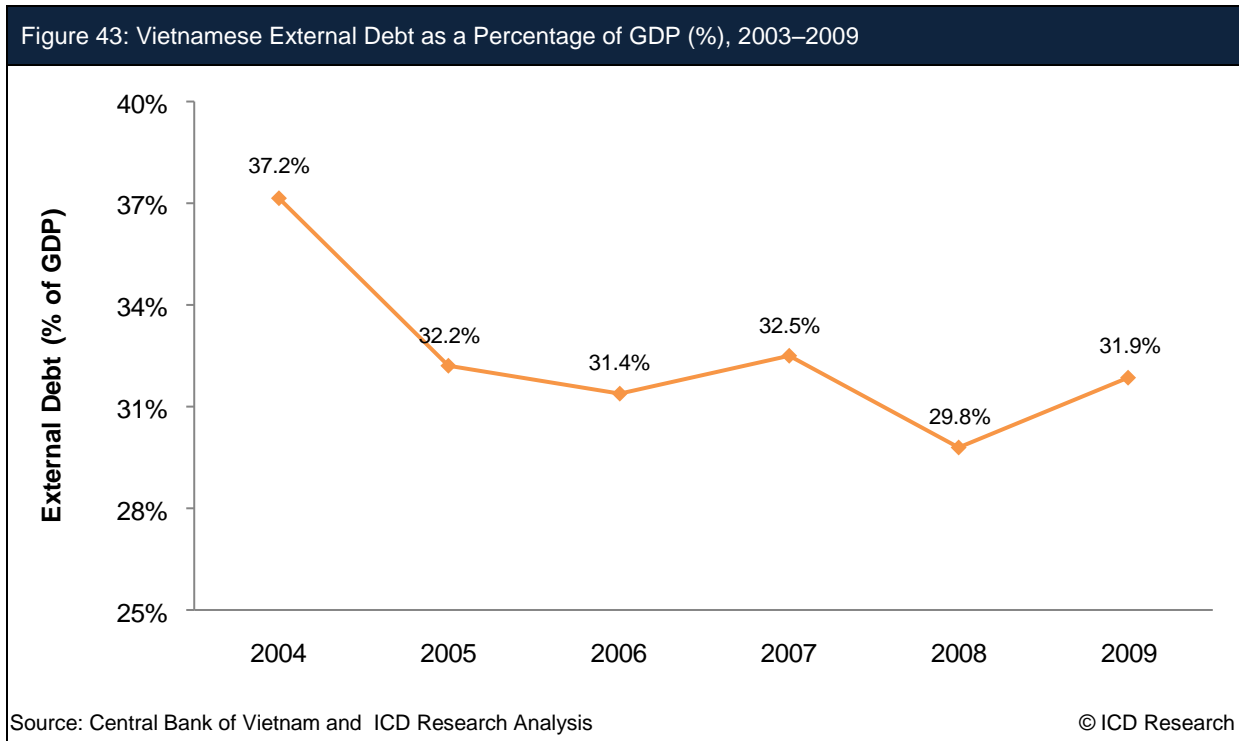
### 8.1.25 Imports growth

The annual growth of total imports increased from 26.3% in 2004 to 39.3% in 2007 before registering a negative growth of -5.7% in 2009. During 2010–2015, imports growth is expected to fluctuate between a low of 7% and a high of 13.9% to reach 13.9% by 2015.



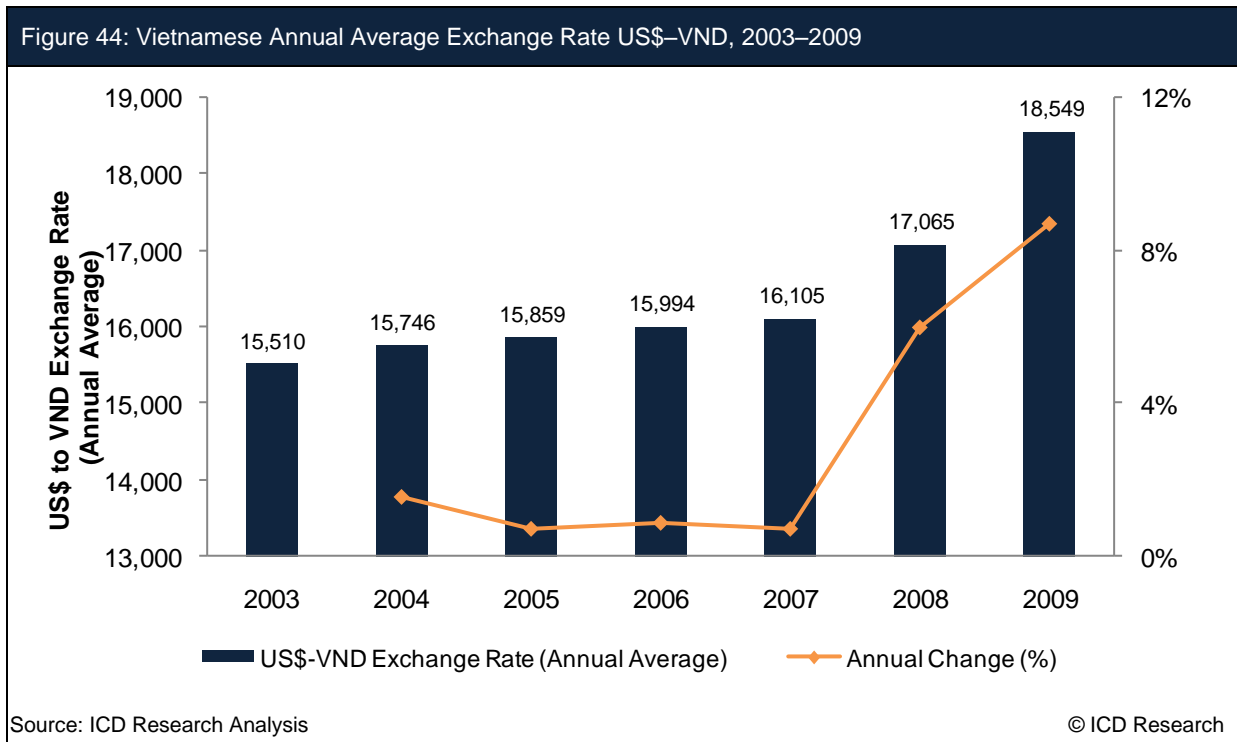
### 8.1.26 External debt as a percentage of GDP

The external debt as a percentage of the GDP declined from 37.2% in 2003 to 31.9% in 2009.



### 8.1.27 Annual average exchange rate US\$–VND

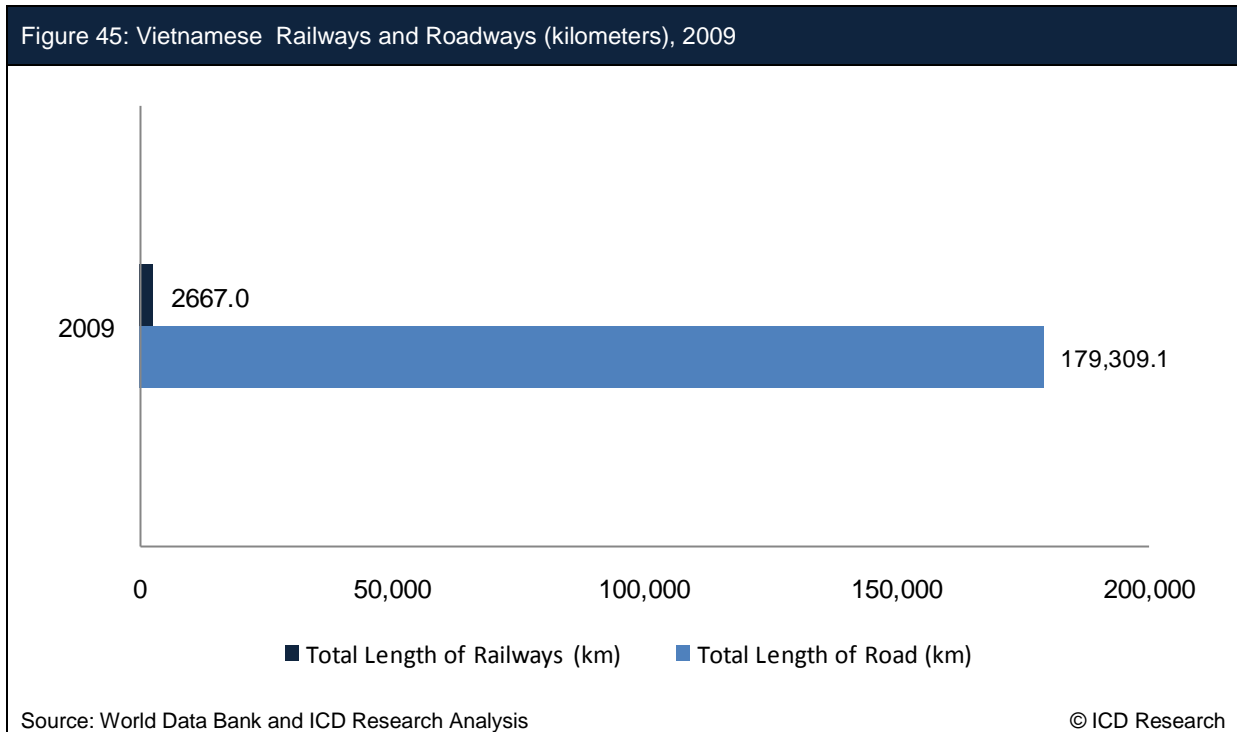
The annual average exchange rate in 2003 was 15510 Vietnamese dong against the US dollar. It appreciated to 18549 Vietnamese dong against the US dollar in 2009.



## 8.2 Infrastructure Quality and Availability

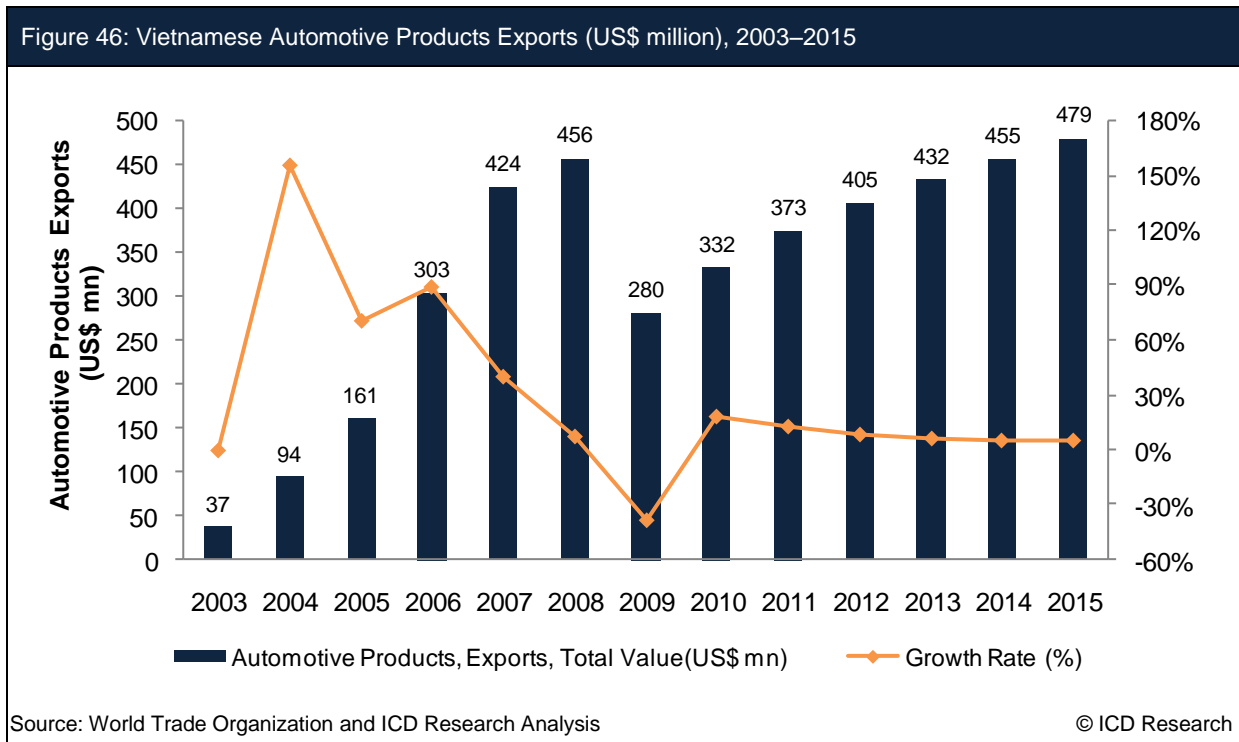
### 8.2.1 Railways and roadways

The total length of railways and roadways in the country was 2,667.0 and 179,309.1 kilometers respectively, as of 2009.



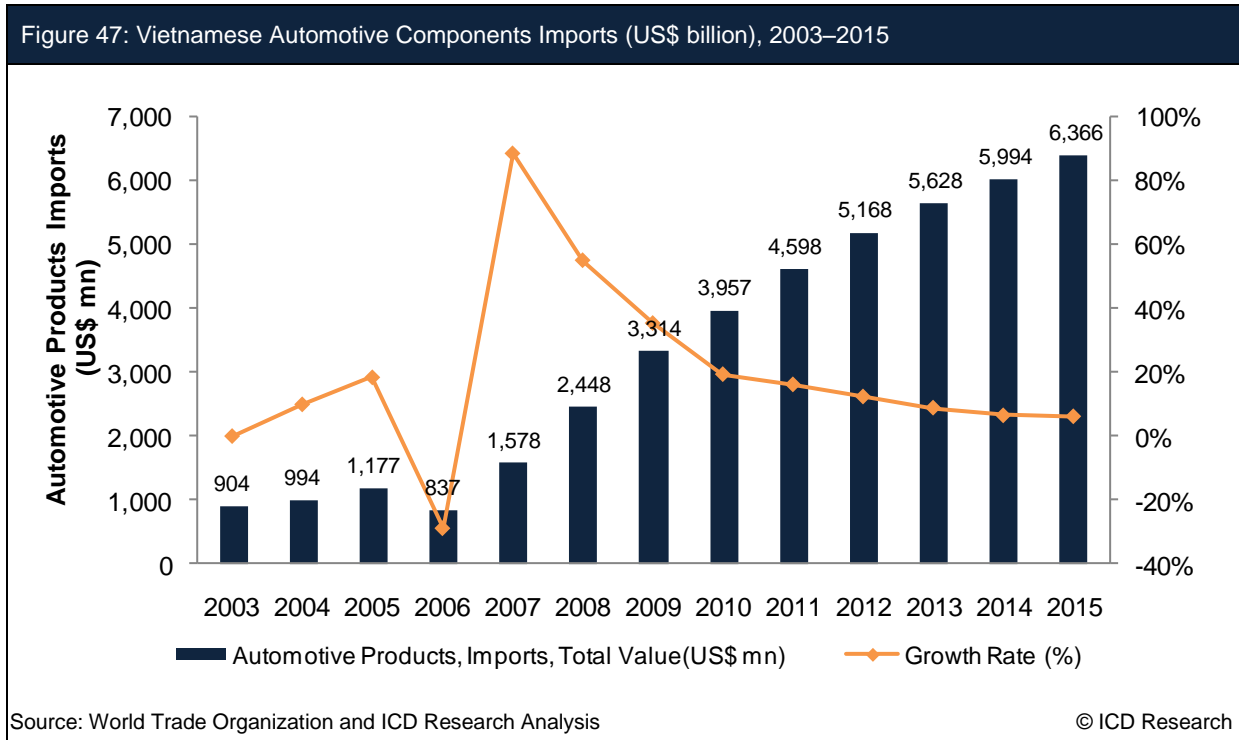
### 8.2.2 Automotive products exports trend

Vietnam’s automotive products exports valued US\$280 million in 2009, recording a CAGR of 40.19% during 2003–2009. Exports from this sector are expected to increase at a CAGR of 7.57% in 2010–2015 to reach US\$479 million by 2015.



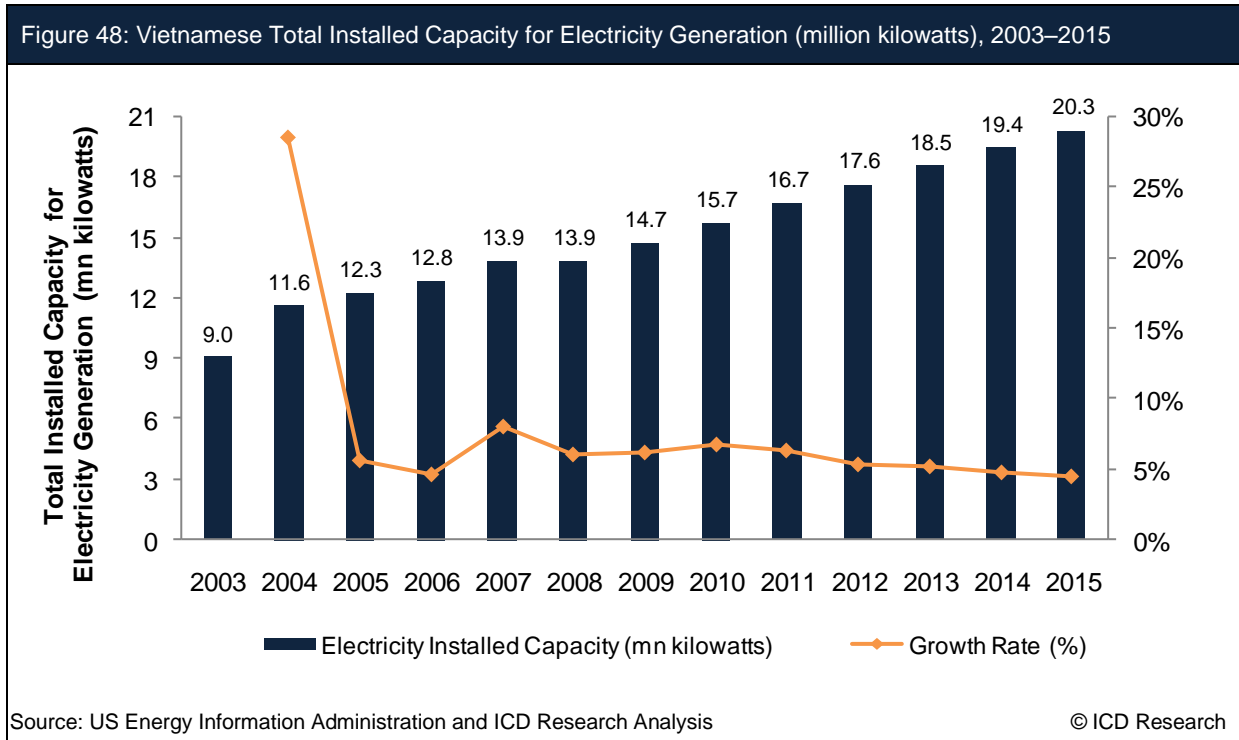
### 8.2.3 Automotive products imports trend

Vietnam’s automotive products imports valued US\$904 million in 2009, registering a CAGR of 24.17% during 2003–2009. Imports from this sector are expected to increase at a CAGR of 9.98% during 2010–2015 to reach US\$6366 million by 2015.



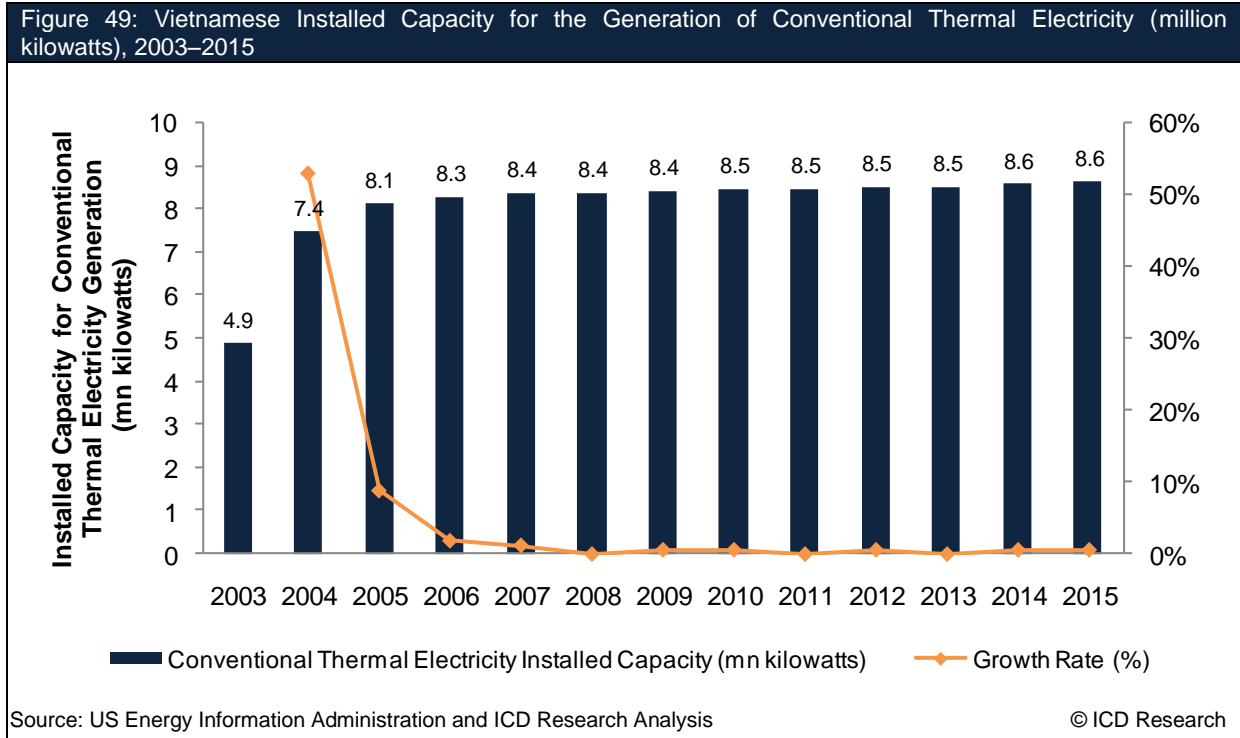
### 8.2.4 Total installed capacity for electricity generation

The total installed capacity for the generation of electricity stood at 14.7 million kW at the end of 2009, registering a CAGR of 8.48% during 2003–2009. It is expected to increase at a CAGR of 5.25% during 2010–2015 to reach 20.3 million kW by 2015.



### 8.2.5 Installed capacity for the generation of conventional thermal electricity

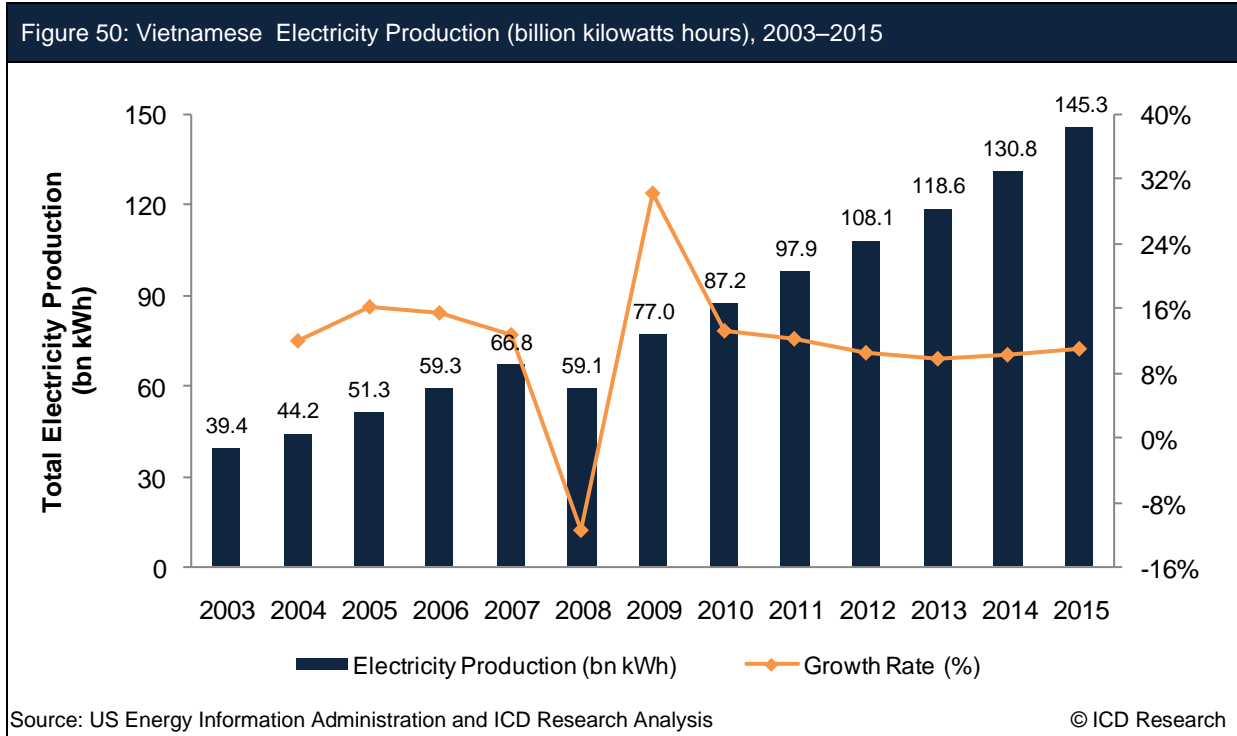
The total installed conventional thermal electricity capacity stood at 8.4 million kW at the end of 2009, registering a CAGR of 9.50% during 2003–2009. It is expected to register a CAGR of 0.35% during 2010–2015 to reach 8.6 million kW by 2015.





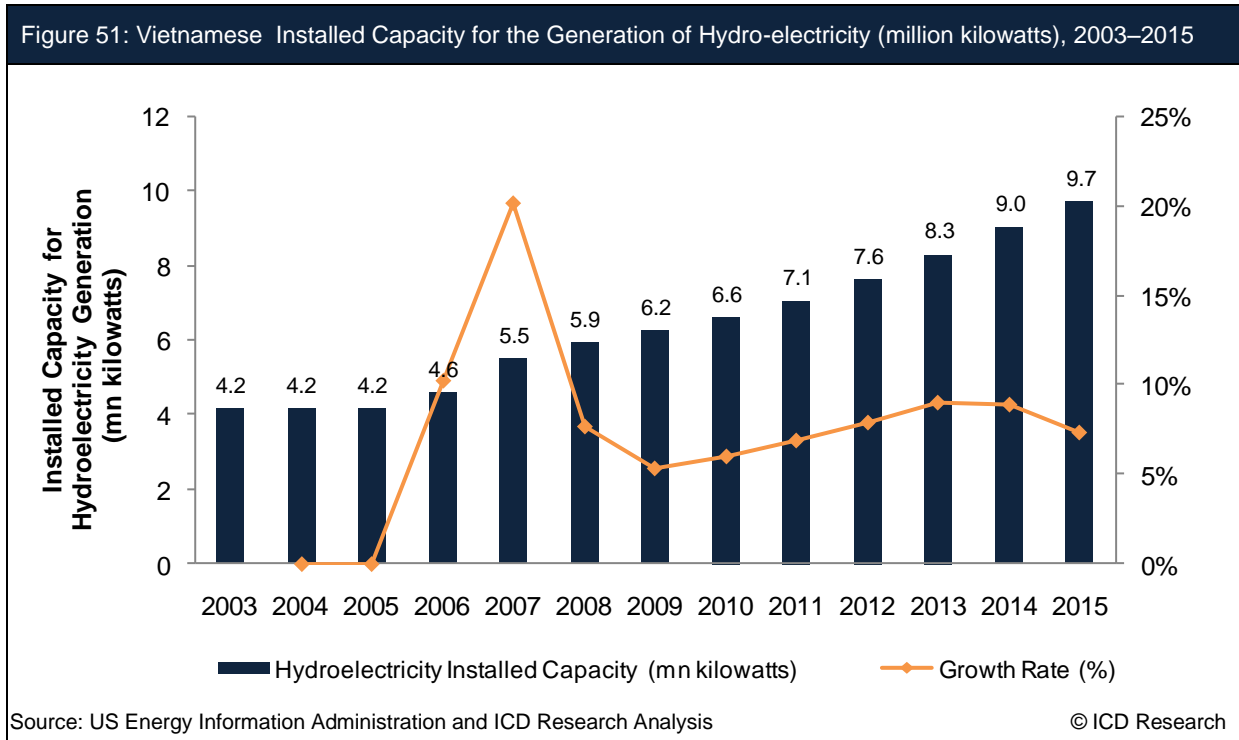
### 8.2.6 Electricity production

The electricity production was 77 billion kWh in 2009, recording at CAGR of 11.81% during 2003–2009. It is expected to grow at a CAGR of 10.76% during 2010–2015 to reach 145.3 billion kWh by 2015.



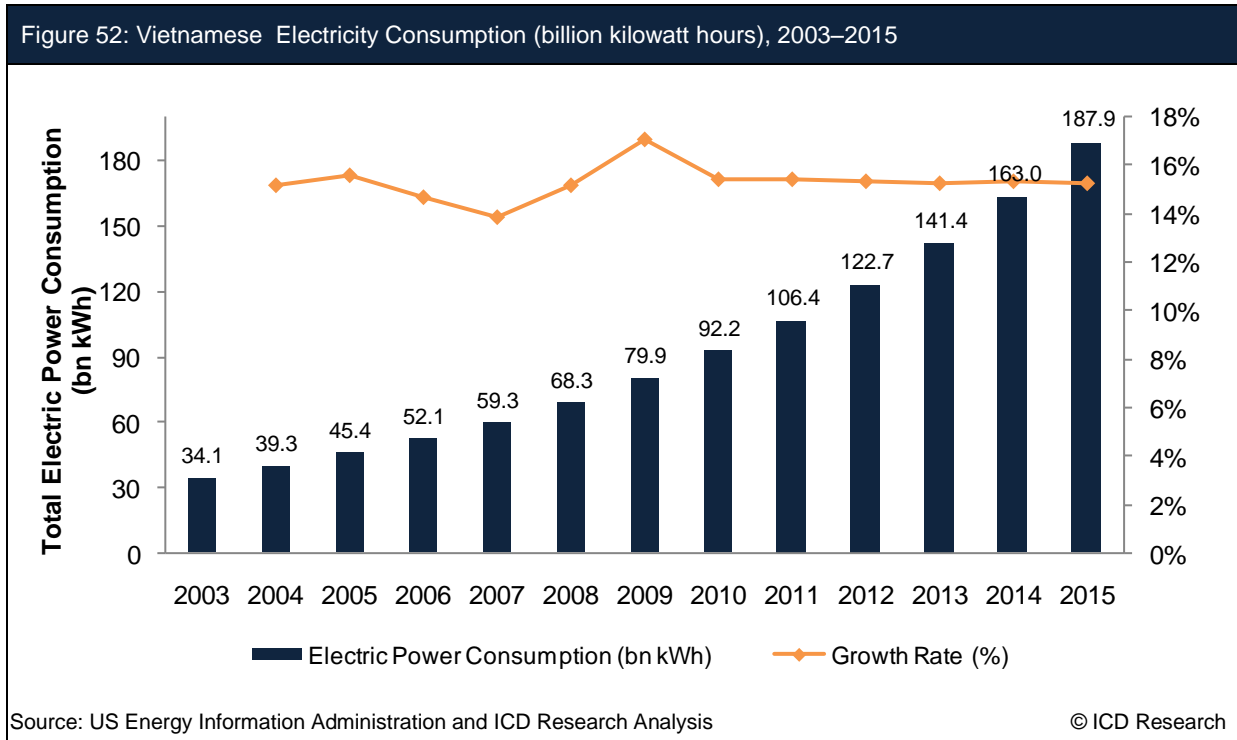
### 8.2.7 Installed capacity for hydro-electricity generation

The hydro-electricity installed capacity stood at 6.2 million kW in 2009, growing at a CAGR of 6.99% during 2003–2009. It is expected to grow at a CAGR of 7.98% during 2010–2015 to reach 9.7 million kW by 2015.



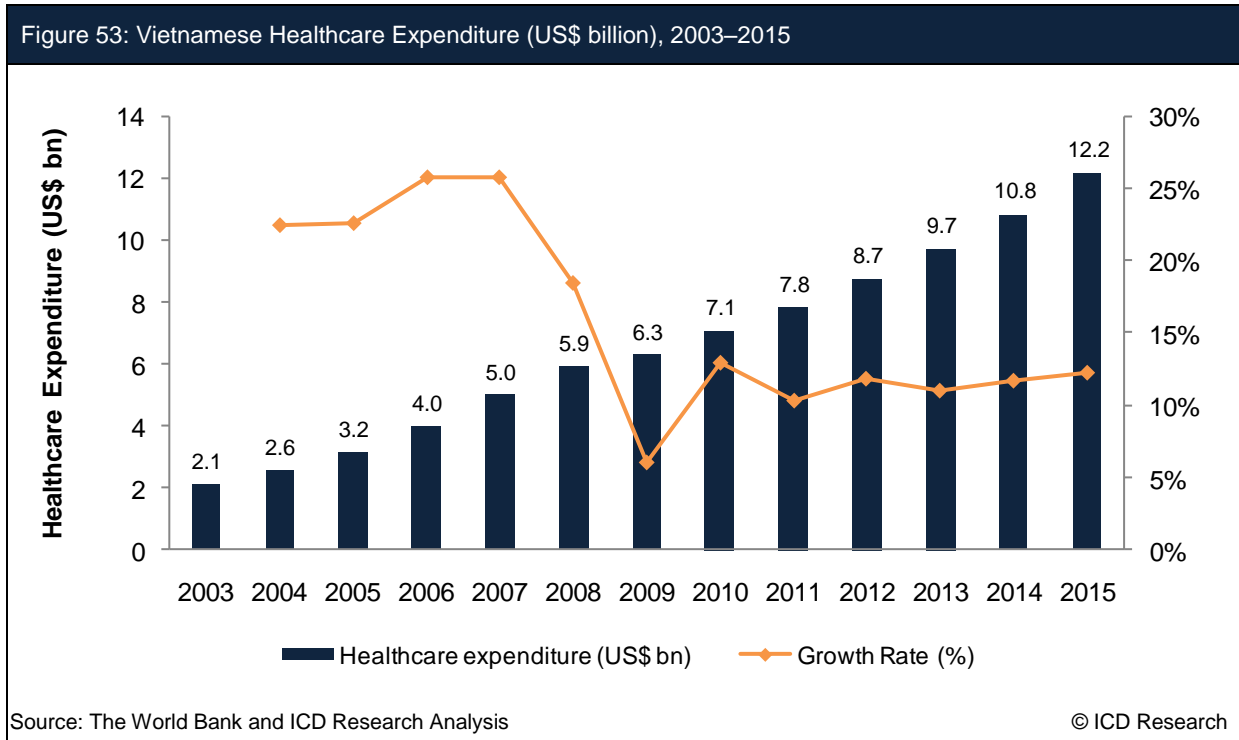
### 8.2.8 Electricity consumption

The electricity power consumption stood at 79.9 billion kWh in 2009, growing at a CAGR of 15.23% during 2003–2009. It is expected to grow at a CAGR of 15.30% during 2010–2015 to reach 187.9 billion kWh by 2015.



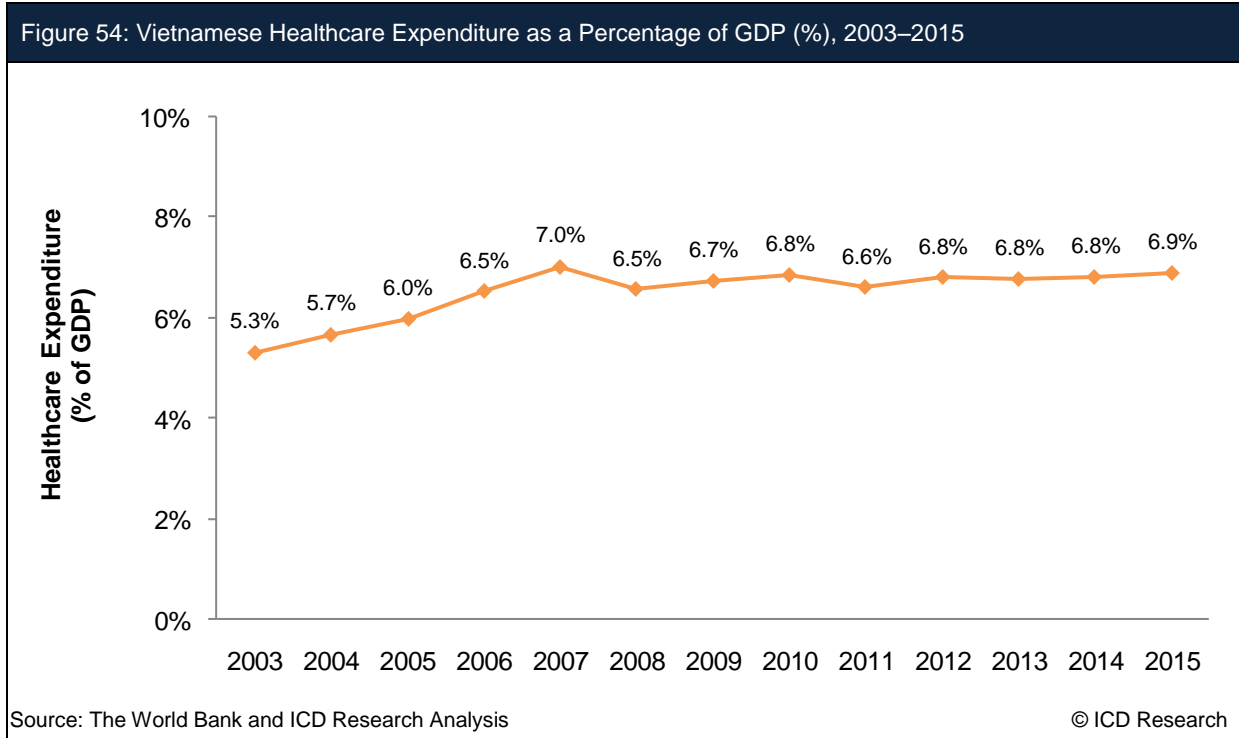
### 8.2.9 Healthcare expenditure

The healthcare expenditure stood at US\$6.3 billion in 2009, growing at a CAGR of 19.98% during 2003–2009. Healthcare expenditure is expected to grow at a CAGR of 11.40% during 2010–2015 to reach US\$12.2 billion in 2015.



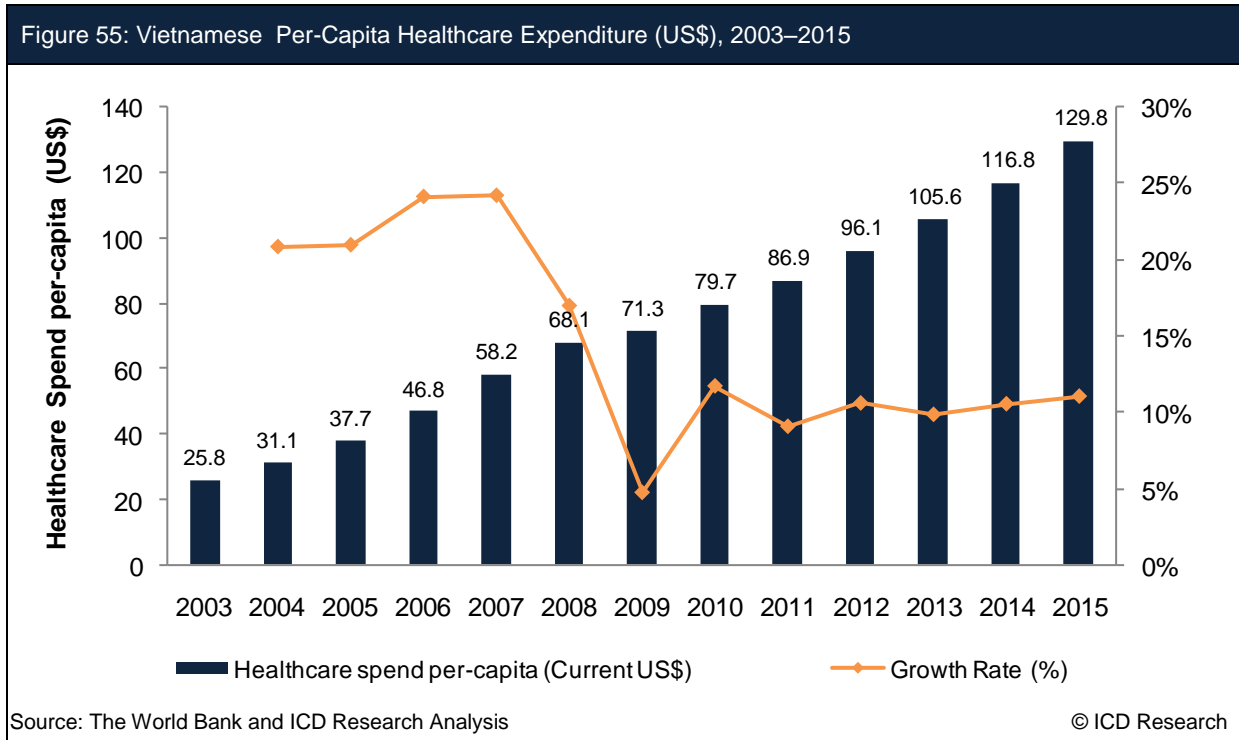
### 8.2.10 Healthcare expenditure as percentage of GDP

The healthcare expenditure as a percentage of GDP was 5.3% in 2003 and increased to 6.7% in 2009. It is expected to reach 6.9% by 2015.



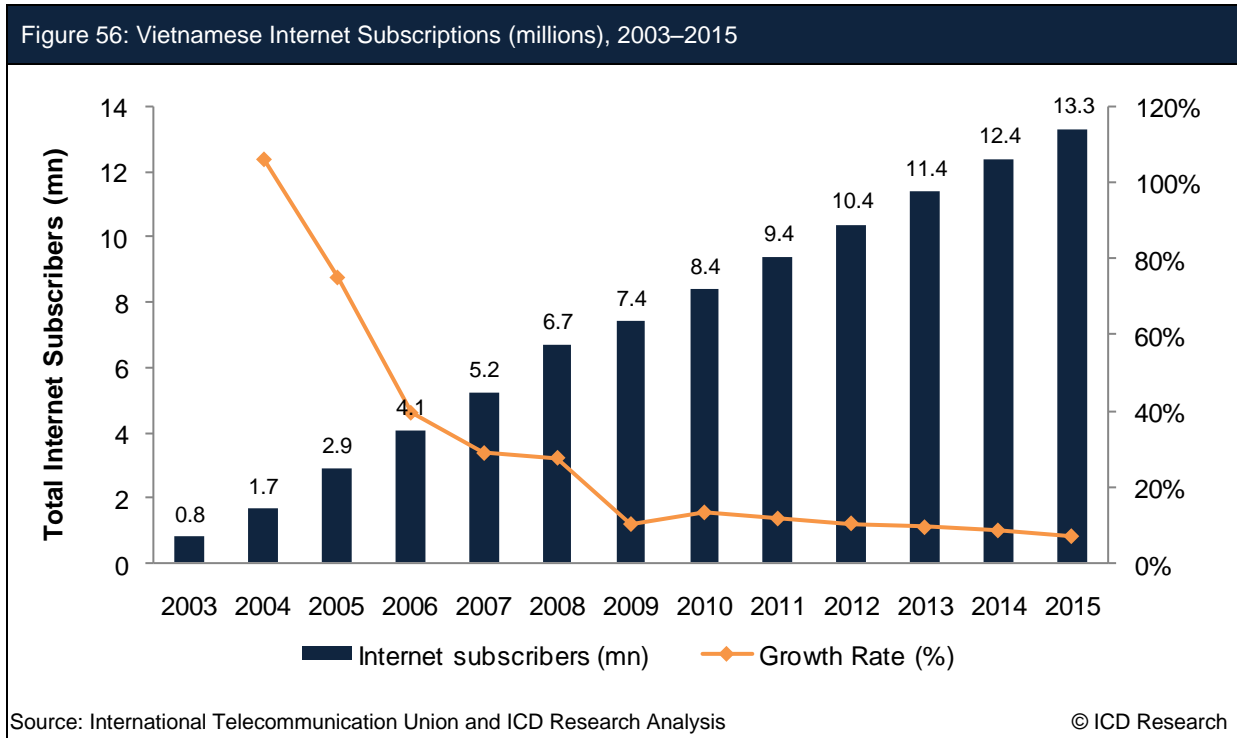
### 8.2.11 Healthcare expenditure per-capita

The healthcare expenditure per-capita stood at US\$71.3 in 2009, growing at CAGR of 18.49% during 2003–2009. Healthcare expenditure per-capita is forecast to increase at a CAGR of 10.25% during 2010–2015 to reach US\$129.8 in 2015.



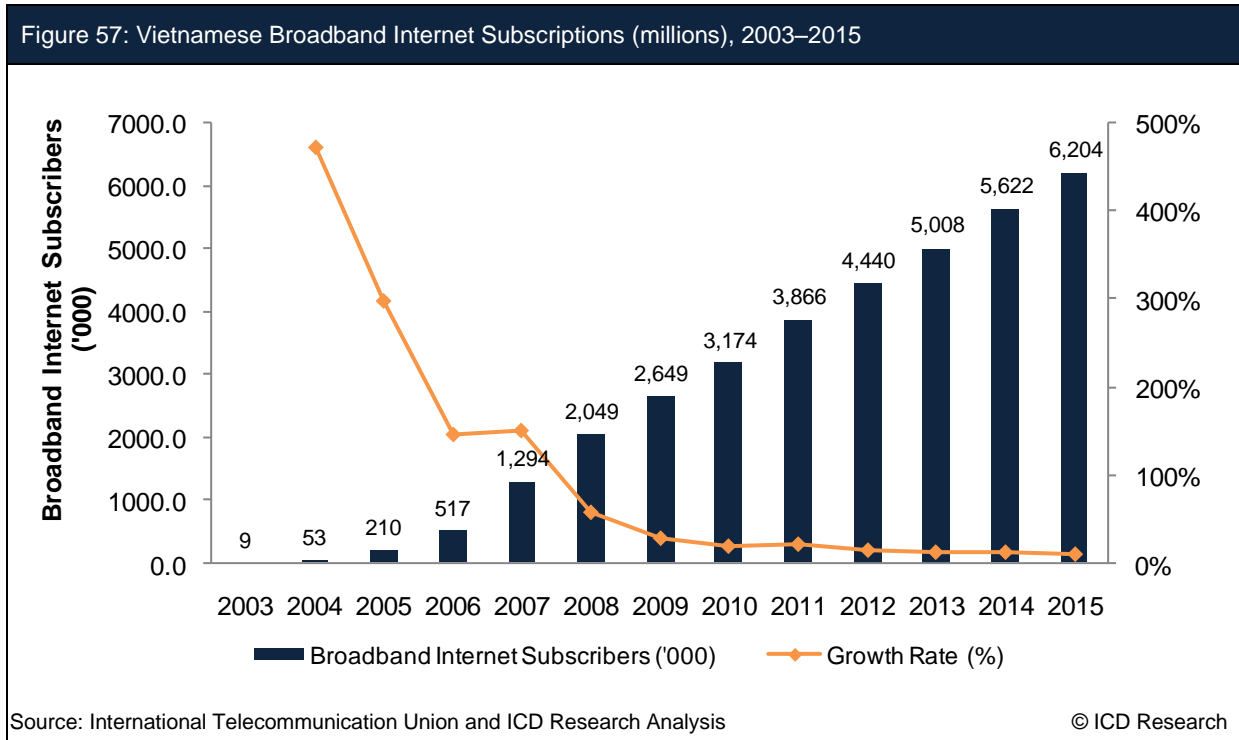
### 8.2.12 Total internet subscribers

The total internet subscribers stood at 7.4 million in 2009, registering a CAGR of 44.75% during 2003–2009. It is forecast to grow at a CAGR of 9.63% during 2010–2015 to reach 13.3 million in 2015.



### 8.2.13 Broadband internet subscribers

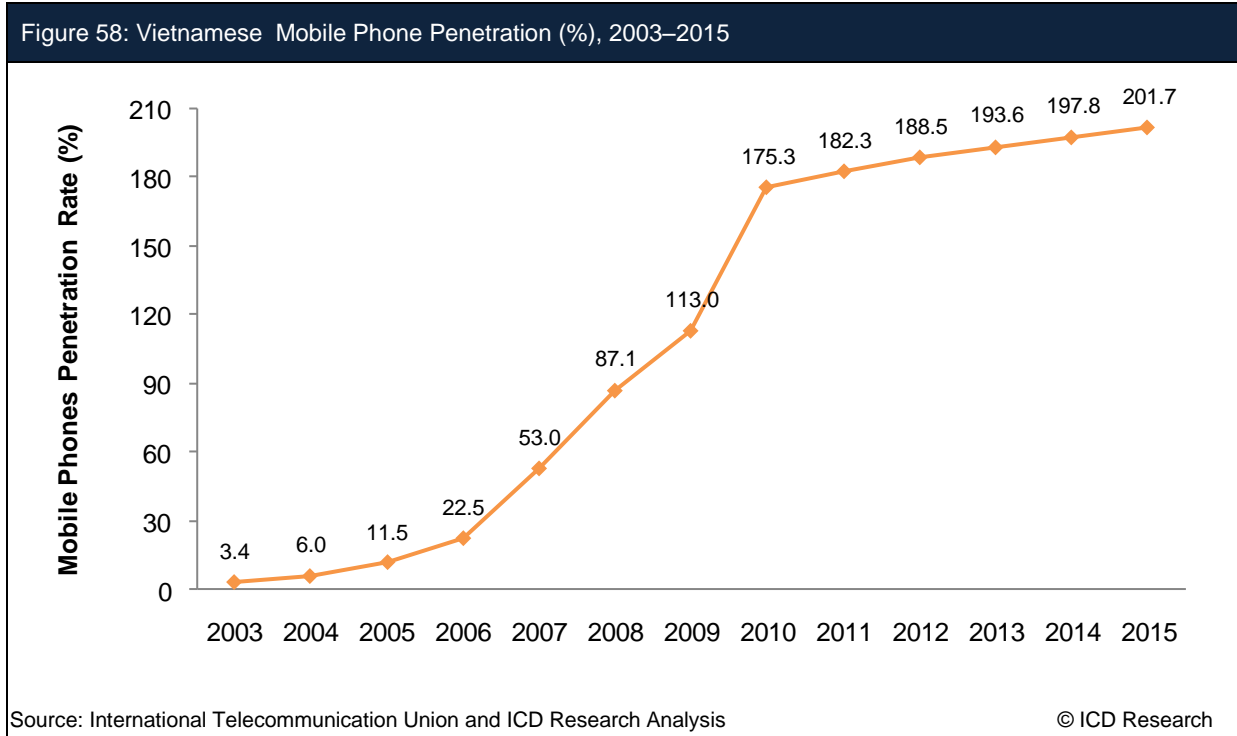
The broadband internet subscriber base stood at 2,649 thousand in 2009, growing at a CAGR of 156.97% during 2003–2009. Broadband internet subscribers are forecast to grow at a CAGR of 14.35% during 2010–2015 to reach 6,204 thousand in 2015.





### 8.2.14 Mobile phone penetration rate

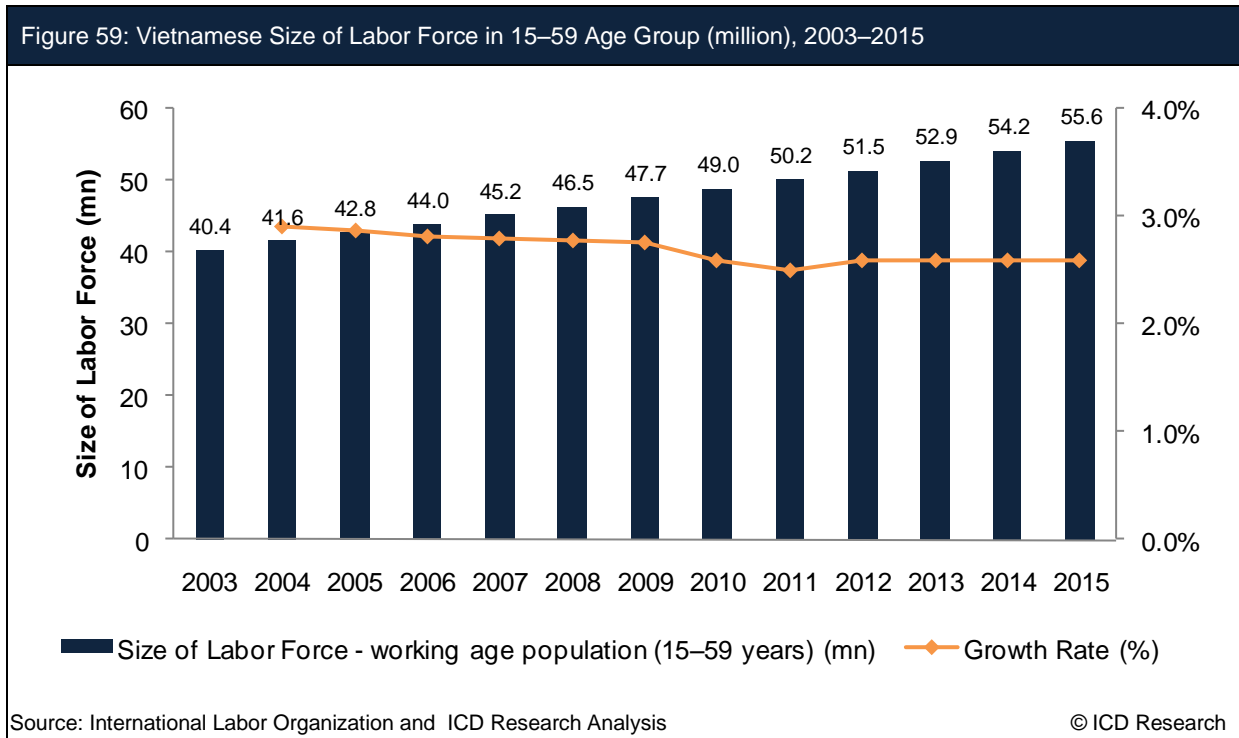
The mobile phone penetration rate in the country stood at 113% in 2009. This is forecasted to reach 201.7% in 2015.



### 8.3 Labor Force

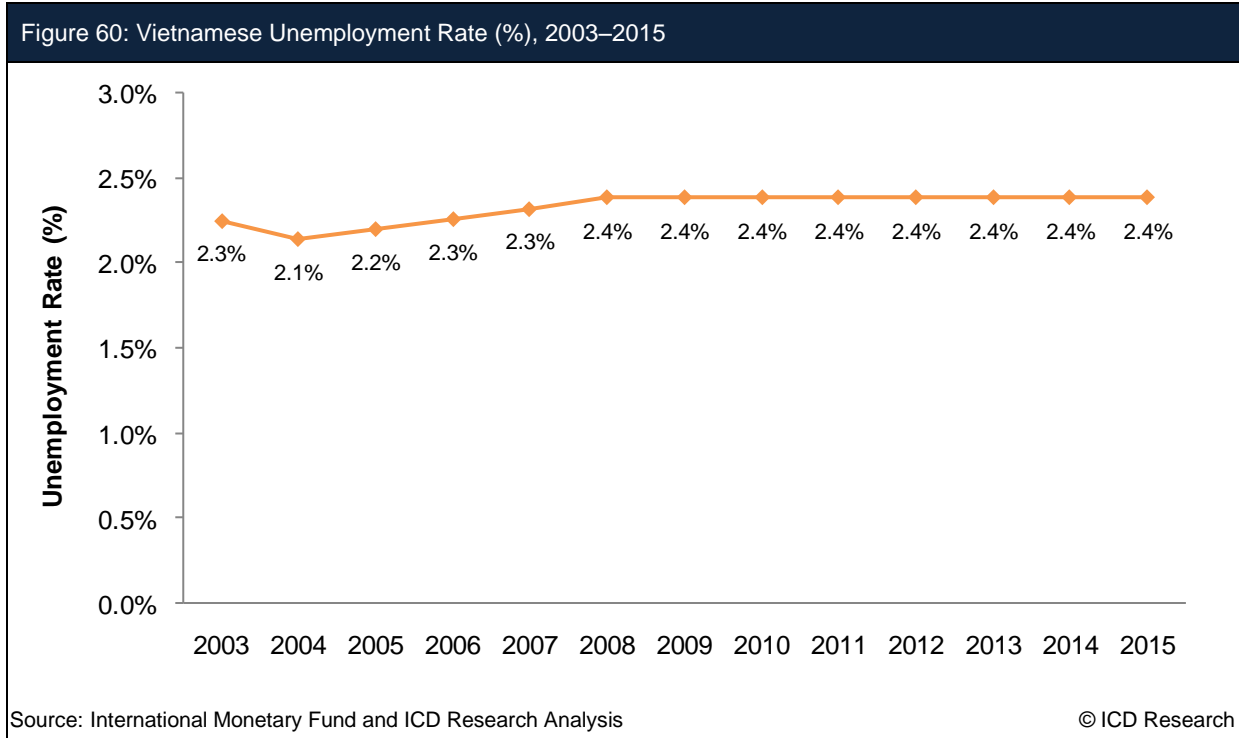
#### 8.3.1 Labor force

The labor force count stood at 47.7 million in 2009, registering a CAGR of 2.82% during 2003–2009. During 2010–2015, the labor force is expected to register a CAGR of 2.58% to reach 55.6 million by 2015.



### 8.3.2 Unemployment rate

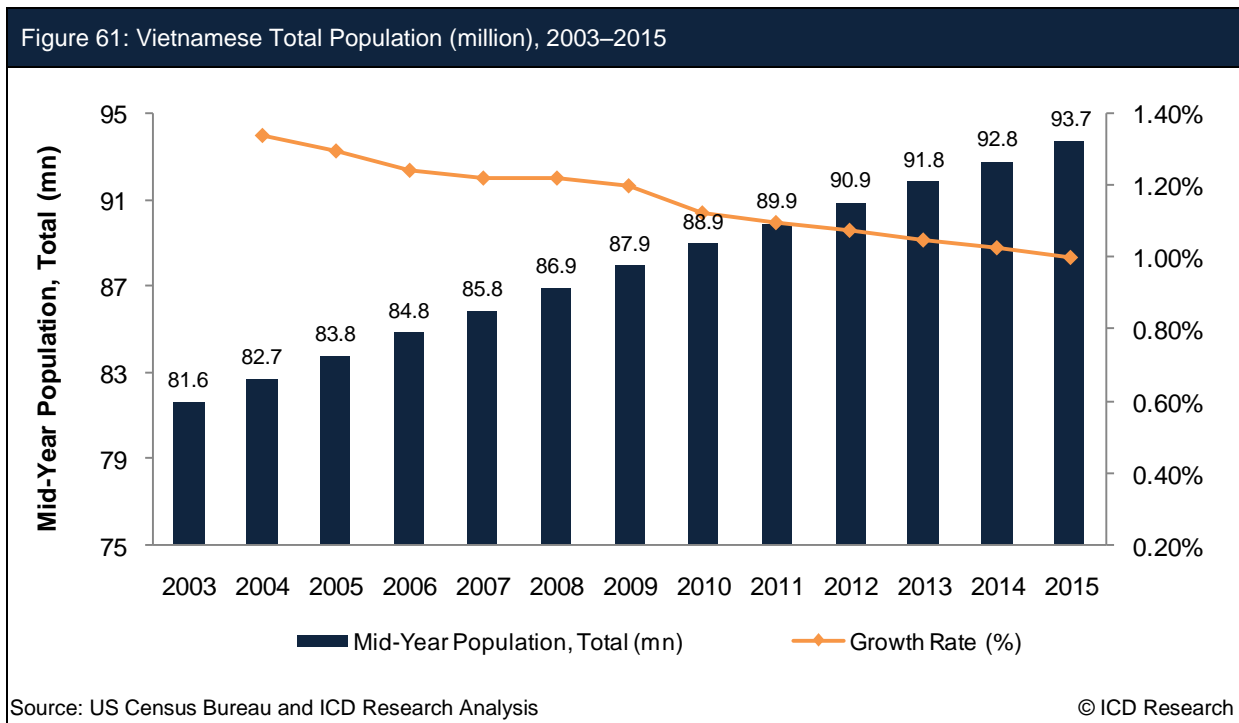
The Vietnamese unemployment rate increased from 2.3% in 2003 to 2.4% in 2009. During 2010–2015, the unemployment rate is expected to remain constant at 2.4%.



## 8.4 Demographics

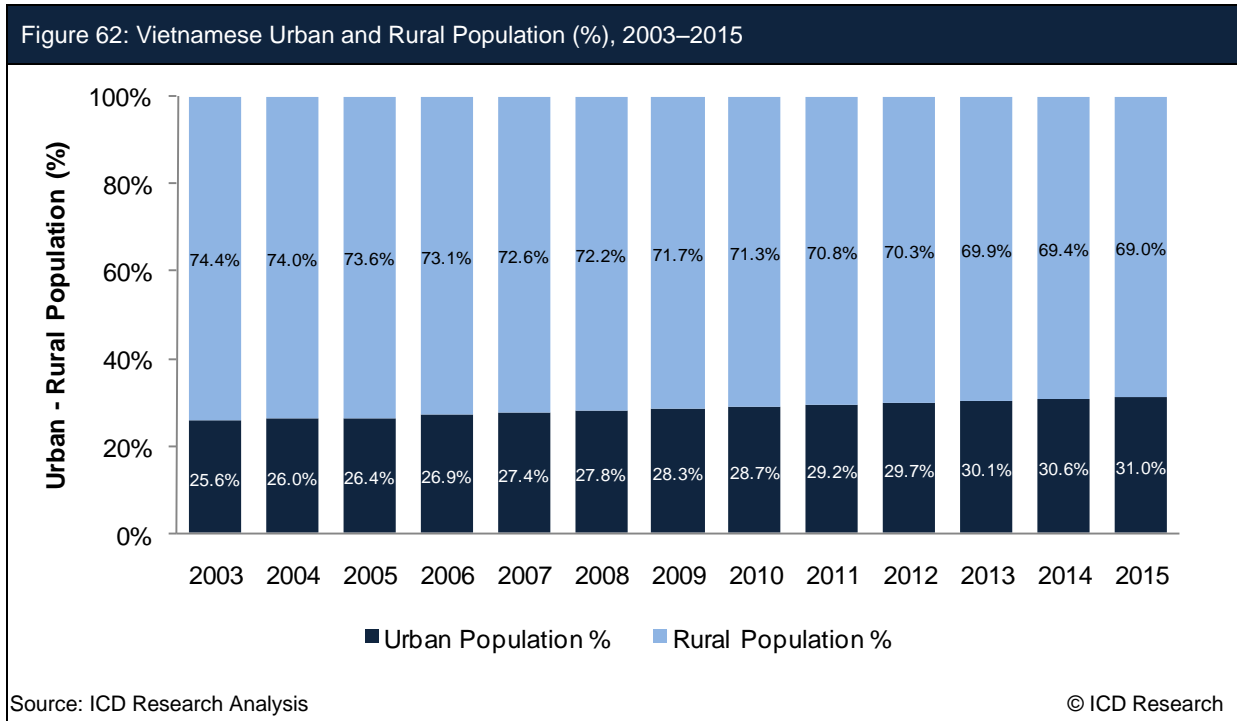
### 8.4.1 Total population

The country's total population increased from 81.6 million in 2003 to 87.9 million in 2009, registering a CAGR of 1.25% during 2003–2009. The total population is expected to increase at a CAGR of 1.05% during 2010–2015 to reach 93.7 million in 2015.



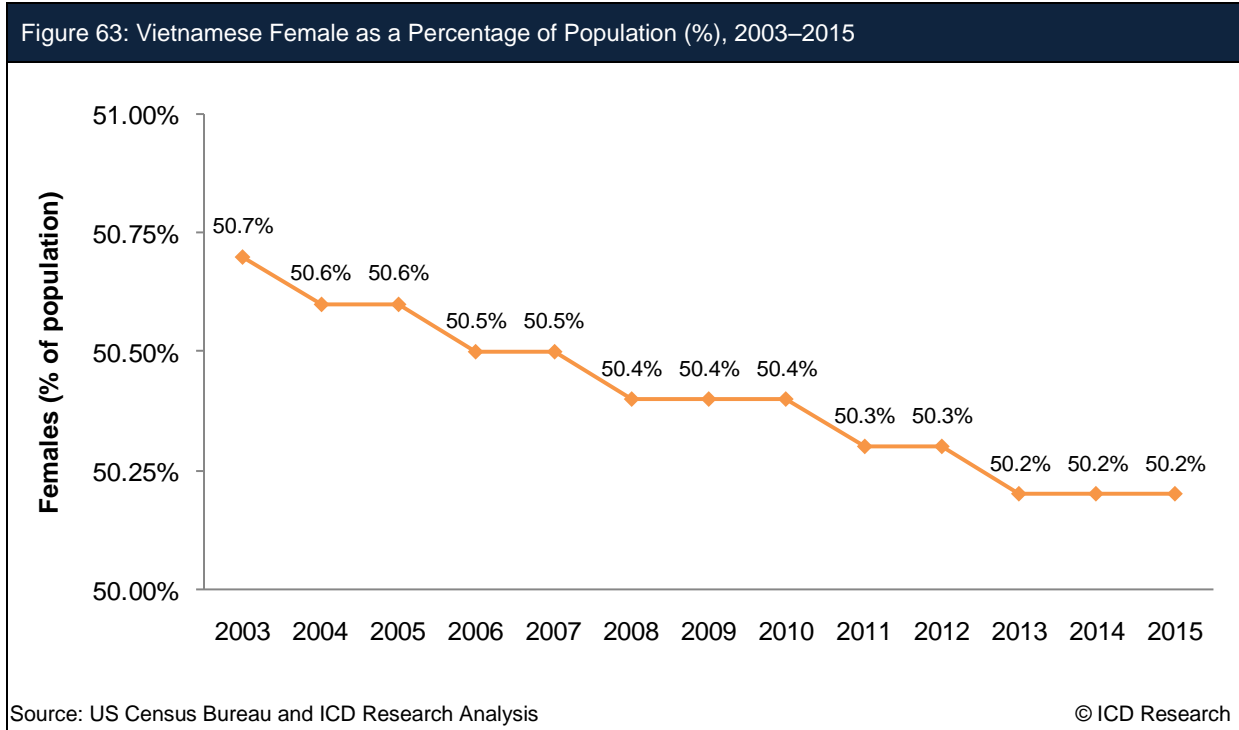
### 8.4.2 Urban and rural population

The urban population as a percentage of total population increased from 25.6% in 2003 to 28.3% in 2009. It is expected to increase to 31% by 2015.



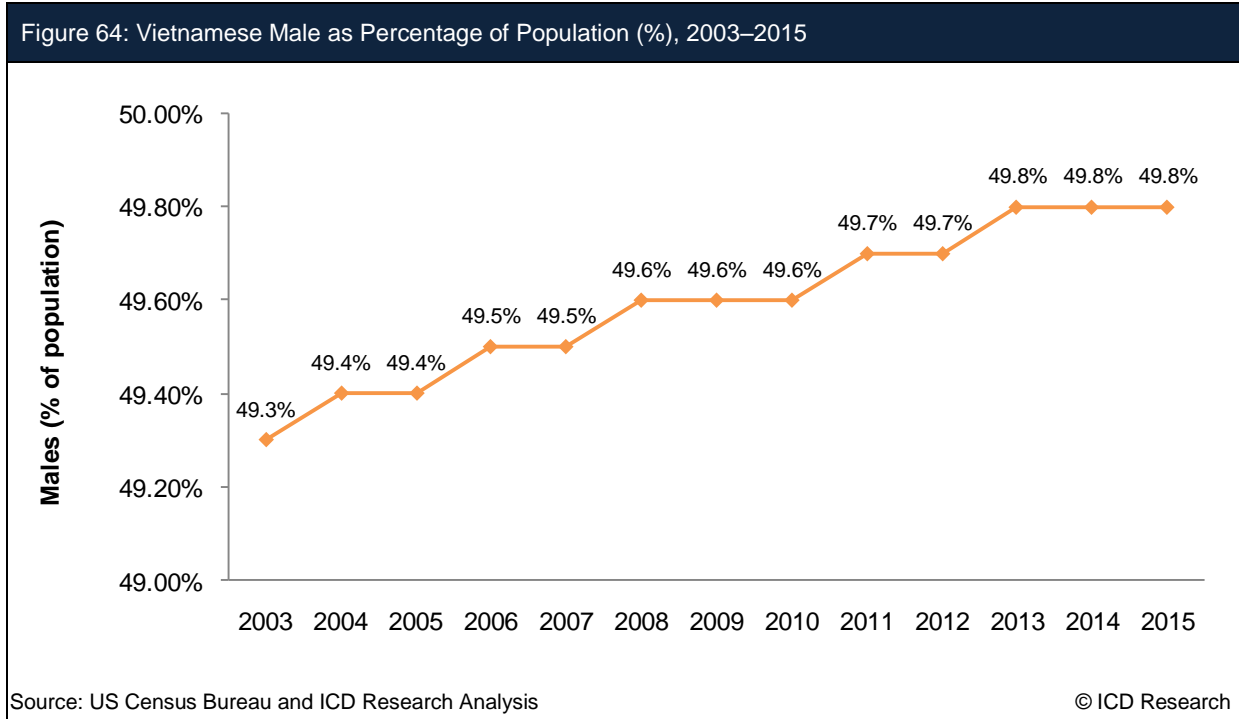
### 8.4.3 Female percentage of population

The amount of females as a percentage of the population decreased from 50.7% in 2003 to 50.4% 2009. It is expected to decrease further to 50.2% by 2015.



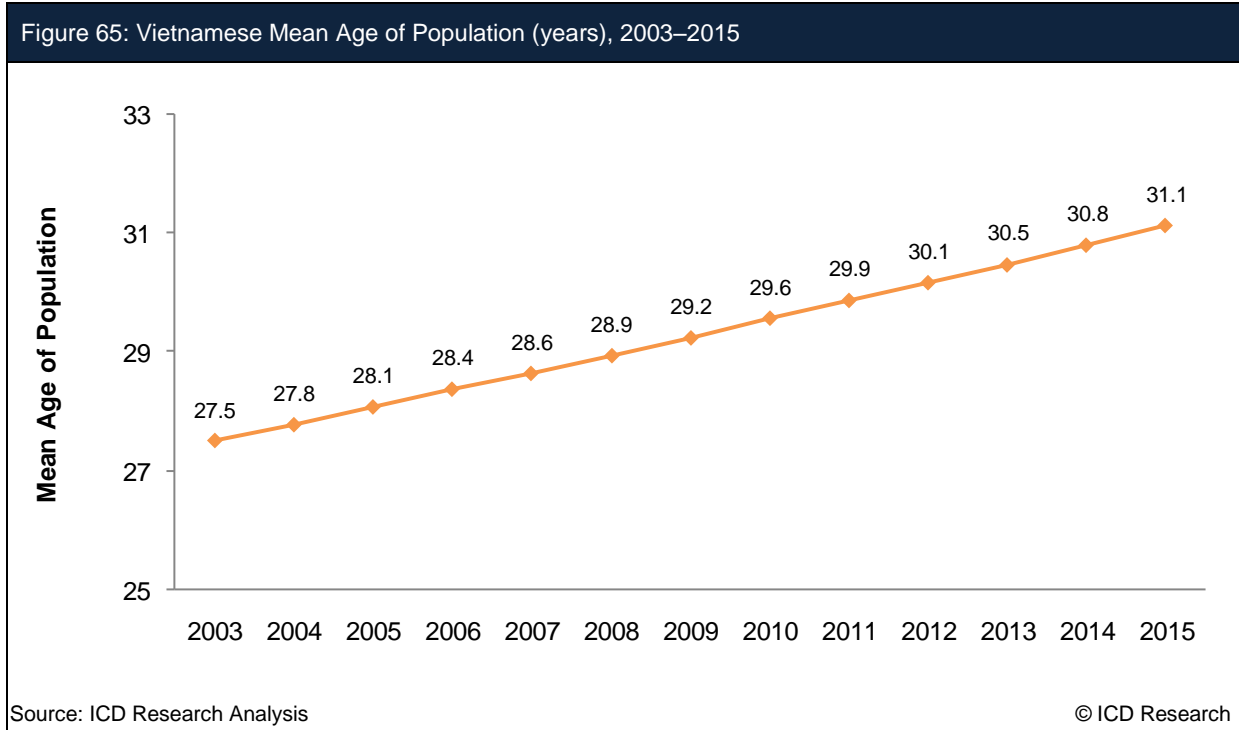
### 8.4.4 Male percentage of population

The amount of males as a percentage of the population increased from 49.3% in 2003 to 49.6% in 2009. During 2010–2015 it is expected to increase further to reach 49.8% in 2015.



### 8.4.5 Mean age of population

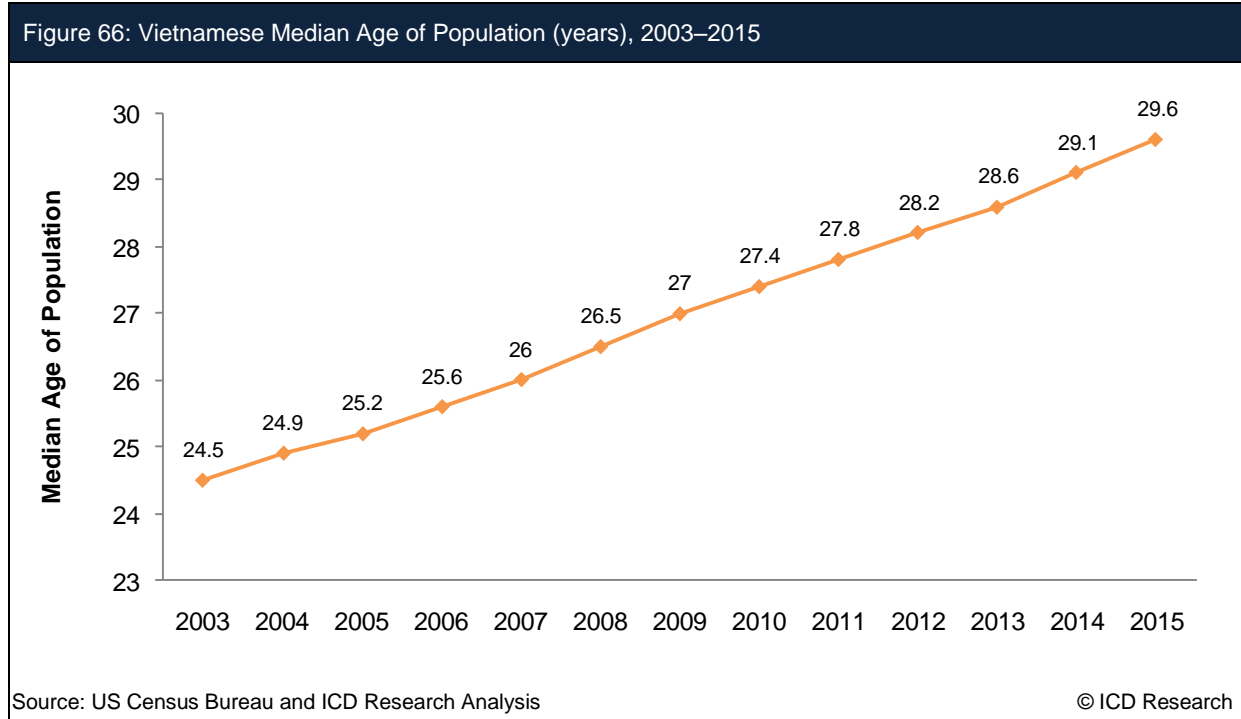
The mean age of the population increased from 27.5 years in 2003 to 29.2 years in 2009. It is expected to increase further during 2010–2015 to reach 31.1 years in 2015.





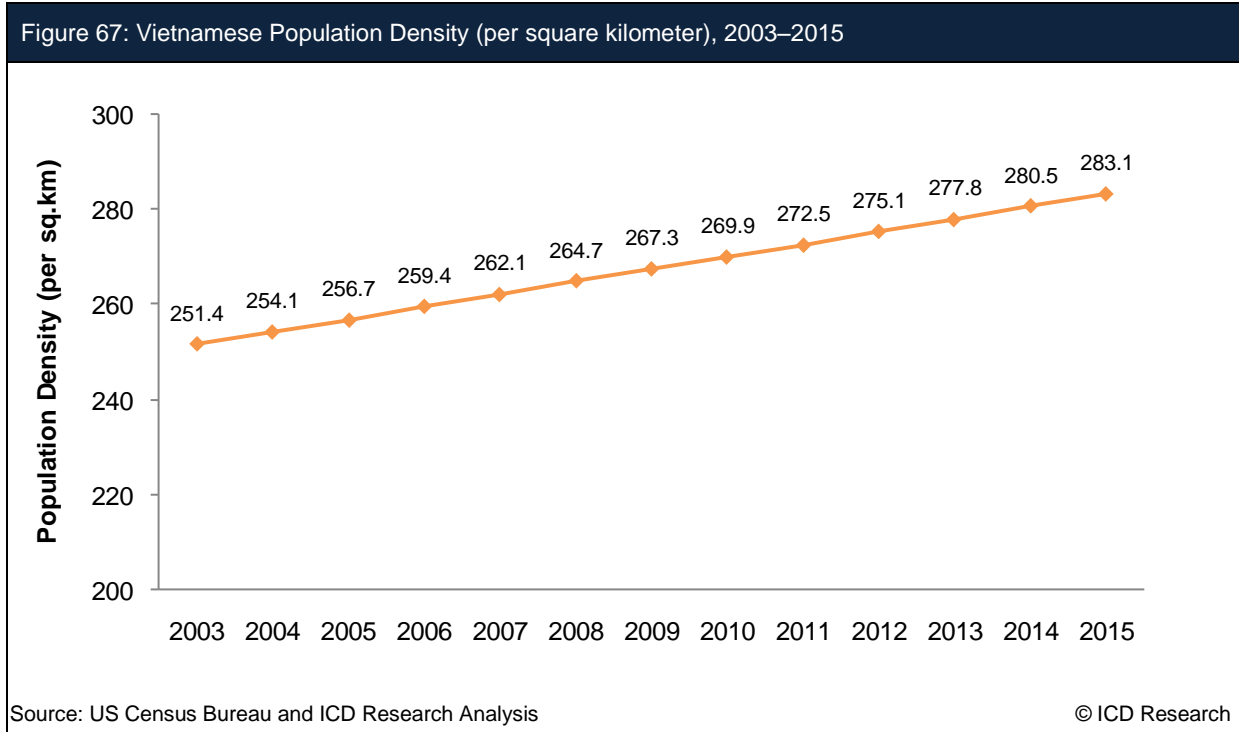
### 8.4.6 Median age of population

The median age of the population increased from 24.5 years in 2003 to 27 years in 2009. It is expected to increase further during 2010–2015 to reach 29.6 years in 2015.



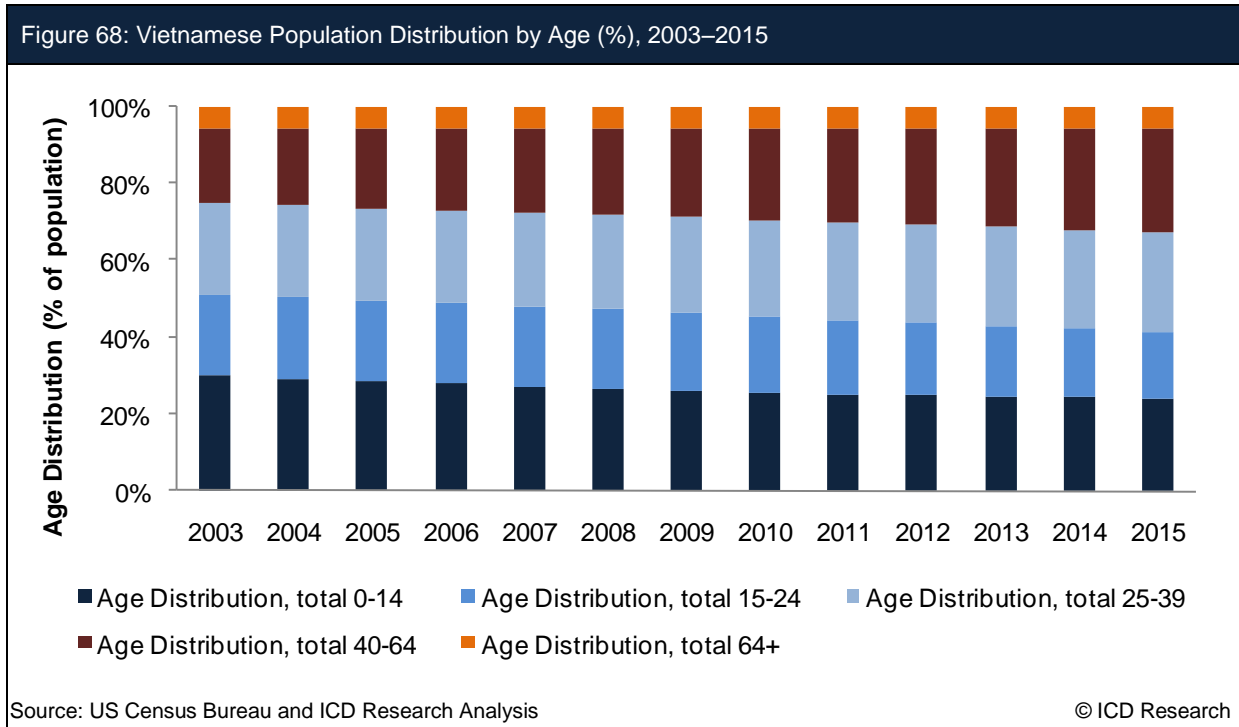
### 8.4.7 Population density

The population density increased from 251.4 in 2003 to 267.3 in 2009. It is expected to reach 283.1 by 2015.

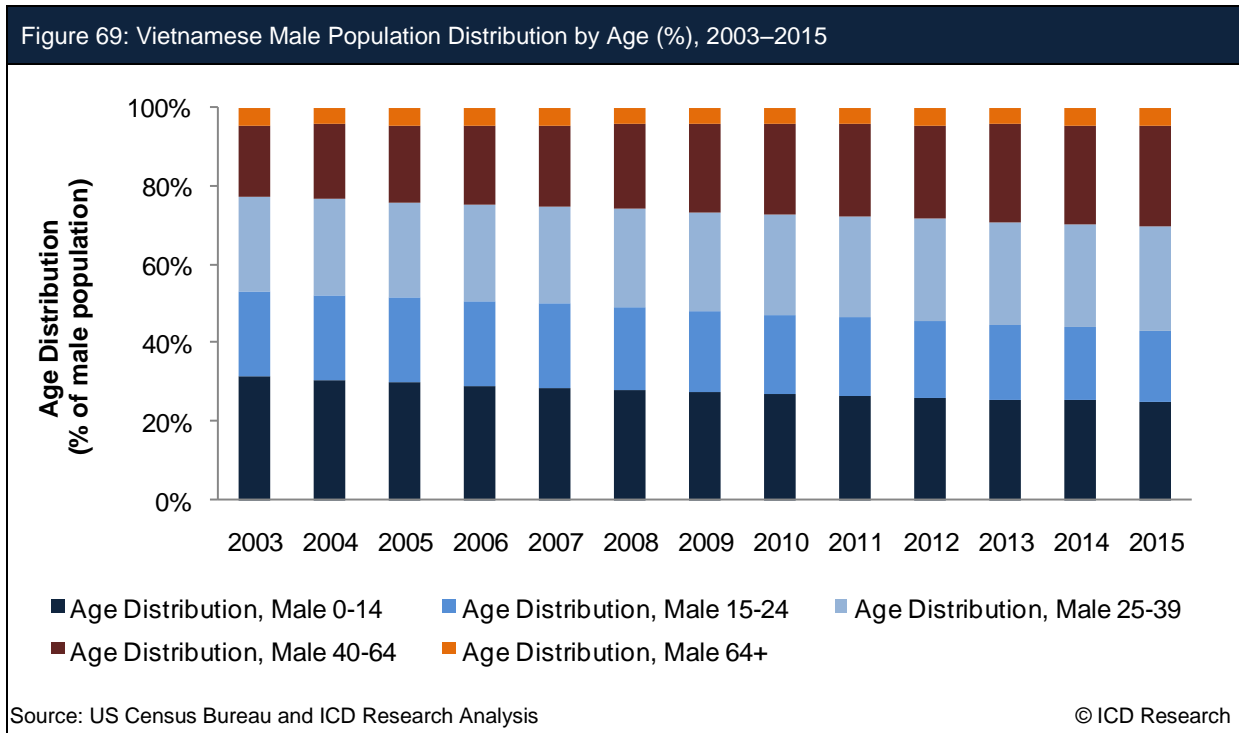


### 8.4.8 Age distribution of the total population

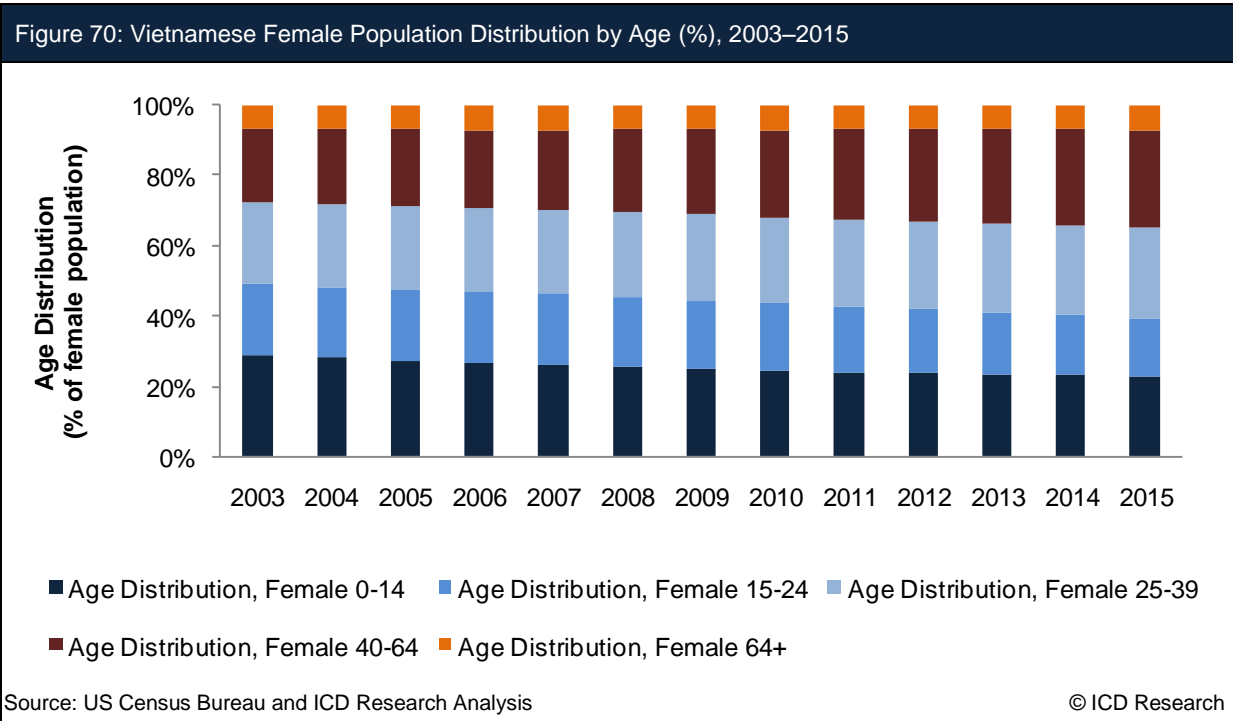
The people in the age group of 0–14 years formed the largest age group with a share of 26.1% of the total population in 2009. This group is expected to take a share of 24.1% in 2015. During 2003–2009, people in the age group of 25–39 registered a CAGR of 1.91%. During 2010–2015, the amount of people in the age group of 40-64 is expected to grow at the highest rate with a CAGR of 3.5%.



### 8.4.9 Age distribution of the male population

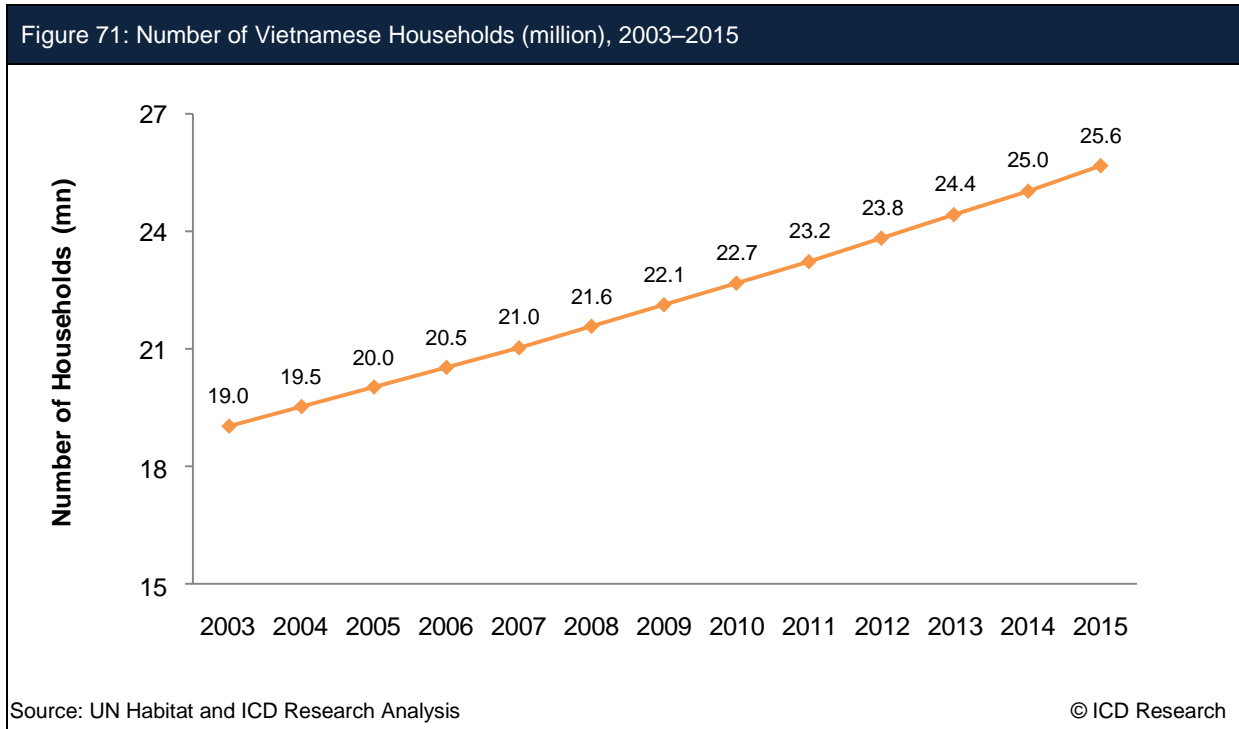


8.4.10 Age distribution of the female population



### 8.4.11 Number of households

The number of households in the country stood at 22.1 million by the end of 2009, growing at a CAGR of 2.51% during 2003–2009. This is expected grow at the same rate during 2010–2015 to reach 25.6 million by 2015.



## **9. Appendix**

### **9.1 Contact Us**

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