National Assembly Budget Office

2010~2014 Economic Outlook and Fiscal Analysis

2010~2014 Economic and Fiscal Outlook
Analysis of 2011 Budget Proposal
Analysis of 2010~2014 National Fiscal Management Plan

2011. 1

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「2010~2014 Economic Outlook and Fiscal Analysis」 is published to evaluate the 「2011 Budget Proposal」 and to support the National Assembly's management of the government budget.

Contact: Economic Policy Analysis Team, Economic Analysis Division 788-3776 philmania@nabo.go.kr
This report is available at the National Assembly Budget Office's website (www.nabo.go.kr)

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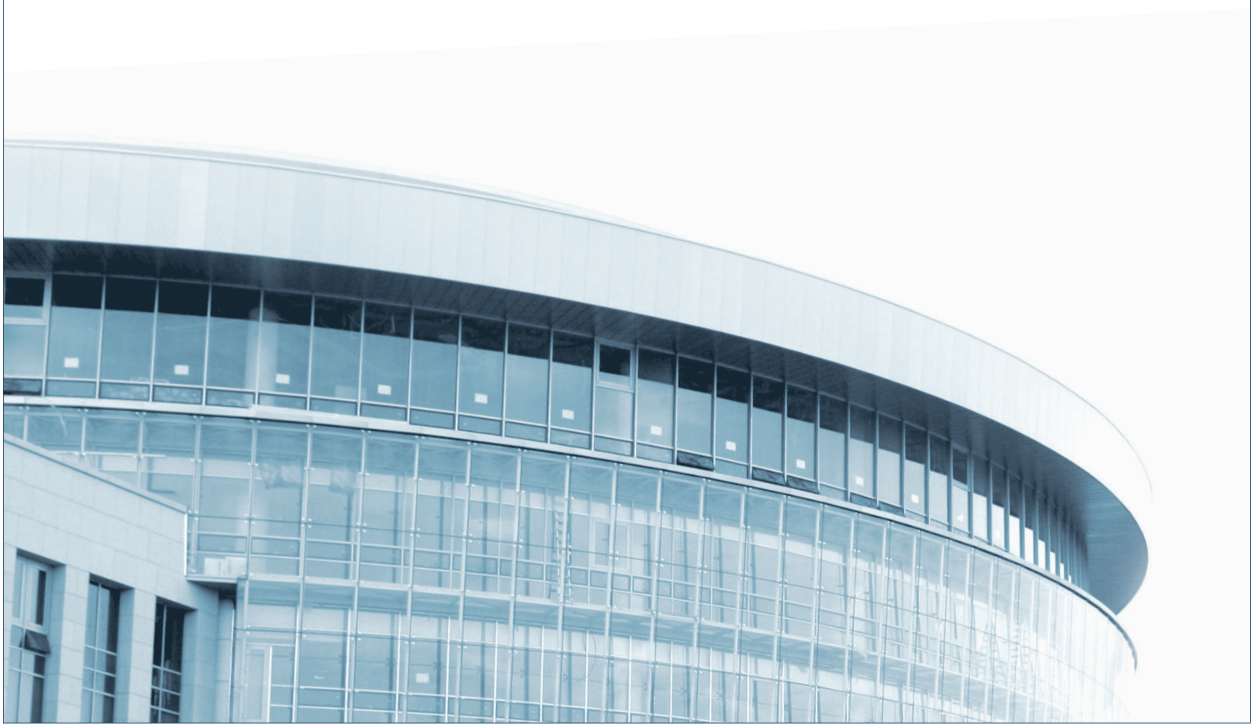

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Acknowledgement

Korea has successfully recovered from the last global crisis through its decisive and timely fiscal policy. The risk to budget soundness is nonetheless increasing again as the global economy faces risks such as the deteriorating budget balance of the southern European countries. By various fiscal indicators, Korea's fiscal soundness is considered adequate compared to other developed countries such as the members of the OECD. Nevertheless, it is necessary to restore fiscal soundness as soon as possible, considering the risk factors to public finance in the near future, including the sensitivity of the Korean economy to the changes in the global economic environment, the continued increase of welfare spending because of low birth rate and population aging, and the large amount of expenditure necessary in the possible reunification in the Korean peninsula.

The present evaluation of the budget proposal, which determines the fiscal management plan from 2011 to 2014, marks an important step toward the new period of growth. For this reason, the <2011 Budget Proposal>, <2010 Tax Reform Proposals>, and <2010~2014 National Fiscal Management Plan> submitted by the administration in the beginning of last October emphasize the restoration budget soundness in the medium term, provision of foundation for future growth, creation of new jobs, and support for the working class.

To support the National Assembly's evaluation of the filings by the administration, the National Assembly Budget Office decided to publish the individual reports like the <Economic Outlook>, <Tax Revenue Estimation>, and <Analysis of National Fiscal Management Plan> as a collection. Among the individual reports, the following are included in the English version of the collection:

1. 2010~2014 Economic and Fiscal Outlook
2. Analysis of 2011 Budget Proposal
3. Analysis of 2010~2014 National Fiscal Management Plan

The present collection contains the area-specific analyses that can be utilized by the members of the National Assembly and their assistants as well as by the standing committees and Special Committee on Budget and Accounts. The collection provides the legislative branch's independent outlook between 2011 and 2014 on the macro economy, total revenue, total expenditure (broken into mandatory and discretionary expenditures), fiscal balance, and national debt. The English version of the collection further contains the analytic reports on the <2011 Budget Proposal> and <National Fiscal Management Plan>. The Korean language version of the collection also contains the reports on the <Tax Reform Proposals>, <National Debt Management Plan>, <Government Guaranteed Debt Management Plan>, < Medium and Long Term Fund Financial Management Plan>, and <Tax Expenditure Outlook >.

It is my sincere hope that the readers find this collection helpful in their research and policy discussions.

January 2011

Chief of the National Assembly Budget Office, Republic of Korea

Shin, Hae-Ryong

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□ Analysis of 2011 Budget Proposal

□ Analysis of the 2010~2014 National Fiscal Management Plan

Executive Summary

The Role of Fiscal Policy in the Post-Crisis Period

The 2008 financial crisis began in the United States and propagated to the other countries, driving not only the Korean economy but also the world economy into a recession. The world economy experienced a negative growth in 2009, and the growth of Chinese economy also slowed down from two digits to 9.1%. Each country responded with all available policy options to recover from the recession, and Korea in particular responded with an aggressive low interest rate cuts and fiscal expansions to alleviate the shock. On the one hand, the monetary authority lowered the target interest rate from 5.25% of September 2008 to 2.0% of February 2009 in 6 steps. On the other hand, the policy authority sought to alleviate the pressure of finance sector on the real sector by providing liquidity, expanding the debt guarantee programs, and entering into currency swap agreements with the United States, Japan, and China to secure liquidity in the foreign exchange market. Despite some remaining risk factors, Korea is considered as one of the most successful in recovering from the recession.

Fiscal policy had an important role in Korea's battle against the crisis. By the first-half of 2009, the tax cut totaled 33.9 trillion won (2.8% of GDP) and the expenditure totaled 3.2% of the GDP. Korea's fiscal expansion in response to the crisis was the largest among all OECD countries; the United States and Australia respectively made 5.9% and 5.4% increases. Korea's decisive and timely tax cut and expenditure increase were possible because its public finance has been soundly managed. Although its economy has successfully overcome the crisis, the uncertainties of the global economy make it difficult to be optimistic about the future economy.

On October 1, 2010, the administration presented to the National Assembly <2011 Budget Plan>, <2010 Tax Reform Proposals>, and <2010~2014 National Fiscal Management Plan> containing the direction of budget management for the next 5 years. This year's evaluation of <2011 Budget Plan> would seek for the role of public finance in restoring the soundness of the budget after the crisis and preparing for a new take-off in the post-crisis period. The administration set fiscal surplus in 2014 as the objective of its budget management in the last year's <2009~2013 National Fiscal Management Plan>. Overall, this year's <2010~2014 National Fiscal Management Plan> is consistent with such objective of last year's and sets the restoration of budget soundness as its priority. Still, the National Assembly's evaluation is needed to find concrete ways to restore the fiscal soundness in the medium term after considering Korean economy's sensitivity to the changes to the global economic environment and the risk factors to public finance. Also discussed will be the role of public finance in fulfilling the public's various needs originating from the demographic changes like low birth rate and population aging and in securing the economic momentum for sustained growth.

Prudent and Conservative Economic Outlook

The National Assembly Budget Office (NABO) projects the economic growth rates in this year

Table 1 _ Macroeconomic Outlook for 2010~2014

(unit: %)

		2010	2011	2012	2013	2014
Real GDP Growth Rate	NABO	5.8	3.9	4.2	4.4	3.8
	Administration	5.8	5.0	5.0	5.0	5.0
GDP Deflator	NABO	2.6	2.3	2.2	2.6	2.5
	Administration	2.5	2.5	2.5	2.5	2.5
Nominal GDP Growth Rate	NABO	8.4	6.2	6.4	7.0	6.4
	Administration	8.4	7.6	7.6	7.6	7.6
Private Consumption		3.8	3.2	3.3	3.5	3.1
Facilities Investment		19.9	6.3	5.9	6.5	4.4
Construction Investment		−1.5	−0.5	1.2	1.7	1.5
Total Exports		13.3	7.2	7.7	8.9	8.4
Total Imports		16.8	7.1	7.6	7.8	7.3
Current Account Balance($100 million)		250	139	107	65	61
Goods Account Balance($100 million)		467	398	388	354	336
Export of Goods(Customs Clearance)		24.6	5.0	6.7	7.0	6.9
Import of Goods(Customs Clearance)		28.2	8.2	7.3	8.0	7.8
Customer Price Index		2.9	2.8	3.0	3.2	2.9
Unemployment Rate		3.7	3.5	3.4	3.3	3.5
Exchange Rate(Won/Dollar)		1,155	1,108	1,064	1,025	1,044
Yield on Government Bond(Maturity in 3 years)		3.8	4.0	4.4	4.8	4.4
Potential GDP Growth Rate		3.7	3.8	3.8	3.8	3.8

Sources: Government of Republic of Korea, 「2011 Budget Proposal」 Expository Document, 2010.
____________________, 「2010~2014 National Fiscal Management Plan」, 2010.
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and in 2011 to be 5.8% and 3.9% and the average yearly growth rate from 2010 to 2014 to be 4.1%. The forecasted number is lower than the pre-crisis average yearly growth of 4.7% from 2004 to 2007 and the administration's forecast of 5%. The domestic economy, which hit the trough in the first quarter of 2009, started to decelerate its growth in the second-half of 2010 as the positive impact of economic stimulus policies started to dissipate. The growth would continue to be slow in the first-half of 2011 with a slowdown of the export resulting from the other countries'efforts to control the budget balance, strong Korean currency, and weak domestic demand due to a contraction in the housing market. Household debt, as a byproduct of the low interest rate policy, now amounts to 152.7% of the disposable income. The large household debt could not only hinder household consumption from increasing despite the economic recovery, but also impose a large burden on the national economy depending on how fast the interest rate returns to the long-run equilibrium level and how long the contraction in the housing market lasts. The administration, however, prepared the <2011 Budget Proposal> based on the growth rate of 5% in 2011, and established the national finance management plan until 2014 based on the average yearly growth rate around 5%. The administration's forecast of the growth seems optimistic, considering NABO's forecast of the figures.

Outlook on the economic growth for the upcoming year and for the medium-term form a critical basis for the national finance management. An extra care is needed to form a more accurate and prudent economic outlook in the current situation when medium-term fiscal management plan focuses on restoring the budget soundness. The medium-term fiscal management plan first establishes the fiscal targets like fiscal balance and national debt to be achieved in the next 5 years and form an outlook of the economic growth for the same period. Based on the target and the outlook, the framework then forms an outlook of the government income and limit to the expenditure.

In the <2010-2014 National Fiscal Management Plan>, the administration established the objective of returning to fiscal surplus by 2014, forecasted the total revenue next year and for the period until 2014 based on its outlook of the economic growth, and set the size of total expenditure. Considering the internal and external economic environments mentioned earlier, it is difficult to expect a yearly growth rate of 5% or more in the next year and in the medium-term. Since the forecasted total revenue was based on such outlook of the growth rate, it would also be difficult to achieve the objective

Table 2 _ Total Revenue Outlook for 2010~2014

(unit: trillion won, %)

	Year	2010	2011	2012	2013	2014	Cumulative Growth
Total Revenue	NABO	296.3	313.7	332.8	357.7	378.1	6.3
	(Growth Rate)		(5.9)	(6.1)	(7.5)	(5.7)	
	Administration	295.3	314.6	342.9	365.1	390.9	7.3
	(Growth Rate)		(6.5)	(9.0)	(6.5)	(7.1)	
	Difference (trillion won)	1.0	–0.9	–10.0	–7.5	–12.9	–31.2
Tax Revenue	NABO	174.6	186.2	196.3	213.2	227.7	6.9
	(Growth Rate)		(6.7)	(5.4)	(8.6)	(6.8)	
	Administration	175.0	187.8	204.2	221.1	241.7	8.4
	(Growth Rate)		(7.3)	(8.7)	(8.3)	(9.3)	
	Difference (trillion won)	–0.4	–1.6	–7.9	–7.9	–14.0	–31.4
Non–tax Revenue	NABO	121.8	127.5	136.6	144.5	150.4	5.4
	(Growth Rate)		(4.7)	(7.1)	(5.8)	(4.1)	
	Administration	120.3	126.8	138.6	144.1	149.3	5.5
	(Growth Rate)		(5.4)	(9.3)	(4.0)	(3.6)	
	Difference (trilliion won)	1.5	0.7	–2.0	0.4	1.1	0.2

Note: The figures highlighted in blue show the cumulative amount between 2011 and 2014.

Sources: Government of Republic of Korea, 「2011 Budget Proposal」 Expository Document, 2010.

____________________, 「2010~2014 National Fiscal Management Plan」, 2010.

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of returning to fiscal surplus by 2014. If the total revenue is estimated based on an overly optimistic growth outlook, planned expenditure can become too large, making it difficult to achieve the medium term fiscal target. Once the expenditure plan is established as an element of the medium-term fiscal management plan, it is taken as an entitlement to each ministry, making it difficult to reduce the expenditure in response to a slower economic growth than the expected level or a lower total revenue. Therefore, the growth outlook serving as the basis of the national fiscal management plan and budget proposal has to be prudently and conservatively formed.

Uncertain Revenue Conditions and the Direction of Tax Reforms

With the faster-than-expected level of economic recovery, the 2010 total revenue is forecasted to be 296.3 trillion won, 5.5 trillion won (1.9% of GDP) higher than the planned expenditure. The total revenue in 2011 will be around 313.7 trillion won, and the total revenue is expected to grow at the average rate of 6.3% from 2010 to 2014, a lower rate than the 6.6% expected growth of nominal GDP during the same period. Nevertheless, in <2011 Budget Proposal>, the administration projected the total revenue in 2011 to be 314.6 trillion won and the total revenue to grow at the average rate of 7.3% until 2014. The disparity in the forecasted total revenues originates from the difference in the growth outlooks. Total revenue during a particular period is determined not only by the growth rate of the economy and the macroeconomic conditions, but also by the tax policy. For instance, the tax cuts in 2008 and 2009 are expected to lower the growth of tax revennes after 2013. For this reason, budget proposal and tax reform proposals are presented jointly by the administration and evaluated simultaneously by the National Assembly.

This year's tax reform proposals are based on the 4 basic objectives of creating new jobs, supporting the working class, increasing the growth momentum, and securing the budget soundness The tax reform proposals comprise the sunset closure of provisional investment tax credit and the switch to tax credit for job-creating investment, additional deduction for households with multiple children in response to low birth rate and population aging, and the introduction of new tax audit system. In addition, it proposes the discontinuation of 14 items among the 54 tax breaks/tax preference items that face the sunset at the end of 2010.

Tax policy is an important policy tool in achieving the government's policy objectives as well as a mean to acquiring the resources for government activities. Thus, the evaluation of the proposals should examine whether each reform is an appropriate policy tool for achieving the policy objective. Intensive discussions are needed to determine whether creating tax incentives is more effective than direct government spending in creating new jobs, responding to low birth rate and population aging, and increasing growth momentum. Moreover, the changes in tax revenue resulting from the tax reforms require comprehensive discussions.

The administration projects a tax revenue increase of around 1.9 trillion won from 2011 to 2015 due to the tax reform proposals. Such projection does not accurately take into account the effects of sunset closure or extension of tax breaks/tax preferences. The National Assembly's evaluation process for the tax reform policies requires accurate information about the changes in tax revenue due to each item of the reform. More specifically, the administration should use the current law as the basis for estimating the tax revenue increase due to the sunset closure of a tax reform and tax revenue decrease due to the extension of sunset closure of a tax reform. Based on the accurate information about the tax revenue changes, the National Assembly's evaluation process would need to consider both the tax reforms’effectiveness in achieving the policy objectives and their effect on the budget soundness.

Table 3 _ Outlook on Total Expenditure Fiscal Balance National Debt for 2010~2014

(unit: Trillion Won, %)

Year			2010	2011	2012	2013	2014
Total Expenditure	NABO	Scenario 1	292.8	317.5	341.4	368.4	399.3
		Scenario 2(A)	292.8	309.9	325.7	342.6	361.7
		Fiscal Rule(B)	292.8	306.2	320.3	334.8	349.8
	Administration(C)		292.8	309.6	324.8	337.7	353.0
	Difference	(A–C)	–	0.3	0.9	4.9	8.7
		(B–C)	–	−3.4	−4.5	−2.9	−3.2
Consolidated Fiscal Balance	NABO	Scenario 1	3.5	−3.8	−8.6	−10.7	−21.2
		Scenario 2(A)	3.5	3.9	7.2	15.1	16.4
		Fiscal Rule(B)	3.5	7.5	12.6	22.9	28.4
	Administration(C)		−2.0	5.0	18.1	27.4	37.9
	Difference	(A–C)	5.5	−1.1	−10.9	−12.3	−21.5
		(B–C)	5.5	2.5	−5.5	−4.5	−9.5
Managed Fiscal Balance	NABO	Scenario 1	−25.7	−35.0	−41.2	−45.4	−56.3
		Scenario 2(A)	−25.7	−27.4	−25.3	−19.5	−18.7
		Fiscal Rule(B)	−25.7	−23.7	−20.0	−11.7	−6.8
	Administration(C)		−30.1	−25.3	−14.3	−6.2	2.7
	Difference	(A–C)	4.4	−2.1	−11.0	−13.3	−21.4
		(B–C)	4.4	2.4	−5.7	−5.5	−9.5
Fiscal Stance (FI)	NABO	Scenario 1	−2.05	0.66	0.29	0.09	0.49
		Scenario 2	−2.05	0.04	−0.34	−0.62	−0.29
		Fiscal Rule	−2.05	−0.26	−0.47	−0.80	−0.57
	Administration		−2.05	0.02	−0.38	−0.91	−0.55
National Debt	NABO	Scenario 1	397.3	446.8	503.4	558.6	622.3
		(% of GDP)	(34.4)	(36.5)	(38.6)	(39.9)	(41.8)
		Scenario 2(A)	397.3	439.2	479.9	509.3	535.4
		(GDP 대비)	(34.4)	(35.8)	(36.8)	(36.4)	(36.0)
		Fiscal Rule(B)	397.3	435.5	470.9	492.5	506.7
		(% of GDP)	(34.4)	(35.5)	(36.1)	(35.2)	(34.0)
	Administration(C) (% of GDP)		400.4	436.8	468.1	485.7	492.2
			(34.7)	(35.2)	(35.1)	(33.8)	(31.8)
	Difference	(A–C)	−3.1	2.4	11.8	23.6	43.2
		(B–C)	−3.1	−1.3	2.8	6.8	14.5

Securing the Budget Soundness and Introducing of Fiscal Rules

In <2011 Budget Proposal>, the administration set the total expenditure of 309.6 trillion won. Such expenditure in 2011 is 5.7% larger than the previous year's, and that growth rate is lower than the expected growth of total revenue of 8.2% in the 2010 budget proposal. This budget proposal reflects the administration's determination to quickly restore the budget soundness, which deteriorated during the crisis. Furthermore, in <2010~2014 National Fiscal Management Plan>, the administration proposed a plan to increase total expenditure at the average yearly rate of 4.8% until 2014.

When compared to the expenditure forecast by NABO, the total expenditure in the <2011 Budget Proposal> is lower than that under the scenario that discretionary expenditure increases at the average rate during the 5 years prior to the crisis (Scenario 1). The total expenditure in the <2011 Budget Proposal> is comparable to that in the case where discretionary expenditure increases at the growth rate of Consumer Price Index (CPI), meaning the real level of discretionary expenditure stays constant (Scenario 2). The total expenditure in the proposal, however, still exceeds the amount that allows the administration to achieve the objective of returning to fiscal surplus in 2014 as specified in the <2010~2014 National Fiscal Management Plan>.

If NABO's forecast of mandatory expenditure is applied to the administration's expenditure plan, discretionary expenditure would grow at a rate lower than 3% in 2011 and 2012 and at a rate lower than 1% in 2013 and 2014. Such growth rate for the discretionary expenditure does not seem feasible, meaning the administration needs to propose a more detailed plan for achieving the fiscal surplus target of 2014.

Considering these difficulties in restoring the budget soundness, it is necessary to come up with more stringent ways to constrain government spending. In the <2011 Budget Proposal>, the administration proposed the rule to see the upper bound on the growth of total expenditure to be "growth rate of total revenue minus 2~3%p". However, the rate is pro-cyclical and can weaken the role of fiscal policy in controlling the business cycle. In the <2010 Economic Outlook and Public Finance Analysis> published in May 2010, NABO proposes the fiscal rule to constrain the growth of total expenditure to be "potential growth rate of nominal GDP minus 2%p". Since this rule uses the potential growth rate, it is acyclic and can induce government expenditure to the direction that increases the potential growth rate.

If expenditure follows NABO's fiscal rules, the growth rate of total expenditure until 2014 is constrained to be 4% each year, and the budget soundness deteriorated during the crisis would be significantly recovered with the consolidated fiscal balance of 28.4 trillion won and the managed budget balance* of 6.8 trillion won in 2014. Accordingly, national debt would be maintained around 34% of GDP, with the 2010 level of 397.3 trillion won and 2014 level of 506.7 trillion won.

Substantiating the Documents Submitted to the National Assembly

The <National Public Finance Act>, enacted in 2007 to improve the public finance system, has been revised several times to remedy the shortcomings found during its implementations.

This year, the <Tax Expenditure Outlook> is submitted for the first time. Following the revision of the <National Public Finance Act> in May, also submitted were the evaluation of last year's National Fiscal Management Plan, the National Guaranteed Debt Management plan, and the Medium and long Term Fund Financial Management Plan. Since these documents are important legal documents for medium-term plan for fiscal management as well as for the following year's budget proposal, they require additional modifications in the form and material to improve their usability.

First, the <National Fiscal Management Plan> lacks the concrete objective for fiscal management. This year's National Fiscal Management Plan focuses on obtaining a sustainable level of growth, stabilizing the lives of the working class, and recovering the budget soundness, but has insufficient discussion of the expenditure constraints needed to achieve the budget soundness. The revenue part of the plan lacks the medium and long term tax reform proposals, despite the availability of the tax reform proposals for one-year's period. The plan has to include the medium and long term tax reform proposals so that economic entities can form accurate expectation about the future tax policies and build confidence in the tax policies and that the revenue side of the plan for restoring budget soundness can be substantiated.

The 'National Debt Management Plan' submitted along with the'National Fiscal Management Plan' sets 'preserving the sustainability of fiscal balance' as one of its objectives. However, the that management plan but neither explains the concept of sustainability of fiscal balance, nor provides the concrete plan for preserving the sustainability. In addition, the'Government Guaranteed Debt Management Plan', which was submitted this year for the first time, does not provide the adequate grounds for the forecast of guaranteed debt amounts. Similarly, the 'Medium and Long Term Fund Financial Management Plan', also submitted this year for the first time, requires an overall management plan detailing the individual operation plans for pension fund, social security fund, and bond issuance fund. The plan also needs to specify the outlooks and fund financial management plans for the periods of 30 years and 50 years.

The'Tax Expenditure Outlook', submitted along the <2011 Budget Proposal> for the first time, lacks the accuracy of criteria, transparency of information, and reliability of information in its choice of coverage on tax expenditure. Following the intent of introducing the tax expenditure system, the outlook should also strengthen the connection between tax expenditure and budget expenditure.

* Managed budget balance is defined as consolidated budget balance excluding social security funds

2010~2014 Outlook on the Economy and Public Finance

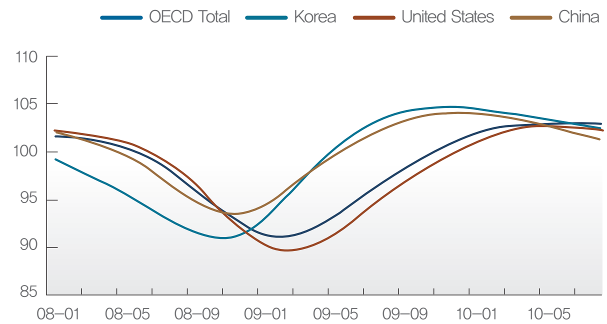
Ⅰ. Macroeconomy

The national economy, which grew 5.8% in 2010, is expected to grow 3.9% in 2011 as the growth of export slows down and the stimulating effect of public spending weakens. The average yearly growth rate from 2010 to 2014 is projected to be 4.4%.

1. Medium-Term Economic Outlook

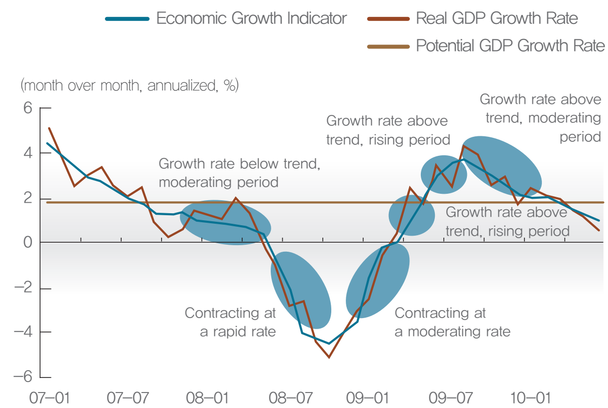
The national economy, which grew 5.8% in 2010, is expected to grow 3.9% in 2011 as the global economy slows down. The national economy hit the trough in the first quarter of 2009 and has been recovering since then, maintaining the growth momentum in the first half of 2010. The growth of the economy nonetheless is expected to decelerate from the second half of 2010 to 2011 as the stimulating effect of public spending weakens, the policy for recovering budget soundness strengthens, and the Won strengthens, retarding export. Nevertheless, in the longer horizon, the economy is expected to exhibit healthy grow rates of 4.2% in 2012, 4.4% in 2013, and 3.8% in 2014. The positive outlook for the growth after 2012 is due to the normalization of the credit market resulting from regaining financial stability, policy-oriented expansion of the domestic markets in developing countries, and the autonomous recovery of the private sector. Nominal GDP, which only grew 3.6% in 2009, is expected to show a large rebound of 8.4% growth in 2010 and then stabilize at the rates 6.2% in 2011, 6.4% in 2012, 7.0% in 2013, and 6.4% in 2014, with the average

Figure 1 _ OECD Composite Leading Index



Source: OECD

Figure 2 _ World Economic Growth Indicator and Business Cycle



Note: Economic Growth Indicator Source: IMF, 「Economic Outlook」 2010. 10.

growth rate of 6.5% during the entire period. When excluding the year 2010 when the economy experienced the strong impact of the stimulus policies, the medium-term (2011~2014) average real rate of growth reaches 4.1%. The average real rate of growth is 4.6% when the year 2010 is included.

Table 4 _ 2010~2014 Korea Economic Outlook

(unit: %, 100 million dollar)

	2010	2011	2012	2013	2014
Gross Domestic product	5.8	3.9	4.2	4.4	3.8
Private Consumption	3.8	3.2	3.3	3.5	3.1
Facilities Investment	19.9	6.3	5.9	6.5	4.4
Construction	−1.5	−0.5	1.2	1.7	1.5
Exports of Goods and Services	13.3	7.2	7.7	8.9	8.4
Imports of Goods and Services	16.8	7.1	7.6	7.8	7.3
Current Account(100million dollar)	250	139	107	65	61
Goods Account(100 million dollar)	467	398	388	354	336
Exports of Goods(F.O.B)	24.6	5.0	6.7	7.0	6.9
Imports of Goods(C.I.F)	28.2	8.2	7.3	8.0	7.8
GDP Deflator	2.6	2.3	2.2	2.6	2.5
Consumer Price	2.9	2.8	3.0	3.2	2.9
Unemployment Rate	3.7	3.5	3.4	3.3	3.5
Exchange Rate(₩/$)	1,155	1,108	1,064	1,025	1,044
Yield of KTB(3 years)	3.8	4.0	4.4	4.8	4.4
Current Gross Domestic Product	8.4	6.2	6.4	7.0	6.4
Per Capita GDP($)	20,448	22,595	25,011	27,745	28,970

Notes: 1) Data for 2009 are actual, Data after 2009 are projection.
2) Exchange rate and yield of KTB are annualized.
Source: National AssemblyBudget Office, Bank of Korea, Statistics Korea

◆ Introduction to the NABO Macro Economic Model

It is important that the methodology for forecasting the growth path of the Korean economy is objective and scientific. To guarantee this, the public and private economic research institutes like the Bank of Korea and the Korea Development Institute have developed their own economic models suitable for their own characteristics and purposes, using them to form an outlook on the economy or to analyze policy impacts.

NABO has developed and utilized the NABO macro economic model to produce economic outlook and various analyses necessary to support the National Assembly's budget evaluation, policy creation, and other legislative activities. NABO macro economic model has the following characteristics. First, it endogenizes tax revenue to strengthen the connection between public and private sectors. In particular, tax revenue is broken down into specific items so that the model can capture the direct and indirect impacts of tax policy changes on the macro economy. Second, the export function is broken down by country (or region) to take into account the structural changes in exports led by the developing countries since 2000. This allows us to analyze the impact of structural changes in Chinese export on Korea's export to China, the largest export partner. Third, the model includes various nominal variables used in tax revenue projection, one of NABO's main tasks, to strengthen the link between the real and nominal parts of the model. The 2010 version of the NABO macro economic model contains 7 sectors (final demand, supply, labor, finance, public finance, prices, and external sectors), 71 behavioral equations, and 34 identities, and uses 105 endogenous and 61 exogenous variables. The estimation of the model uses the quarterly macroeconomic data from the first quarter of 2000 to the second quarter of 2010. The model's dynamic stability is tested through historical simulations. Dynamically simulating the endogenous variables in the structural equations using the data between the first quarter of 2002 and the second quarter of 2010 suggests that the estimated numbers in the model match the actual data well and that the model's forecast error based on Root Mean Squared Error % (RMSE%) implies a large explanatory power and a suitable level of dynamic stability. NBAO's medium term economic outlook for 2010~2014 is based on the 2010 NABO macro economic model explained above.

Table _ RMSE% of Major Endogeneous Variables

Endogenous Variables	RMSE%	Endogenous Variables	RMSE%	Endogenous Variables	RMSE%
Gross Domestic Product	2.47	Exports to EU	5.03	Yield on Corporate Bond	8.76
Private Consumption	2.28	Exports to Japan	4.72	Unemployment Rate	8.17
Government Consumption	3.37	Exports to USA	5.65	Wage	2.84
Construction Investment	2.79	Imports Based on Customs Clearance	4.78	Labor Hours	2.09
Facilities Investment	3.49	Import of Raw Materials	4.96	Total Revenue	6.79
Total Export	3.74	Import of Capital Goods	9.29	Tax Revenue	7.00
Export of Goods	4.30	Import of Consumption Goods	4.75	Income Tax	11.63
Total Import	3.61	Export Price	1.18	Property Tax	18.60
Import of Goods	4.44	Import Price	2.27	Tariff	6.53
Exports Based on Customs Clearance	3.85	Consumer Price Index	0.53	GDP Deflator	1.44
Exports to China	9.79	Yield on Government Bond	7.69		

Notes: RMSE, defined as the square root of the average squared difference between estimated and observed values, measures the proximity or closeness between the estimated and observed values of the variable. RMSE nonetheless suffers from the problem that the value changes with the unit of measure. RMSE% circumvents this problem by converting the value to the percentage unit, allowing for better comparisons.

Source: NABO

2. Outlook by Sector

Private Consumption

Private consumption is expected to increase 3.3% annually between 2011 and 2014. This rate is 0.4%p lower than the average rate of growth (3.7%) during 2004~2007 before the global crisis.

Although employment will increase at the annual rate of 0.8% (0.2 million new employees), 0.6%p lower than the rate before the crisis, and real wage will increase at the annual rate of 2.6%, 0.6%p higher than the rate before the crisis, the overall employment conditions would be insufficient to improve household consumption. The current trend of expanded private credit under the low interest rate policy will have positive effect on private consumption in the short term. If, however, interest rate begins to increase in the face of excessive liability, it would increase the household's repayment burden, lowering consumption in the long term.

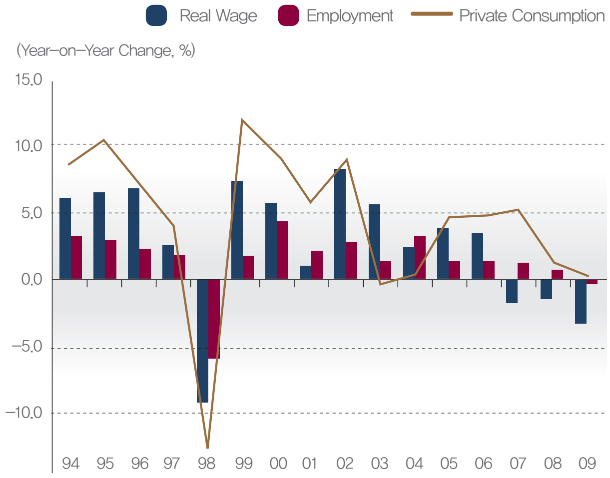
Construction Investment

The growth of construction investment from 2011 to 2014 is expected to be limited at the annual rate of 1.0%. The housing market, which is under distress at the present moment, will see positive signs after the middle of 2011 with the recovery of private supply of housing due to the improved match between supply and demand, supply of Bogeumjari Housing, and public constructions in the innovation cities. However, there exists negative pressure to the construction investment such as Korea Land & Housing Corporation's decision to shrink its projects and the government's decision to reduce its SOC investments.

Equipment Investment

Equipment investment from 2011 to 2014 is projected to increase at the average rate of 5.8% each year, 0.9%p lower than the average growth rate before the crisis (2004~2007). In 2011, the rate of growth will be 6.3% as the base effect dissipates with the normalizing economy and as the export growth

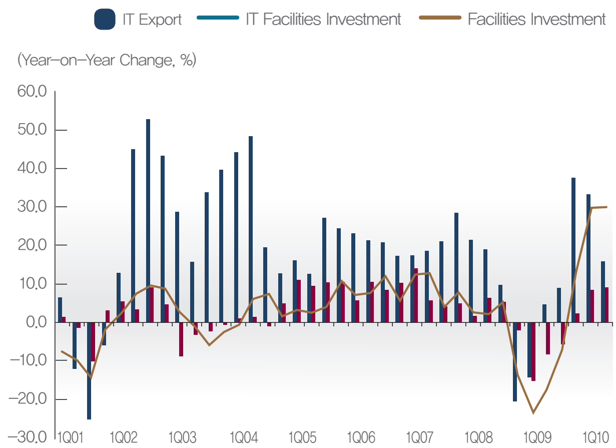
Figure 3 _ Private Consumption, Real Wage, and Employment



Source: Bank of Korea

Figure 4 _ Real Construction Investment to Real GDP Ratio

Figure 5 _ Facilities Investment, IT Facilities Investment, IT Export



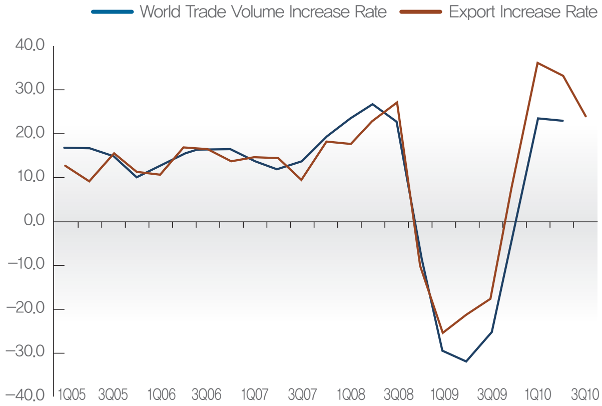
Source: Bank of Korea, Ministry of Strategy and Finance led by automobiles and semiconductors slows down. Furthermore, interest rate will rise as the exit strategy kicks in and aggressive restructuring slows down the domestic production by construction and mid-sized companies, constraining the rise in equipment investment. From 2012, equipment investment will rise at the average rate of 5.6% with the healthy growth of export and reduced uncertainties in the financial market.

Exports

The connection between export growth and global economic growth has strengthened in the 2000s. The global economy is expected to grow at the average rate of 4.1% (IMF) from 2011 to 2014, a slower rate than the 5% average rate before the crisis.

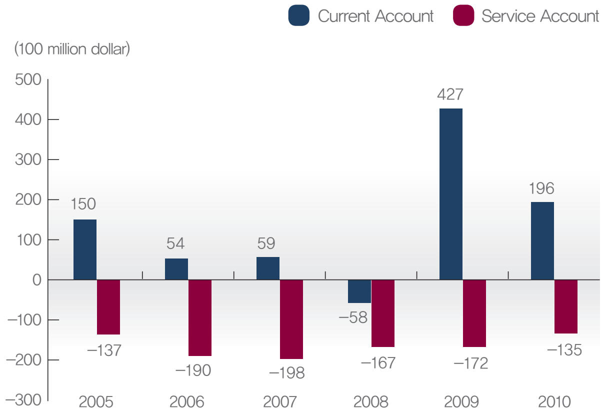
In the 21st century, the proportion of top 3 export products to total exports has increased to 48.1%, with IT products, automobiles, and ships taking 28.8%, 11.7%, and 7.6%, respectively. The main export products have large income elasticity, responding sensitively to the importing country's income level. Therefore, the slowdown of the global economy will lead to lower demand for export products, resulting in the 6.4% average growth of exports (on a custom clearance basis) between 2011 and 2014. During the same period, the top export products'average market size growth will be slower at 4.7% per year for semiconductors (10.4% in 2004~2007) and 6.2% per year for automobiles (6.0% in 2004~2007). The demand for ships will decrease from 56.5 million CGT/year before the crisis to 3.02 million CGT/year, and Chinese companies'improved capability and price competitiveness will impose a threat on our products in the global ship manufacturing industry.

Figure 6 _ World Trade Volume and Export Increase Rate



Note: 1) World trade volume is the sum of world export volume and world import volume.
2) Korea's export is on a customs clearance basis, and the export growth rate for the 3rd quarter in 2010 is an estimate.
Sources: IFS, Ministry of Strategy and Finance, Korea International Trade Association

Figure 7 _ Current Account and Service Account



Note: The 2010 figure is the cumulation from January to August
Source: Bank of Korea

Imports

Imports will grow on average by 7.9% (on a custom clearance basis) from 2011 to 2014 with the slowdown of exports for the main export products, which have a high rate of dependence on imports, and the decelerated recovery of domestic demand. Analyzing the input-output tables for 2008 tells us that the import-generating effect of exports reaches 44.3%, meaning that the slowdown of exports leads to the decline of demand for component materials and capital goods for equipment investment, and thus to the slowdown of imports. In addition, raw materials, which take up 54.8% of total imports on average (2000~2010 based on September accounting), will contribute to the slowdown of overall imports as the rate of increase in prices declines with the decelerating global economy.

Current Account and Exchange Rate

With the simultaneous slowdown of exports and imports, the growth of imports exceeds the growth of exports, reducing the current account surplus of goods and maintaining the current account deficit of services. This will lead to the average overall current account surplus of 9.3 billion dollars between 2011 and 2014, and that surplus is lower than the average current account surplus of 13.6 billion dollars before the crisis (2004~2007). The chronic current account deficit for services will be maintained as the deficit increases for travel and other business services.

The average exchange rate between Won and Dollar for 2011~2014 is projected to be 1,060 won. The rate will show the declining trend as the foreign capital flows in and current account surplus continues, but will be higher than the average exchange rate of 1,013 won during the 4 years (2004~2007) before the crisis.

Employment

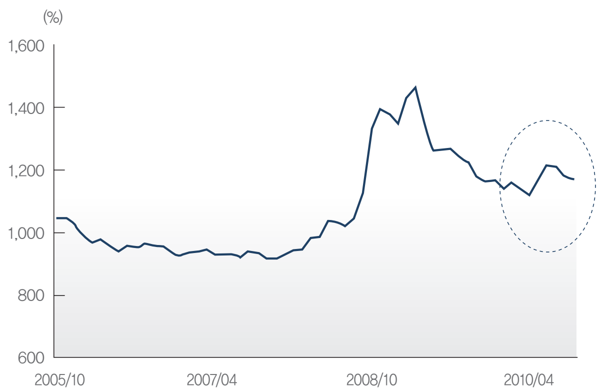
Between 2011 and 2014, employment will grow by 0.8% (0.20 million new employees) on average, 0.6%p lower (0.124 million employees) lower than the 1.4% growth rate (0.324 million new employees) before the crisis (2004~2007). The slowdown of employment growth caused by the economic growth's limited ability to produce new jobs or the difficult employment situations for younger job-seekers caused by the discordance between supply and demand will require some time until improvement.

Price Level and Interest Rate

GDP deflator is expected to rise 2.4% per year on average between 2011 and 2014. Although the persistence of low interest rate can have an upward pressure on the price level, the overall pressure on the price level will be small as the rate of GDP gap has a negative value or in the equilibrium level and the cost component of the price like the wage rate does not impose much pressure. Furthermore, the exchange rate between Won and Dollar will decrease on average by 2.5% each year, providing some relief to the price level. The Consumer Price Index (CPI) will show the modest growth rate of 3.0% from 2011 to 2014.

The average KTB(3 years) yield between 2011 and

Figure 8 _ The Trend of Won to Dollar Exchange Rate



Note: Based on monthly average of the basic exchange rate.
Source: Bank of Korea

Figure 9 _ Trend of GDP Deflator

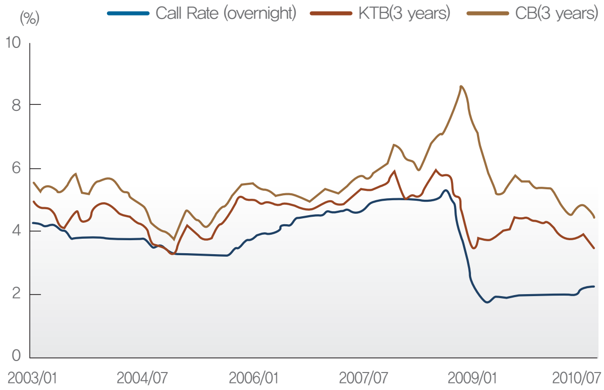
2014 is expected to be 4.4%. Although the Bank of Korea is expected to increase the target interest rate, the increase would be gradual because of the large household debt. The interest rate will be below the average rate of 4.6% between 2004 and 2007 because of the modest price increases and the modest growth of the economy around 4%.

Potential Growth Rate

The potential growth rate in 2011~2014 is expected to be around 3.8% on average, 0.4%p lower than that during the 4 years preceding the crisis (2004~2007). As the crisis reduced the amount of real economic activities like investment and production, the rate in 2008 is estimated to be short of 4% (3.9%) and that in 2009 is estimated to be 3.6%, 0.3%p lower than that in 2008. The production inputs' long-term contributions to the potential growth rate are respectively 0.3% and 1.8% for labor and total factory productivity (TFP), the same as that before the crisis (2004~2007). The capital's average contribution decreased by 0.4%p from that in the 4 years (2.1%) before the crisis, which is the main reason behind the lower potential growth rate.

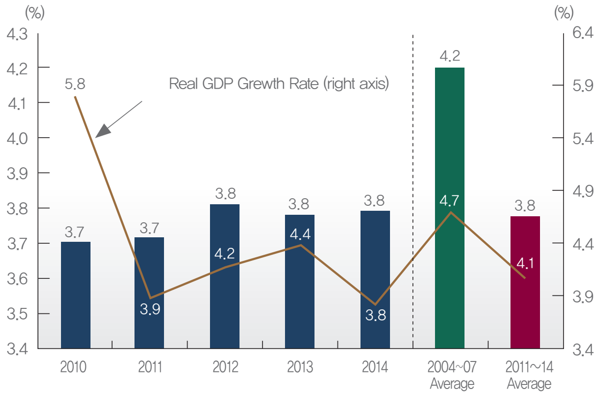
GDP gap, defined as the percentage difference between the actual GDP and the potential GDP, is -3.0% in 2009, -1.0% in 2010, -0.8% in 2011, -0.4% in 2012, 0.1% in 2013, and 0.2% in 2014 so that the actual GDP returns to the level of potential GDP by 2013.

Figure 10 _ Trend of Market Interest Rates



Note: Monthly average
Source: Bank of Korea

Figure 11 _ Midterm Potential GDP Growth Projection



Source: NABO

◆ Risk Factors to the National Economy

The largest among the downside risks to the national economy in 2011 is the possibility of a double-dip (the phenomenon where the economy returns to a recession after a temporary recovery) of the developed economies such as that of the United States. Although the global economy has escaped from crisis due to each country's proactive fiscal and monetary policies, the stimulating effects of the public sector are abating and the autonomous recovery by the private sector is absent. Therefore, the economy of the developed countries exhibits a weakening upward momentum after the second quarter of 2010. There is an especially large risk of another recession if we see the U.S. economy quickly declining, southern European budget crisis reemerging, and Chinese budget policy tightening at the same time.

The second risk is the exchange rate battle between China and the developed countries like the U.S. as a result of global imbalance. The ratio between current account surplus and GDP reach 5.8% in China, 11.1% in Hong Kong, 6.2% in Taiwan, and 5.2% in Korea as of 2009. In contrast, the ratio between current account deficit and GDP is 2.9% in the U.S. and 0.3% in Europe. Some deficit countries like the U.S. identify the low exchange rate policy of the East Asian countries as the main cause of such long-lasting phenomenon. On the other hand, China identifies under-saving and overinvestment by the Western countries like the U.S. as the main cause of the global imbalance. As the exchange rate battle between China and the main developed countries like the U.S. continues, the export environment can deteriorate. If the conflict produces serious trade frictions, the global trade can decline significantly.

The third risk is the increased risk of household insolvency with the distress of the housing market and the increased burden of financial expenses. Household debt in Korea has steadily increased since the 2003 credit card crisis and had continued to increase during the crisis. Because living expenses and demand for housing had continued to increase while a large proportion of the mortgages in Korea have used the single payment system and allowed for grace periods, the remaining debt has often been maintained through the extension of maturity. As of 2009, the household debt to disposable income ratio is 152.7%, higher than the majority of the OECD countries (142% in Spain and 128% in the United States) or than the major developed countries like the U.S. where the financial crisis originated. Furthermore, due to the low ratio of financial asset and the strong preference toward real assets like real estate, the average financial debt to financial asset ratio in Korea is higher than that in the major countries like the United States, the United Kingdom, and Japan. If the market interest rate increases or the distress in the housing market lasts for a long period, the household finance may deteriorate, especially for the low-income, low-asset households who may face difficulty repaying the principal and interest.

◆ Analyzing the Policy Effects of Slower Growth in U.S. and China

The risk factors to the medium term economic outlook include the slowdown of U.S.'s economic recovery as the restructuring of household debt after the subprime crisis delays, the slowdown of Chinese economy due to tighter budget and the devaluation of Yuan, and the possible reemergence of the European sovereign debt crisis. If the growth of global economy comes short of the growth rate assumed in the model, it would reduce exports and lower the growth rate of the national economy.

The figure below shows the paths of major macroeconomic variables comprising GDP growth, price level, exports, and imports under the scenario that China and the U.S., Korea's major trade partners, exhibit growth rates 1% lower than the assumed levels.

The decline in the growth of China and the U.S. reduces their import demands, lowering Korea's exports and GDP. If the GDP growths of China and the U.S. between the third quarter of 2010 and the last quarter of 2014 decline by 1%, the GDP's in the third and fourth quarters of 2010 would fall by 0.68% and 0.96% with the annual GDP declining by 0.42%.

Figure _ Affect on GDP

Figure _ Affect on Current Account Balance

Figure _ Affect on Exports (Customs Clearnace)

Figure _ Affect on Imports (Customs Clearance)

Notes: The policy experiment compares the endogenous variables obtained from the altered exogenous variables to the endogenous variables estimated from the baseline simulation, not to the actual vallues of the endogenous variables.

Policy Effect(%) = $\frac{(\text{Post–Policy}\,Y_t - \text{Pre–Policy}\,Y_t)}{\text{Pre–Policy}\,Y_t}$ ×100, and current account balance uses Policy Effect(100 million dollar) = Post–Policy Y_t – Pre–Policy Y_t

Source: NABO

Under the same scenario, total exports (on a custom clearance basis) in the third and fourth quarters of 2010 would decline by 1.52% and 2.02% with the annual decline of 0.88%, and total imports (on a custom clearance basis) would decline by 0.32% and 0.66% with the annual decline of 0.25%. As the decline in exports exceeds the decline in imports, the current account surplus would fall by 1.2 billion dollars and 1.5 billion dollars in the third and fourth quarters of 2010 with the annual decline in the surplus of 2.8 billion dollars.

From 2011 to 2014, the average annual decline of GDP, exports, and imports would be 0.75%, 2.25%, and 0.95%, respectively. Such large impact of the decline of Chinese and U.S. growth rates originate from Korea's 34.6% export dependence rate* on China and the United States.

* Export dependence rate is defined as {Export to U.S. + Export to China}/Total Exports*100

II. Total Revenue

Due to the rapid recovery of the economy, total revenue in 2010 is expected to be 296.3 trillion won (1.9% above the budget), a 7.5% increase from that in 2009, and total revenue in 2011 is expected to be 313.7 trillion won, a 5.9% increase from the expected total revenue in 2010.

1. Total Revenue

Total Revenue in 2010

Total revenue in 2010 is expected to be 296.3 trillion won (1.9% above the budget), a 7.5% increase from that in 2009. The rate 7.5% is a healthy increase from the poor rate in 2009 (-0.5%) and come from the faster-than-expected recovery of the economy. National tax is expected to increase by 6.1% increase in real term to 174.6 trillion won (2.4% above the budget) due to the nominal GDP increase and improvement in imports. Social security contribution is projected to increase by 4.9% to 35.6 trillion (3.4% above the budget). Non-tax revenue and capital revenue is expected to show the high growth rate of 11.5% (0.3% above the budget) because of the poor performance in 2009 (0.3% above from the previous year) due to the financial crisis.

Total Revenue in 2011

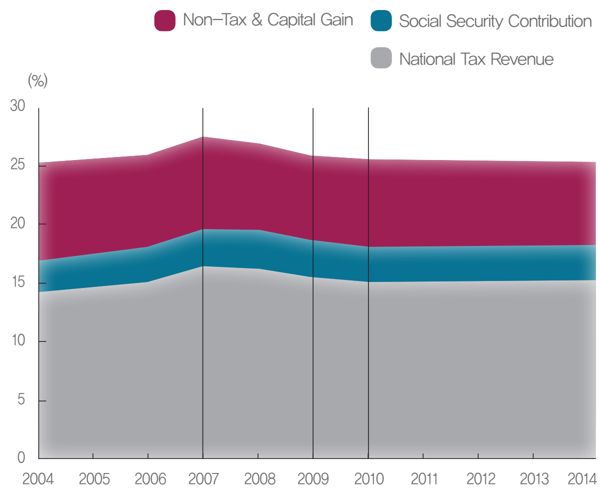
Total revenue in 2011 is expected to be 313.7 trillion won, a 5.9% increase from the forecasted amount in 2010. Growth of total revenue (5.9%) is lower than that in 2010 (7.5%) because of a slowdown of the economic growth and low interest rate. National tax is projected to be 186.2 trillion, and the growth rate would accelerate (6.1% → 6.7%) from 2010 due in part to increased corporate tax coming from improved corporate performances. Social security contribution is also projected to show an increase in the growth rate (4.9% → 6.6%) due to the upward shift in the standard monthly income bracket as

Table 5 _ 2010–2011 Total Revenues Forecast

(unit: tril. won, %)

	2010 Budget	2010 Revenue Forecast	Change Amount	Change (%)	2011 Revenue Forecast	to 2010 Forecast Amount	to 2010 Forecast (%)
◇ Total Revenues	290.8	296.3	5.5	(1.9)	313.7	17.4	(5.9)
(as of GDP)	(27.4)	(25.7)			(25.6)		
1. Tax Revenue	170.5	174.6	4.1	(2.4)	186.2	11.7	(6.7)
2. Social Security Contribution	34.4	35.6	1.2	(3.4)	37.9	2.4	(6.6)
3. Non–tax etc.	85.9	86.2	0.3	(0.3)	89.6	3.4	(3.9)

Figure 12 _ Trend of Total Revenue Components as a Percentage of GDP



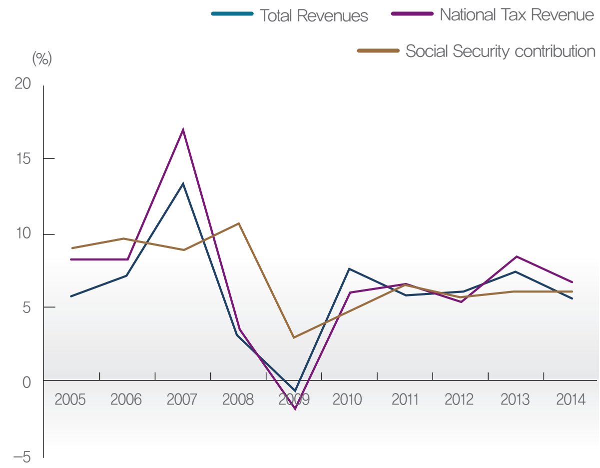
Note: 2010–2014 figures are forecasts

well as the contribution rate and the rise of wages in 2010. Non-tax revenue is expected to rise only 3.9% due in part to the fall in interest rate.

Medium-Term Outlook

Total revenue in 2010~2014 would rise at the average annual rate of 6.3%, slightly below the average annual rate of expected GDP growth (6.9%) during the same period. Total revenue to GDP ratio would slightly fall from 25.9% in 2009 to be around 25.6% average in 2010~2014. Despite the improved economy, tax revenue would grow 6.9%, only slightly exceeding the nominal growth rate (6.6%), due in part to the tax cut. Social security contribution and non-tax revenue would grow 5~6%, lower rate than the nominal growth rate, due in part to the maturing social security system and low interest rate. The total revenue to GDP ratio would discontinue the rapid growth rate from 1990s to 2007 and stay around the ratio of 23.3%. This is because the tax cut would slow down the return of tax revenue to the historical trend and because the ratio of social security contribution and non-tax revenue to GDP is expected to decline.

Figure 13 _ Growth of Total Revenue (Annual)



Note: 2010–2014 figures are forecast

Table 6 _ 2010–2014 Total Revenues Forecast

(unit: trillion won, %)

	2010	2011	2012	2013	2014	Projected Average Annual Growth Rate (10–14)
◇ Total Revenue	296.3	313.7	332.8	357.7	378.1	(6.3)
(to GDP)	(25.7)	(25.6)	(25.5)	(25.6)	(25.4)	
(% change to previous year)	(7.5)	(5.9)	(6.1)	(7.5)	(5.7)	
1. Tax Revenue	174.6	186.2	196.3	213.2	227.7	(6.9)
(to GDP)	(15.1)	(15.2)	(15.0)	(15.2)	(15.3)	
2. Social Security Contribution	35.6	37.9	40.1	42.6	45.2	(6.2)
(to GDP)	(3.1)	(3.1)	(3.1)	(3.0)	(3.0)	
3. Non-Tax & Capital Gain	86.2	89.6	96.5	101.9	105.3	(5.1)
(to GDP)	(7.5)	(7.3)	(7.4)	(7.3)	(7.1)	
◇ Nominal GDP Growth Rate	(8.6)	(6.2)	(6.5)	(7.2)	(6.4)	(6.6)

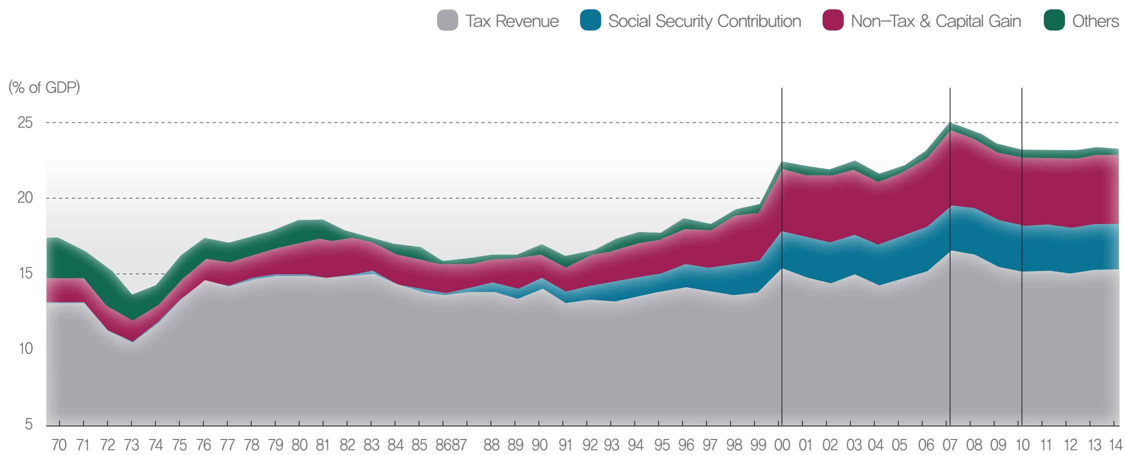
◆ Trend in Consolidated Fiscal Revenue

As the time series of total revenues is short (begins after 2004) and the finally settled amount is not officially published, it is useful to study the historical trend using the consolidated fiscal revenue. The consolidated fiscal revenue to GDP ratio has steadily increased since the 1990s, reaching 25.0% in 2007. In particular, the tax revenue to GDP ratio in 2007 increased by 1.6% from the previous year due in part to the large increase in tax revenue. The most rapidly increasing component is the social security contribution. The social security contribution to GDP ratio had increased from 0.8% in 1991 to 3.1% in 2007.

With the impact of the financial crisis, the consolidated fiscal revenue to GDP ratio had started to decrease from the second half of 2008, reaching 23.6% in 2007.

The better-than-expected rate of recovery in 2010 is helping consolidated fiscal revenue recover fast from the poor performance in 2009. The rate of increase, however, comes short of the trend before the crisis because of the tax cut, the slowdown of revenue from the social security contribution due to the maturing social security system, and the slowdown of the non-tax revenue due to the low interest rate. Therefore, between 2010 and 2014, the consolidated fiscal revenue to GDP ratio would discontinue its rapid growth shown before the financial crisis and stay around the modest level of 23.3%.

Figure _ Consolidated Fiscal Revenue



Note: 2010 and thereon, total revenue forecast converted to consolidated fiscal balance standard

1 The difference between total revenue and consolidated fiscal revenue comes from fiscal lending and the processing of non-financial public corporation (corporate special accounting). Total revenue is different from consolidated fiscal revenue in that total revenue records the revenue from fiscal lending and non-financial public corporations based on total amount instead of net amount (net lending = lending expenditure – lending collection).

2 Non-tax revenue has also increased by a large amount since 2000, but this is due in part to incorporating government employees' pension into consolidated fiscal revenue.

2. Tax Revenue

2011 Outlook

Despite the effect of tax cut, the growth rate of tax revenue is expected to jump from -1.7% in 2009 to 6.1% in 2010.

Due in part to the improved corporate performances, the tax revenue in 2011 is expected to grow 6.7% from the forecasted tax revenue in 2010. Income tax is expected to grow 7.5% because of higher wage and employment, and corporate tax will see the high rate of growth of 9.6% because of improved corporate performances in 2010. Value added tax is expected to show a modest growth of rate of 6.7% compared to the growth rate in 2010 (11.1%) as the exchange rate falls and the growth of imports slows down.

Medium Term Outlook

Tax revenue is expected to grow at the average of 6.9% per year from 2010 to 2014.

Despite the economic recovery, the growth rate of tax revenue will only slightly exceed the economic growth rate (6.6%) due in part to the tax cut. This rate is much lower than the rate 11.1% before the crisis between 2004 and 2007, and total tax as a percentage of GDP (tax revenue/nominal GDP) between 2010 and 2014 will be around 15.2%, lower than the rate 15.5% in 2009, due in part to the tax cut. Although the business conditions have recovered rapidly from the financial crisis, the tax revenue to GDP ratio will return slowly to the historical growth trend because of the large tax cuts after 2008. Between 2010 and 2014, 1.3% to 1.6% of the decline in tax revenue is attributed to the tax cut.

Table 7 _ 2011 Tax Revenue Forecast

(unit: tril. won, %)

	2010 Budget	2010 Forecast	2011 Forecast	to 2010 Forecast Net Increase	to 2010 Forecast % Change
Total Tax	170.5	174.6	186.2	11.7	(6.7)
(as of GDP)	(14.8)	(15.1)	(15.2)		
◇ General Accounting	136.4	167.8	179.1	11.4	(6.8)
○ Internal Tax	136.9	139.2	150.4	11.2	(8.1)
1. Income Tax	37.2	37.3	40.1	2.8	(7.5)
2. Corporation Tax	36.9	36.3	39.8	3.5	(9.6)
3. Inheritance-Gift Tax	2.7	2.9	3.2	0.4	(13.0)
4. Value Added Tax	46.9	49.8	53.1	3.4	(6.7)
5. Individual Consumption Tax	4.8	4.4	5.0	0.6	(12.9)
6. Securities Transaction Tax	3.7	3.7	3.9	0.2	(5.4)
7. Stamp Tax	0.6	0.5	0.6	0.0	(4.3)
8. Revenue on Previous Years	4.1	4.2	4.6	0.4	(10.5)
○ Traffic-Energy-Environment Tax	11.7	13.0	12.6	-0.4	(-3.1)
○ Customs Duties	9.3	10.2	10.7	0.5	(5.0)
○ Education Tax	4.5	4.4	4.4	0.0	(0.9)
○ Comprehensive Real Estate Holding Tax	1.0	1.1	1.1	0.0	(-1.7)
◇ Special Accounting	7.0	6.8	7.1	0.3	(4.6)
○ Liquor Tax	2.9	2.6	2.7	0.1	(2.6)
○ Special Tax for Rural Development	4.1	4.2	4.5	0.2	(5.8)

Table 8 _ 2010–2014 Tax Revenue Forecast

(unit: tril. won, %)

	2009	2010	2011	2012	2013	2014	Projected Average Annual Growth Rate
Total Tax	164.5	174.6	186.2	196.3	213.2	227.7	
(As of GDP)	(15.5)	(15.1)	(15.2)	(15.0)	(15.2)	(15.3)	
(% change to previous year)	(–1.7)	(6.1)	(6.7)	(5.4)	(8.6)	(6.8)	(6.9)
○ Internal Tax	133.7	139.2	150.4	159.8	175.6	191.1	(8.3)
1. Income Tax	34.4	37.3	40.1	42.8	48.3	52.1	(8.7)
2. Corporation Tax	35.3	36.3	39.8	42.5	46.2	50.9	(8.8)
3. Inheritance–Gift Tax	2.4	2.9	3.2	3.7	4.3	4.9	(14.4)
4. Value Added Tax	47.0	49.8	53.1	55.9	61.1	66.8	(7.6)
5. Individual Consumption Tax	3.6	4.4	5.0	5.1	5.1	5.0	(3.2)
6. Securities Transaction Tax	3.5	3.7	3.9	4.2	4.5	4.9	(6.8)
7. Stamp Tax	0.5	0.5	0.6	0.6	0.6	0.7	(5.7)
8. Revenue on Previous Years	6.9	4.2	4.6	5.0	5.4	5.9	(8.9)
○ Traffic–Energy–Environment Tax	10.1	13.0	12.6	12.6	12.7	12.8	(–0.2)
○ Customs Duties	9.2	10.2	10.7	10.9	11.3	12.4	(5.2)
○ Education Tax	3.8	4.4	4.4	4.5	4.6	4.6	(1.1)
○ Comprehensive Real Estate Holding Tax	1.2	1.1	1.1	1.1	1.1	1.1	(0.7)
○ Liquor Tax	2.8	2.6	2.7	2.7	2.8	2.9	(2.8)
○ Special Tax for Rural Development	3.8	4.2	4.5	4.7	5.1	2.7	(–10.3)

◆ Tax Reducing Effect of the 2008~2009 Tax Reform Proposals

Total Tax as a Percentage of GDP

From 2008 to the end of 2009, the administration initiated a large tax cut through tax reform. For instance, corporate tax and income tax rates gradually fall until 2012. The

Table _ Total Tax as % of GDP

(unit: %, %p)

	2009	2010	2011	2012	2013	2014
Under the current law(A)	15.5	15.1	15.2	15.0	15.2	15.3
Excl. tax cut effect(B)	16.0	16.4	16.6	16.5	16.8	16.8
Difference(A–B)	–0.6	–1.3	–1.4	–1.4	–1.6	–1.5

1 Although the introduction of local income tax is not a tax cut to be exact, it is included in tha analysis because it transfers part of the tax revenue to local governments.

comprehensive real estate tax is modified from by household to by individual, and the base interval and tax rate are adjusted downward. To secure resources for the local governments, the tax reform in 2009 introduces from 2010 the local consumption tax financed by 5% of value added tax.

Because of the various tax cut measures, the tax revenue increased would be limited despite the economic recovery. The total tax as a percentage of GDP will fall from 16.3% in 2008 to the low 15% in 2010 because of the accumulated impacts from the tax cut. If the effect of the tax cut is taken out, total tax as a percentage of GDP could reach 16.8% by 2014. Therefore, the decline in the tax revenue between 2010 and 2014 is estimated to be 1.3~1.6% of GDP.

Figure _ Total Tax as % of GDP

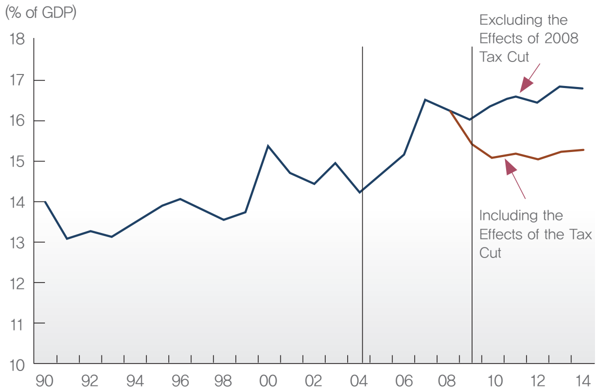


Table _ Tax Cut Effects

(unit: tril. won, %)

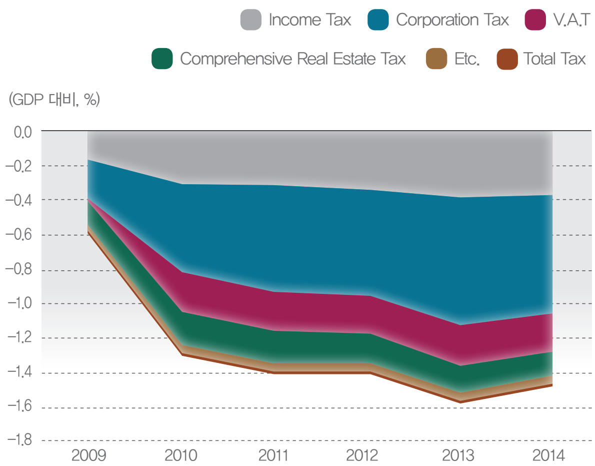
	2009	2010	2011	2012	2013	2014
Total Tax	−6.0	−15.0	−17.2	−18.4	−22.1	−22.0
Income Tax	−1.7	−3.5	−3.8	−4.4	−5.3	−5.6
Corporate Tax	−2.5	−6.1	−7.6	−8.1	−10.6	−10.2
Value Added Tax	0.0	−2.6	−2.8	−2.9	−3.2	−3.5
Comprehensive Real Estate Tax	−1.8	−2.3	−2.3	−2.3	−2.3	−2.3
Others	0.0	−0.6	−0.6	−0.6	−0.6	−0.3
(as % of GDP)						
Total Tax	−0.6	−1.3	−1.4	−1.4	−1.6	−1.5
Income Tax	−0.2	−0.3	−0.3	−0.3	−0.4	−0.4
Corporation Tax	−0.2	−0.5	−0.6	−0.6	−0.8	−0.7
V.A.T	0.0	−0.2	−0.2	−0.2	−0.2	−0.2
Comprehensive Real Estate Tax	−0.2	−0.2	−0.2	−0.2	−0.2	−0.2
Others	0.0	0.0	0.0	0.0	0.0	0.0

Tax Cut by Component

The fall in tax revenue due to tax cut will rise from -6.0 trillion won in 2009 to -22.0 trillion won in 2014. The corporate tax cut has the largest effect, as it contributes to the tax revenue decline of -2.5 trillion won in 2009 and -10.2 trillion won by 2014. The tax revenue decline due to lower income tax rate is -1.7 trillion won in 2009 and will reach -5.6 trillion won by 2014. Furthermore, the fall in value added tax, a component of national tax, due to the introduction of local income tax is -2.6 trillion won in 2010 and will reach -3.5 trillion won in 2014.

2 The amount of tax revenue decrease due to the tax cut uses the baseline approach and considers the tax cut policies' impact on macroeconomic variables such as the economic growth rate.

Figure _ Tax Cut Effects



Tax Elasticity

The table below shows the tax elasticity (Growth of National Tax Revenue/Growth of Nominal GDP), indicating how fast the national tax increases compared to the nominal GDP. The tax elasticity in the 1970s and 1980s is slightly larger than 1. During this period, growth of national tax revenue only slightly exceeded that of nominal GDP because tax breaks and tax preferences were given in investment and exports to induce capital accumulation growth. As the tax base broadened from 2000 due in part to the initiation of credit card tax deduction policy, tax elasticity rose to 1.16. During this period, nominal GDP growth declined to 7% whereas the growth of national tax was higher at 8.2%. On the other hand, the tax elasticity is expected to fall to 0.96 between 2009 and 2014 due in part to the tax cut. When the effect of the tax cut is excluded, tax elasticity is forecasted to rise to 1.14, meaning the tax revenue decline due to the tax cut contributes to the 0.18 fall in tax elasticity.

Based on the discussions up to this point, the tax revenue decline due to tax cut is significant and long-lasting. Therefore, to achieve budget soundness in the medium and long term, it is necessary to mediate the tax revenue decline by reducing the tax breaks and tax preferences and by persistently improving the tax administration. Furthermore, if the tax cut imposes too much downward pressure on the tax revenue, it is necessary to reconsider the planned tax cut in 2012.

Table _ Tax Elasticity

(unit: tril. won, %)

	70's	80's	90's	'00~'07	Average ('70~'07)[1]	'09~'14 Under the Current Law	'09~'14 Excl. Tax Cut Effect
Tax Elasticity	1.05	1.02	1.09	1.16	1.06	0.96	1.14
Revenue Growth Rate	31.8	17.6	13.2	8.2	18.2	6.7	7.9
Nominal GDP Growth Rate	30.3	17.2	12.2	7.1	17.2	7.0	7.0

Note: 1) Year 2008 omitted for Global financial crisis effect

3. Social Security Contribution

2011 Outlook

Social security contribution is expected to increase 4.9% from 33.9 trillion won in 2009 to 35.6 trillion won in 2010. In 2011, the amount is expected to increase to 37.9, 6.6% increase from the NABO forecasted of 35.6 trillion won in 2010. This growth rate is higher than the rate 4.9% in the preceding year and can be attributed mainly to the increase in the base income of the members and the contribution rate as the real economy recovers.

Medium Term Outlook

The revenue from social security contribution will increase from 35.6 trillion in 2010 to 45.2 trillion won in 2014 with the 5.9% average annual growth rate. This rate of growth, however, is slightly lower than the 6.6% average growth in the previous medium term (2005~2009).

Table 9 _ Social Security Contribution, Mid-Term Forecast

(unit: bil. won, %)

	2009	2010	2011	Forecasts 2012	2013	2014
National Pension	23,858	25,170	26,857	28,414	30,204	32,077
	(1.3)	(5.5)	(6.7)	(5.8)	(6.3)	(6.2)
Industrial Accidents Compensation Insurance	4,736	4,722	5,065	5,373	5,726	6,103
	(−0.5)	(−0.3)	(7.3)	(6.1)	(6.6)	(6.6)
Employment Insurance	4,189	4,281	4,527	4,747	5,001	5,271
	(3.2)	(2.2)	(5.7)	(4.9)	(5.3)	(5.4)
Teachers' Pension	1,112	1,390	1,473	1,547	1,627	1,709
	(5.1)	(25.0)	(6.0)	(5.0)	(5.2)	(5.0)
Total	33,895	35,563	37,922	40,081	42,559	45,160
	(1.4)	(4.9)	(6.6)	(5.7)	(6.2)	(6.1)

Note: (growth rate, %)

Sources: NABO; Ministry of Strategy and Finance, 「2011 Tax Revenue Budget Proposal」, 2010. 10.

The main source behind the healthy growth rate around 6% of social security contribution is that nominal GDP growth after the crisis is expected to be strong around 7% and wage growth is also expected to be around 6%. Nevertheless, the number of new employees is expected to grow only at the average rate of 1% per year, serving as a constraining factor to the number of new entrants to social security. In the institutional front, the upward shift of the standard monthly income bracket and the measures to increase the new entrants can increase the social security contribution. The reason for a lower growth rate of social security contribution compared to that in the previous medium term can be attributed to the fact that the maturing social security system lowers the rate of increase in new entrants.

4. Non-Tax Revenue and Capital Revenues

2010 Outlook

The non-tax revenue will increase only by 2.7% in 2011, in contrast to the high rate of growth (10.8%) in the preceding year, partly because in the growth of interest rate and a decline in surplus revenue from Bank of Korea. The capital revenue in 2011 is planned to be 3.7 trillion won, 0.4 trillion won higher than that forecasted amount in 2010. Repayment of the lending is planned to be 25.9 trillion won, 1.4 trillion won higher than the projected amount in 2010, due in part to the sale of Industrial Bank of Korea, and total revenue of public enterprises will growth at the level of nominal GDP growth (6.2%).

Medium Term Outlook

The central government's non-tax revenue between 2010 and 2014 is expected to rise on average 6.6% per year, and this growth rate is lower than 7.0%, the previous 5 year's average rate of growth. This is because of a slower growth of interest income as the low interest rate continues and bond lending falls.

The capital revenue of the central government, which was 3.2 trillion won in 2010, will rise to 3.7~4.4 trillion won during 2011~2012 because of increased revenue from sales of government estates in Innovative City Construction and fall again to 2.8 trillion won after 2013. Repayment of lending will show the small growth rate of 2.6% per year because of the slowdown of the loan expenditure. Total revenue of public enterprises will rise at the growth rate of nominal GDP.

Table 10 _ 2010–2014 Central Gov't Non-Tax Revenue

(unit: tril. won, %)

	2010	2011	2012	2013	2014	Projected Average Annual Growth Rate
I. Central Government Nontax Revenue	52.2	53.6	58.7	64.8	67.3	(6.6)
(as of GDP)	(4.5)	(4.4)	(4.5)	(4.6)	(4.5)	
1. Property Income	23.4	23.0	26.0	29.9	29.9	(6.4)
1.1 Dividend and Profits	0.8	0.9	0.9	0.9	0.9	(2.4)
1.2 Other Property Income	22.6	22.1	25.1	29.0	29.1	(6.5)
Rentals of Government Estates	0.2	0.2	0.2	0.2	0.2	(2.3)
Surplus of Bank of Korea	1.1	0.0	0.0	0.0	0.0	
Interest	21.3	21.9	25.0	28.8	28.9	(7.9)
2. Fees, Charges, and Nonindustrial Sales	6.4	6.9	7.5	8.1	8.8	(8.4)
3. Fines and Forfeits	15.5	16.5	17.5	18.8	20.0	(6.6)
4. Contribution to Government Employee Pension Fund	6.9	7.2	7.7	8.0	8.6	(5.5)
II. Central Government Capital Revenues	3.2	3.7	4.4	2.8	2.7	(–4.6)
III. Repayment of Lending	24.5	25.6	26.3	26.7	27.2	(2.6)
IV. Total Revenue of Public Enterprises	6.3	6.6	7.1	7.6	8.1	(6.6)

Ⅲ. Total Expenditure

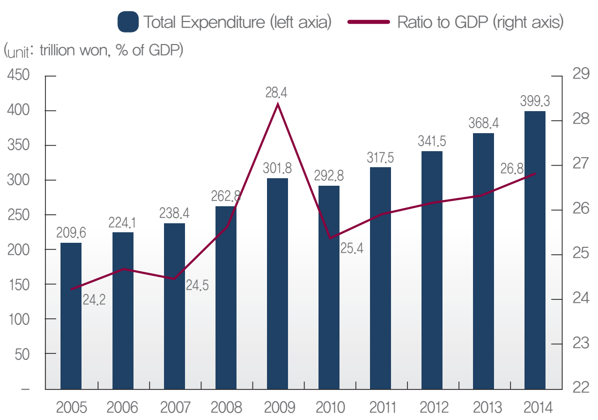
Projecting the total expenditure in 2010~2014 separately for mandatory and discretionary expenditures under various scenarios yields the following. Under scenario 1, total expenditure rises at the average rate of 8.1% and reaches 399.3 trillion won in 2014. Under scenario 2, total expenditure rises 5.4% per year on average to reach 361.7 trillion won by 2014.

1. Total Expenditure

Total expenditure in 2010~2014 is forecasted based on NABO's outlook on the medium term macroeconomic and tax revenue. Before the forecast comes the task of decomposing total expenditure into mandatory and discretionary expenditures. In this outlook, mandatory expenditure, whose amount and obligation are mandated by law, is projected using the outlook on the macro economy and tax revenue. Discretionary expenditure, whose amount can change according to the fiscal authority's will and policy direction, is projected under scenario 1 and scenario 2.

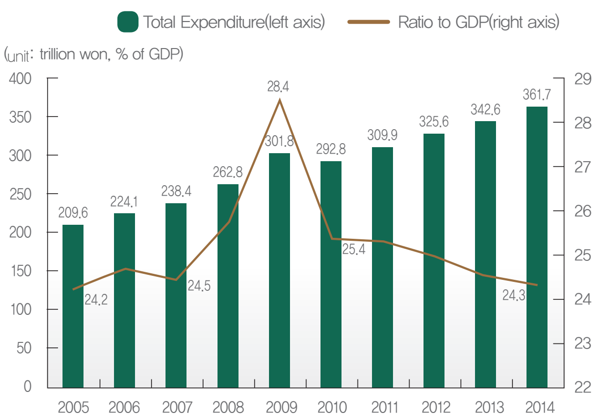
Scenario 1 is the case when the growth of discretionary expenditure rises at the average rate during 5 years before the crisis, whereas scenario 2 is the case when discretionary expenditure rises at the growth rate of CPI so that the real value of discretionary expenditure stays constant. During 2010~2014, the total expenditure which is the sum of mandatory and discretionary expenditures will rise 8.1% on average under scenario 1 and 5.4% on average under scenario 2 from 2010 to 2014. Under scenario 1, the total expenditure to GDP ratio will rise modestly after 2010, reaching 26.8% by 2014. In contrast, under scenario 2, the total expenditure to GDP ratio is 25.4% in 2010 and will be maintained around the lower rate of 24% from 2011 to 2014.

Figure 14 _ Forecast of Total Expenditure in 2010–2014: Scenario 1



Note: In scenario 1, discretionary expenditure grows at the average rate of growth during the 5 years before the crisis.

Figure 15 _ Forecast of Total Expenditure in 2010–2014: Scenario 2



Note: In scenario 2, discretionary expenditure grows at the growth of Consumer Price Index so that the real value of discretionary expenditure stays constant.

Table 11 _ Total Expenditure Outlook for 2010~2014

(unit: trillion won, %)

		2010	2011	2012	2013	2014	10~14 Annual Average
Scenario 1	1. Mandatory Expenditure	132.7	145.4	156.4	169.5	185.5	(8.7)
	(% of GDP)	(11.5)	(11.9)	(12.0)	(12.1)	(12.5)	
	(% of Total Expenditure)	(45.3)	(45.8)	(45.8)	(46.0)	(46.4)	
	2. Discretionary Expenditure	160.1	172.1	185.0	198.9	213.8	(7.5)
	(% of GDP)	(13.9)	(14.0)	(14.2)	(14.2)	(14.4)	
	(% of Total Expenditure)	(54.7)	(54.2)	(54.2)	(54.0)	(53.6)	
	◇ Total Expenditure	292.8	317.5	341.4	368.4	399.3	(8.1)
	(% of GDP)	(25.4)	(25.9)	(26.2)	(26.3)	(26.8)	
	(Growth Rate from Previous Year)	–	(8.4)	(7.5)	(7.9)	(8.4)	
Scenario 2	1. Mandatory Expenditure	132.7	145.2	155.7	167.7	182.0	(8.2)
	(% of GDP)	(11.5)	(11.8)	(11.9)	(12.0)	(12.2)	
	(% of Total Expenditure)	(45.3)	(46.9)	(47.8)	(48.9)	(50.3)	
	2. Discretionary Expenditure	160.1	164.7	170.0	174.9	179.7	(2.9)
	(% of GDP)	(13.9)	(13.4)	(13.0)	(12.5)	(12.1)	
	(% of Total Expenditure)	(54.7)	(53.1)	(52.2)	(51.1)	(49.7)	
	◇ Total Expenditure	292.8	309.9	325.7	342.6	361.7	(5.4)
	(% of GDP)	(25.4)	(25.3)	(25.0)	(24.5)	(24.3)	
	(Growth Rate from Previous Year)	–	(5.8)	(5.1)	(5.2)	(5.6)	

Note: In scenario 1, discretionary expenditure grows at the average rate of growth during the 5 years before the crisis.
Note: In scenario 2, discretionary expenditure grows at the growth of Consumer Price Index so that the real value of discretionary expenditure stays constant.

2. Mandatory Expenditure and Discretionary Expenditure

Under scenario 1, mandatory expenditure will increase from 132.7 trillion won in 2010 to 185.5 trillion won in 2014, increasing at the average rate of 8.7% per year and making up 46.4% of total expenditure. Under scenario 2, mandatory expenditure will increase from 132.7 trillion won in 2010 to 182.0 trillion won in 2014, increasing at the average rate of 8.2% per year and making up 50.3% of total expenditure Among the components of the mandatory expenditure, interest on loan is linked to the size of total expenditure based on the alternative scenarios for discretionary expenditure and thus is projected under the two scenarios. This is because fiscal balance is determined by the size of total expenditure, and the fiscal balance in turn affects the national debt and thus the amount of interest on loan. When interest on loan is projected with these considerations, it will be 20.8 trillion won in 2010 and 31.0 trillion won in 2014 under scenario 1, and will be 27.5 trillion in 2014 with the average growth of 7% under scenario 2.

Discretionary expenditure is projected to rise 7.5% per on average from 160.1 trillion won in 2010 to 213.8 trillion won in 2014 under scenario 1. Under scenario 2, it will rise 2.9% per year on average from 160.1 trillion won in 2010 and 179.7 trillion won in 2014.

Table 12 _ Forecast of Interest Payment on Loans for 2010~2014

(unit: 100 million won, %)

		2010	2011	2012	2013	2014
Discretionary Expenditure Scenario 1	Amount	207,882	231,000	251,724	277,567	309,738
	%Increase	–	11.1	9.0	10.3	11.6
Discretionary Expenditure Scenario 2	Amount	207,882	229,264	244,269	259,063	274,820
	%Increase	–	10.3	6.5	6.1	6.1

Table 13 _ 2010~2014 Projected Mandatory Expenditure (Scenario 2)

(unit: 100 million won, %)

Type	Items	2010	2011	2012	2013	2014	10~14 Annual Average
Basic Livelihood Security	Benefit Expenditure of Minimum Living Security System	24,492	27,276	29,031	30,927	32,804	7.6
	Benefit Expenditure for Housing	5,628	6,071	6,465	6,891	7,311	6.8
	Benefit Expenditure for Education	1,204	1,284	1,331	1,379	1,429	4.4
	Funeral Support Expenditure for Death in Birth	153	153	154	154	154	0.2
	Medical Benefit Expenditure	34,995	40,841	45,726	51,044	56,997	13.0
National Health Insurance	National Treasury Benefit Expenditure	39,123	43,995	48,163	52,750	57,800	10.2
	Health Promotion Fund	10,631	11,226	11,530	11,842	12,162	3.4
	Benefit for Government Employees and Teachers	5,206	5,619	6,278	6,587	7,838	10.8
Unemployment Insurance	Benefit Expenditure during Job Search	33,660	38,976	40,538	42,293	47,883	9.2
	Employment Promotion Benefit	1,562	3,657	3,650	3,688	4,075	27.1
	Benefit for Motherhood	3,359	3,942	4,312	4,683	5,054	10.8
National Pension		90,174	104,145	119,403	136,109	153,809	14.3
Tax Allocated to Local Government		273,920	299,943	318,023	348,736	378,761	8.4
Grant for Local Education		322,980	349,315	368,861	401,445	433,348	7.6
Defense Dividend		7,904	8,125	8,360	8,594	8,594	2.1
Veterans Compensation		24,113	24,885	25,942	26,817	28,014	3.8
Mother & Newborn Benefit		15,396	18,793	19,356	19,975	20,555	7.5
Rice Earning Income Subsidy		6,650	6,170	6,137	6,104	6,071	−2.3
Interest on Loan		207,882	229,264	244,269	259,063	274,820	7.2
Government Employees Pension		94,168	99,408	112,849	115,246	134,785	9.4
Military Pension		21,063	23,516	25,330	26,960	28,694	8.0
Teachers Pension		18,187	17,908	19,042	20,209	21,475	4.2
Elderly Pension		27,202	28,223	29,911	30,258	30,732	3.1
Long-Term Care Security for the Elderly		3,876	4,807	5,336	5,789	6,263	12.7
Industrial Accident Compensation Insurance		37,806	39,161	41,396	43,808	43,422	3.5
Importing Rice		2,883	2,888	3,162	3,444	3,729	6.6
Other Mandatory Expenditures		11,770	11,770	11,770	11,770	11,770	0.0
Total Mandatory Expenditure		1,326,914	1,451,913	1,556,796	1,676,853	1,819,742	8.2
(% of Total Mandatory Expenditure)		(45.3)	(46.9)	(47.8)	(48.9)	(50.3)	
Total Expenditure		2,928,000	3,098,630	3,256,043	3,425,888	3,617,051	5.4

Note: In scenario 2, discretionary expenditure grows at the growth of Consumer Price Index so that the real value of discretionary expenditure stays constant..

◆ Classification of Mandatory and Discretionary Expenditures

Total expenditure can be classified based on many criteria according to its characteristic and purpose. Decomposing it into mandatory and discretionary expenditures provides useful information to the National Assembly as it conducts the screening process for the budget proposal. Mandatory expenditure is directly associated with the creation and amendment of law and is limited in the range of values it can take as the budget is planned and reviewed. In Korea, fiscal expenditure is rising, mainly driven by the increase in mandatory expenditure, calling for a careful estimation of the mandatory expenditure in the medium term. In the case of the U.S., mandatory expenditure is projected separately from discretionary expenditure, and applies the PAYGO rule to mandatory expenditure to secure budget soundness. In Korea, mandatory and discretionary expenditures are not separately presented during the review process for the budget proposal, but the <The National Public Finance Act> amended last May introduces the plan to split mandatory expenditure and discretionary expenditure in the mid-term expenditure framework.

Legal Basis : 「The National Public Finance Act」

Clause 7. Establishing the National Fiscal Management Plans(NFMP)

② The National Fiscal Management Plans(NFMP) should include the following information.

4.2 The rate of the mandatory expenditure and basis of estimations

4.3 The rate of the discretionary expenditure by sector, basis of the estimation and the management plan

Determining the concrete scope of the mandatory expenditure is delegated to the President. Nevertheless, such delegation was not included in the implementation of <The National Public Finance Act> so that one cannot accurately identify the items of the mandatory expenditure.

Classification Criteria

Total expenditure was classified into mandatory and discretionary expenditures based on the formal factors (legal basis to the expenditure obligation and amount) and actual factors (the amount of expenditure chosen by the fiscal authority based on quantity or prices). Mandatory expenditure refers to the expenditure whose bases and requirements are specified by law so that there is no room for the discretion of the authority controlling the budget. Mandatory expenditures include basic livelihood security comprising benefit expenditure of minimum living security system, law-based payments(pension, health insurance support), interest expenditure, and grant for local education. Discretionary expenditure refers to expenditure other than the mandatory expenditure. Since the law does not specify the basis or amount of the discretionary expenditure or delegates it to the executive office, it is in general determined by the executive office based on the future cost of public finance.

Labor cost, on the other hand, is classified as discretionary expenditure. Since labor cost tends to follow the business cycle, it realistically has the nature of semi-mandatory expenditure.

Table _ Classification Criteria for Mandatory Expenditure Projects

Type		Item	Example
Mandatory Expenditure		When the law specifies the expenditure duty as an enforced rule and the legislation specifies the subject, object, and amount of expenditure. ※ Classified as mandatory expenditure even if the incident of expenditure happens randomly (e.g. payment of national indemnities, criminal indemnities, and victim support). ※ Payments based on court rulings like administrative legislation.	○ A grant from the national government to the local government ○ Financial grants for local education
		The items whose expenditure duty is specified as an enforced rule in the law but whose expenditure amount (object, quantity, and price) is partly determined by law and partly determined in the budget decision process, although only limited discretion is allowed. ※ When the committee or the head of the applicable department decides the expenditure amount (price, etc). ※ When the details are determined through a notification, it is necessary to conduct the evaluation of each individual project.	○ Benefit expenditure of Minimum Living Security System (MLSS) ○ Benefit expenditure for housing ○ Benefit expenditure for recuperation ○ Benefit expenditure for development of vocational abilities
		Interest expenditure due to national debt and loan.	○ Interest repayment for domestic and foreign loans ○ Interest repayment for government bond or national housing bond
		Expenditure coming from international treaties and agreements and approved by the National Assembly in accordance with Section 60 Clause 1 of the Constitution.	○ Contribution to the United Nations ○ Contribution according to the Status of Foreign Agreement (SOFA) ○ Contribution to the International Labor Organization (ILO)
Discretionary Expenditure	Rigid	Although labor cost is part of discretionary expenditure, it classified separately because of its rigidity.	○ Labor cost
	Project-based	Expenditure by contract (e.g. national defense budget) or expenditures to fulfill the private sector contract for road or building construction like BTL and BTO (e.g. expenditure through medium and long term contracts to purchase expensive products such as helicopters, vessels, and weapons)	○ Investment expenditure for SOC
		Repayment of National Debt ※ It would be problematic to classify this item as mandatory expenditure because it is used to finance a project that cannot be financed by the pertaining year's tax budget or continuing expenditure.	○ Nationalization projects of the embassies and legations abroad (Ministry of Foreign Affairs) ○ Ordinary expenditure (Ministry of National Defense) ○ Expenditure for defense power improvement (Defense Acquisition Program Administration) ○ Expenditure for building vessels (Korea Coast Guard)
		Repayment of or support for local governments' debt.	
		The items with their expenditure duty and target specified but quantity and price unspecified. The quantity and price are determined during the budget decision process (e.g. the case when the amount is determined within the budget).	○ Disability allowance.
		Other fiscal expenditures that are not classified as mandatory expenditure.	

Source: NABO

Nevertheless, law such as the <National Government Employees Act> does not specify the expenditure obligation for labor charge, and the size of expenditure on labor also is not determined by law because the number of public servants is in the discretion of the administration up to certain point. Based on these characteristics, it was concluded that it is reasonable to classify labor cost as discretionary expenditure. The U.S. also classifies labor cost as discretionary expenditure.

Ⅳ. Budget Soundness

The managed budget balance, the main indicator for measuring budget soundness, is expected to show the deficit of 56 trillion won under scenario 1 and 18.7 trillion won under scenario 2 in 2014.

1. Fiscal Balance

Consolidated Fiscal Balance

When the consolidated fiscal balance for the next 5 years is calculated based on the outlook on total revenue and total expenditure, the surplus of 3.5 trillion won in 2010 will turn to a deficit in 2011, yielding the deficits of 3.8 trillion won in 2011, 8.6 trillion won in 2012, 10.7 trillion won in 2013, and 21.2 trillion won in 2014 under scenario 1. Scenario 2, which holds constant the real value of fiscal expenditure, projects that the consolidated fiscal surplus would continue at 3.9 trillion won in 2011, 7.2 trillion won in 2012, 15.1 trillion won in 2003, and 16.4 trillion won in 2014.

Managed Budget Balance

Managed budget balance, which deducts the surplus of the social security system from consolidated budget balance, is expected to see the deficit rising quickly, reaching the deficit of 35.0 trillion won in 2011, 41.2 trillion won in 2012, and 56.3 trillion won in 2014. Under scenario 2, the deficit amount decreases moderately, yielding 27.4 trillion won of deficit in 2011, 25.3 trillion won in 2012, and 18.7 trillion won in 2014.

2. National Debt

Regarding national debt, the current outlook assumes that the managed budget deficit is fully absorbed into national debt and that the amount of financial debt can change with the administration's plan. Since fiscal deficit has to be financed through borrowing, it seems reasonable to see it as directly increasing the national debt. Furthermore, the administration's <2010~2014 National Fiscal Management Plan> shows a similar match between the managed budget deficit and deficit covering debt.

National debt in 2010 is forecasted to be 397.3 trillion won. If expenditure is made according to scenario 1, national debt will exceed 500 trillion won

Table 14 _ Forecast of Fiscal Balance in 2010–2014

(unit: trillion won)

		2010	2011	2012	2013	2014
Consolidated Fiscal Balance	Scenario 1	3.5	−3.8	−8.6	−10.7	−21.2
	Scenario 2	3.5	3.9	7.2	15.1	16.4
Managed Budget Balance	Scenario 1	−25.7	−35.0	−41.2	−45.4	−56.3
	Scenario 2	−25.7	−27.4	−25.3	−19.5	−18.7

Table 15 _ Forecast of National Debt in 2010–2014

(unit: trillion won, %)

		2010	2011	2012	2013	2014	Average Growth
NABO Projection	Scenario 1	397.3 (34.4)	446.8 (36.5)	503.4 (38.6)	558.6 (39.9)	622.3 (41.8)	11.9
	Scenario 2	397.3 (34.4)	439.2 (35.8)	479.9 (36.8)	509.3 (36.4)	535.4 (36.0)	7.7

Note: The parenthesis indicates ratio to GDP in 2012 and exceed 600 trillion won in 2014 to reach 622 trillion won, increasing 11.9% per year on average.

According to scenario 2, national debt will be 439 trillion won in 2011, 479 trillion won in 2012, 509 trillion won in 2013, and 535 trillion won in 2014, increasing 7.7% per year on average. The national debt to GDP ratio under scenario 1 is expected to rise continuously from 34.4% in 2010 to over 40% after 2012. The ratio under scenario 2 will hit the peak of 36.8% in 2012 and then decrease moderately around 36%.

3. Comparison to the Administration's Plan

When NABO's outlook is compared to the administration's <2010~2014 National Fiscal Management Plan>, there is a difference of 21 trillion won between consolidated fiscal balance and managed fiscal balance based on the figures in 2014. Two reasons explain such difference. First, on the revenue front, the administration has a more optimistic view on the macroeconomic variables such as the growth rate of the economy than NABO, resulting in the administration's outlook on tax revenue 13 trillion won larger than NABO's based on the figure in 2014. Second, on the expenditure front, NABO's forecast of total expenditure under scenario 2 is the average growth of 5.4% per year, whereas the administration's forecasted growth is 4.8%, resulting in the administration's planned expenditure being 8 trillion won lower than that in NABO's forecast. Such outlook by the administration in <2010~2014 National Fiscal Management Plan> seems optimistic considering the historical trend and future economic conditions.

In case of total revenue, the administration's forecast of total revenue assumes the GDP growth of 5%, which seems optimistic considering that our average GDP growth during the 4 years before the crisis (2004~2007) was 4.7%.

In case of total expenditure, the administration's plan for '4.8% average rate of increase' seems too low considering that the growth of fiscal expenditure since 2000 has been 7.4% and that the growth before the crisis was 8.0%. Considering the expanded mandatory expenditure and the cost planned for the medium term, it is dubious whether such low rate of expenditure growth is sustainable. Based on this analysis, the administration's objective to reinstate the budget soundness damaged during the crisis by 2014 seems difficult to achieve. The administration projects total expenditure to be only 492 trillion won (31.8% of GDP) in 2014, and the rate of growth implied in this calculation is similar to that of NABO's scenario 2. However, the national debt would reach 535 trillion won by 2014 if total expenditure grows at the trend similar to the 2011 budget proposal.

4. Contemplating the Introduction of Fiscal Rule

As discussed previously, it would be difficult to achieve the administration's objective to achieve managed budget surplus by 2014. To quickly restore budget soundness damaged during the recovery from the crisis, it is necessary to contemplate more appropriate ways to improve budget balance. NABO recommends the introduction of fiscal rule to choose the growth of total expenditure to be 'potential growth of nominal GDP -2%'. Under such fiscal rule, total expenditure will be 306.2 trillion won in 2011, 320.3 trillion won in 2012, 334.8 trillion won in 2013, and 350 trillion won in 2014. Accordingly, consolidated fiscal balance will show the surplus of 28.4 trillion won in 2014, and managed fiscal balance will show the deficit of 6.8 trillion won in 2014. Compared to the case where the fiscal rule is not introduced (scenario 2), this implies an improvement in consolidated fiscal balance and managed fiscal balance of 12 trillion won based on the figure in 2014. When the managed fiscal balance obtained with this rule is compared to the managed fiscal balance

Table 16 _ Fiscal Balaces & National Debt under Fiscal Rules

(unit: trillion won, %)

		2010	2011	2012	2013	2014
National Fiscal Management Plan	Consolidated Fiscal Balance	−2.0	5.0	18.1	27.4	37.9
	Managed Fiscal Balance	−30.1	−25.3	−14.3	−6.2	2.7
	National Debt	400.4	436.8	468.1	485.7	492.2
	(% of GDP)	34.7	35.2	35.1	33.8	31.8
Scenario 1	Consolidated Fiscal Balance	3.5	−3.8	−8.6	−10.7	−21.2
	Managed Fiscal Balance	−25.7	−35.0	−41.2	−45.4	−56.3
	National Debt	397.3	446.8	503.4	558.6	622.3
	(% of GDP)	(34.4)	(36.5)	(38.6)	(39.9)	(41.8)
Scenario 2	Consolidated Fiscal Balance	3.5	3.9	7.2	15.1	16.4
	Managed Fiscal Balance	−25.7	−27.4	−25.3	−19.5	−18.7
	National Debt	397.3	439.2	479.9	509.3	535.4
	(% of GDP)	(34.4)	(35.8)	(36.8)	(36.4)	(36.0)
Administration's Expenditure Plan1)	Consolidated Fiscal Balance	3.5	4.1	8.0	20.0	25.1
	Managed Fiscal Balance	−25.7	−27.2	−24.5	−14.7	−10.0
	National Debt	397.3	439.0	475.4	495.5	509.9
	(% of GDP)	(34.4)	(35.8)	(36.4)	(35.4)	(34.3)
NABO Fscal Rule	Consolidated Fiscal Balance	3.5	7.5	12.6	22.9	28.4
	Managed Fiscal Balance	−25.7	−23.7	−20.0	−11.7	−6.8
	National Debt	397.3	435.5	470.9	492.5	506.7
	(% of GDP)	(34.4)	(35.5)	(36.1)	(35.2)	(34.0)

Notes: 1. To compare the effects of NABO's fiscal rule to the administration's, NABO's projection is used for both calculations.
2. NABO's projection of GDP is used in the projection of ratios to GDP except for those for the National Fiscal Management Plan.

obtained with NABO's tax revenue outlook on the administration's plan, managed fiscal balance improves by 3.2 trillion won based on the figure in 2014. In the case of national debt, the fiscal rule reduces national debt by 30 trillion compared to the basis case (scenario 2) based on the figures in 2014, and it reduces the national debt to GDP ratio in 2014 by approximately 2%.

5. The Fiscal Policy Stance

When the fiscal policy stance is analyzed based on the structural budget balance and Fiscal Impulse indicator (FI), fiscal policy is in general expansionary based on the structural budget balance, but the fiscal policy stance in 2010 is contractionary based on the FI, as it is 2.05 lower than the settled amount in 2009. The administration's plan for 2011 based on '2011 Budget Proposal Compared to FY2010 Budget' maintains the contractionary stance (-0.49), but based on '2011 Budget Proposal Compared to FY2010 NABO Forecasted Budget' which uses NABO's forecast of tax revenue, the administration's plan for 2011 is neutral (0.02). If discretionary expenditure maintains the average growth rate during the 5 years before the crisis (scenario 1), the budget proposal is deemed expansionary, and if discretionary expenditure grows at the rate of CPI growth so that the real value of discretionary expenditure stays constant, the budget proposal changes from neutral to contractionary. NABO's fiscal rule, on the other hand, maintains the contractionary fiscal policy stance. For 2012, the administration's plan in the 'budget proposal compared to budget' is deemed contractionary with FI of -1.02. Nevertheless, the administration's plan in the 'budget proposal compared to forecasted budget' shows -0.38, a lower level of contractionary stance and a number comparable to that under NABO's scenario 2 (-0.34). This implies that the administration's outlook on total revenue in 2012 is optimistic. The executive branch has to tighten the budget from the first year of the plan to restore the budget soundness damaged due to the expansionary fiscal policy following the crisis. However, the administration is postponing the contractionary stance to 2012, the second year of the plan, giving inadequate support to its resolution to restore budget soundness.

Table 17 _ FY2010~2014 Fiscal Impulse Indicator(FI)

(unit: % of GDP)

Year	2010	2011	2012	2013	2014
Administration (Budget proposal compared to 2010 budget)	−1.67	−0.49	−1.02	−0.79	−0.84
Administration (Budget proposal compared to 2010 forecast)	−2.05	0.02	−0.38	−0.91	−0.55
Scenario 1		0.66	0.29	0.09	0.49
Scenario 2		0.04	−0.34	−0.62	−0.29
NABO Fiscal Rule		−0.26	−0.47	−0.80	−0.57

Analysis of 2011 Budget Proposal

Ⅰ. Macro Economy

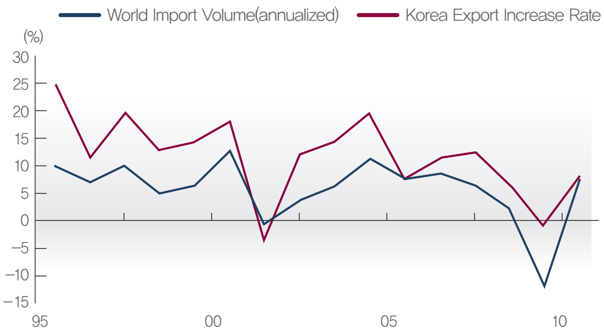
The national economy in 2011 is expected to grow 3.9%, 1.9% lower than the growth in 2010 (5.8%), because of the slowdown of exports due to the decelerating global economy and higher value of Won as well as the weaker domestic consumption due to the poor housing market and restructuring of household debt.

1. The Recent Trend and Outlook of the National Economy

The real GDP in 2011 is expected to grow 3.9%, a lower rate than the 5.8% growth in 2010. This can be attributed to the sluggish export growth due to the decelerating global economy and higher value of Won as well as to the weaker domestic consumption due to the poor housing market and restructuring of household debt.

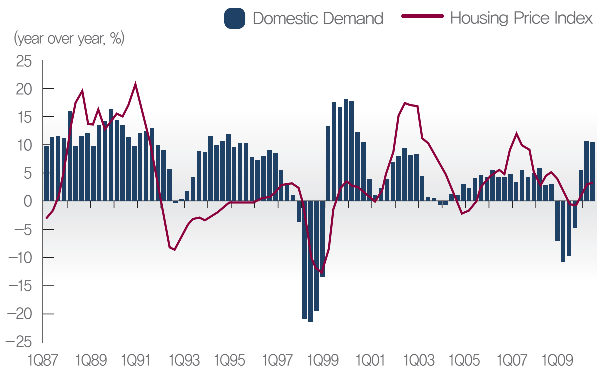
The global economy, which turned to the recovery stage in the first quarter of 2009, has maintained the upward trend until the first half of 2010. Nevertheless, the economy is expected to the temporary stage of slower growth from the second half of 2010 to the end of 2011 as the effect of stimulus policies in the major countries dissipate and the Won strengthens. Nevertheless, the possibility of the developed economies falling fast (a double dip) is low as the major developed countries return to the policy of quantitative easing and postpone the exit strategy. On the other hand, the nominal GDP, which has shown the high growth rate of 8.4% during 2010, is expected to exhibit the lower growth rate of 6.2% in 2011 due to the slower growth of GDP

Figure 16 _ World Import Volume and Korea Export Increase Rate



Sources: IMF, Bank of Korea

Figure 17 _ Housing Price and Domestic Demand



Sources: Bank of Korea, Kookmin Bank

deflator and the real GDP growth.

As exports, which led the recovery from the crisis, exhibit slower growth, both the infrastructure investment and labor conditions will deteriorate, causing a decline in domestic consumption.

◆ Comparison between NABO's and Administration's Outlooks

NABO's forecast of the real GDP growth in 2011 (3.9%) is 1.1%p lower than the administration's forecast (2011 budget proposal: 5%). The main factors underlying the difference are the following. First, the administration expects our exports to grow 10.0% (based on the international balance of payments), whereas NABO expects the exports to grow 5.8% (based on the international balance of payments). The administration made the projection based on IMF's forecast of the world economic growth rate for 2011 announced in July 2010, whereas NABO used IMF's forecast of the world economic growth rate announced in October 2010. IMF had lowered its outlook on the U.S. economic growth in 2011 by 0.6%p from 2.9% (July 2010) to 2.2% (October 2010). This adjustment in the outlook comes from the possibility of U.S. economy weakening in the second half of 2010 with the deterioration of labor conditions and restructuring.

Table _ 2011 Economic Projections by NABO and the Administration

(unit: %)

	2009	2010		2011	
		Administration	NABO	Administration	NABO
Real GDP Growth Rate	0.2	5.8	5.8	5.0	3.9
(Private Consumption)	0.2	4.6	3.8	4.3	3.2
GDP Deflator	3.4	2.5	2.6	2.5	2.3
Current GDP Growth Rate	3.6	8.4	8.4	7.6	6.2
Export	−13.7	25.0	22.9	10.0	5.8
Import	−25.7	34.0	29.9	13.0	8.1

Note: Export and Imports are based on balance of payments
Source: NABO

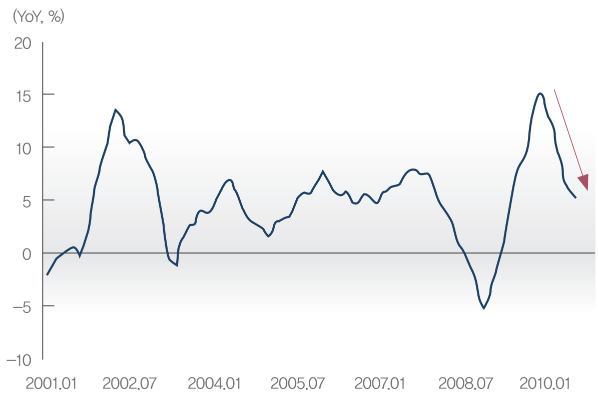
Another reason behind IMF's downward adjustment on the U.S economic outlook could be the deterioration of export conditions. To prevent the economy from falling, the U.S. is attempting to expand its exports by increasing the currency value of the East Asian countries, especially China. With the realization of such attempt, the exchange rate of Won/Dollar is falling quickly, so that NABO projects the decline of Yuan/Dollar and Won/Dollar to accelerate in 2011. NABO thus expects the exchange rate in 2011 to be 1,108 Won/Dollar, a lower rate than the administration's forecast of 1,150 Won/Dollar.

Second, the difference also comes from the difference in the outlook on the domestic conditions, especially consumption. Whereas the administration expects private consumption in 2011 to growth

4.3%, NABO expects it to grow 1.1%p slower at the rate 3.2%. This is due to the increased financial burden of the household as the recovery of labor conditions is delayed and as the continued distress in the housing market leads to the deterioration of household liquidity. NABO's forecast of the growth of GDP deflator in 2011 is 2.3%, 0.2%p lower than the administration's. This comes form NABO's viewpoint that the growth of real economy will be slower than the administration's outlook with the lower demand pressure and that the revaluation of Won will be higher.

◆ Using Composite Leading Indicator to Estimate the Probability of Economic Contraction

Figure _ The Trend of CLI Increase Rate

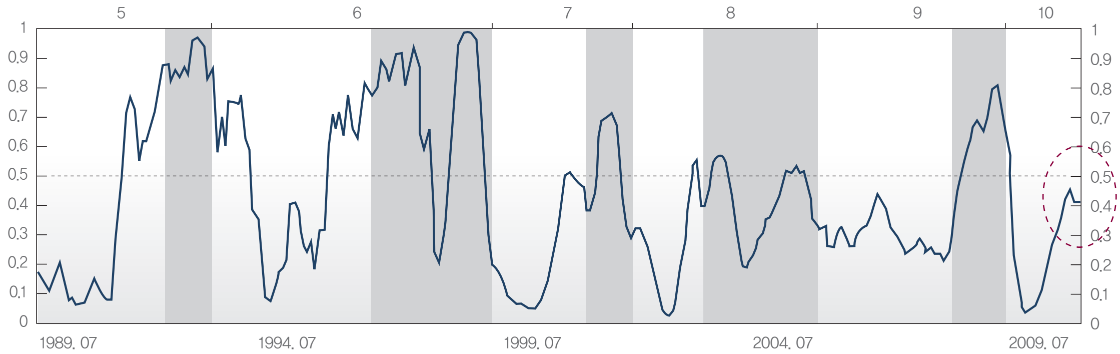


Source: Statistics Korea

The growth of Composite Leading Indicator (CLI) is losing pace in 2010. Whereas CLI grew 15.0% between December 2008 and December 2009, the growth rate in August 2010 slowed down to 5.2%. Although the slowdown of CLI signifies that our economy will grow at a slower pace, it is also important to ask whether the movement of CLI suggests the possibility of another decline (that is, the turn from recovery to contraction). The probability of facing another recession is examined by applying the probit model to the historical movement of CLI. The figure below indicates the estimated probability of a contraction in the next 6 months, and the probability is in the 40% level consecutively for the 3 months following last May.

Examining from the 5th business cycles among the cycles beginning in July 1988, the probability of economic contraction always reached 50% in the preceding 2 moths (8th cycle) to 11 months (5th cycle) before the economy entered the contraction phase, except only for the 9th cycle when the economy quickly entered in to contraction with the unfolding of global financial crisis. In this perspective, the slowdown of CLI has yet to suggest the economy entering the contraction phase. Nevertheless, the probability of economic contraction reaching 40% does indicate our economy is slowing down.

Figure _ The Probability of Business Cycle Contraction



Notes: 1) The shades indicate economic contractions. The upper numerical values indicate the business cycle phases.
2) Out of sample forecasting is implemented based on Estrella and Miskin's research. Each estimated probability indicates the probability of economic contraction after six months.
Source: NABO

2. Trend and Outlook by Component

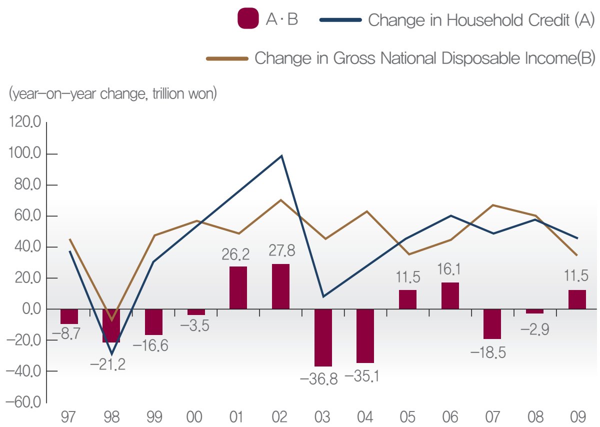
Private Consumption

Private consumption in 2011 is expected to be 0.6%p lower than the previous year at 3.2%. This is because the private consumption conditions can worsen as the real economic growth is lower around 3.9% and the real wage growth is expected to be 2.5% in 2011 (nominal wage growth 5.4%), lower than the rate 3.7% in the current year (nominal wage growth 6.8%). Another important factor constraining private consumption in 2011 include the rise of interest rate as well as the large increase in household debt which exceeds the total disposable income from the effect of quantitative easing during the crisis.

Construction Investment

In 2011, the investment demand is expected to increase for *officetel* and *gosiwon*, and *Bogeumjari* housing will become part of the investment expenditure. On the other hand, public construction work is expected to decrease as the administration's budget for SOC investment is decreased by 3.2% form last year, and the installment sales for housing will also face distress as the number of unsold houses

Figure 18 _ Gross National Disposable Income and Household Credit



Source: Bank of Korea

increases. Considering these factors, construction investment in 2011 is expected to decrease 0.5% from the previous year, which is a consecutive decrease from 2010 (-1.5% from 2009).

Equipment Investment

Equipment investment will only increase by 6.3% in 2011. This comparatively slower rate of increase is caused by the dissipating base effect and the slowdown in the growth of exports (24.6% in 2010 → 5.0% in 2011 on the customs clearance basis) , especially in automobiles and semiconductors. On the other hand, the positive factors that suppress the investment expenditure increase include the fall of import prices of capital goods as the exchange rate stabilizes (4.1% fall expected in 2011) and the modest increase in interest rate (3.8% in 2010 → 4.0% forecasted in 2011 based on 3-year maturity government bond).

Exports

Exports in 2011 is projected to increase at a comparatively low rate of 5.0% in 2011 (on a customs clearance basis) as the base effect kicks in after the high rate of export growth in 2010 and as the unit price of export decreases. The global economic growth announced by IMF is 4.2% in 2011, lower than the rate 4.8% in 2010, worsening the import demand for our products. The fall in semiconductor price as the supply increases will contribute to the fall in exports, but the fall will be modest as the global demand for semiconductor will increase at the same time. Furthermore, the strength of Won will also contribute to weaker export growth.

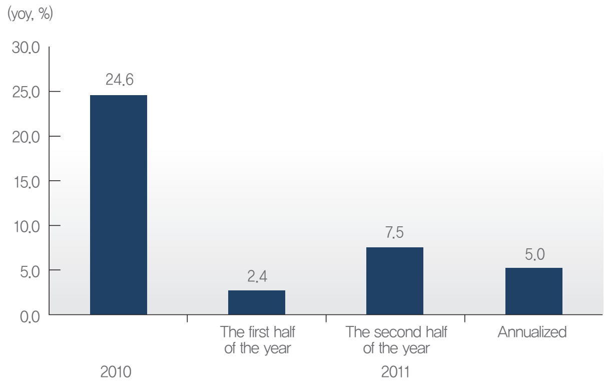
Imports

The upward trend of global oil price will be modest as the global economic growth slows down, and the growth of domestic oil consumption will also be constrained by the change in industrial organization. Since 2000, equipment investment in information and communications industry has taken up 30.9% of total equipment investment (based

Figure 19 _ Trend of Construction Composites

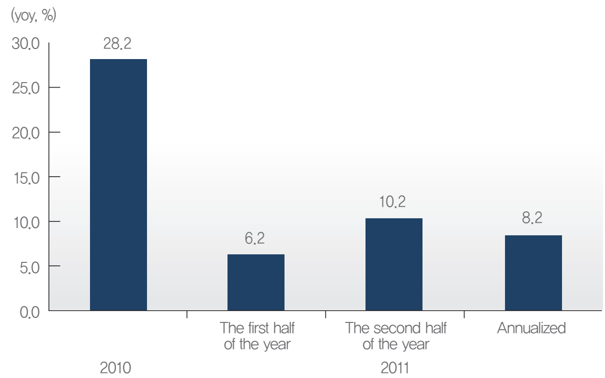
Source: Bank of Korea

Figure 20 _ 2011 Export Projection



Note: Korea Customs Service(KCS)
Source: NABO

Figure 21 _ 2011 Import Projection



Note: Korea Customs Service(KCS)
Source: NABO

on the figure between 2000 and the first half of 2010), and equipment investment in information and communications industry is driving the total equipment investment in 2010 as the global demand for semiconductor increases rapidly. In 2011, equipment investment in information and communications industry will enter the correction phase as the price of semiconductor decreases and the global demand for semiconductor slows down. Imports in 2011 will increase by 8.2% (on the customs clearance basis) as the growth of import of raw materials increases only modestly and the growth of capital goods falls by a large amount.

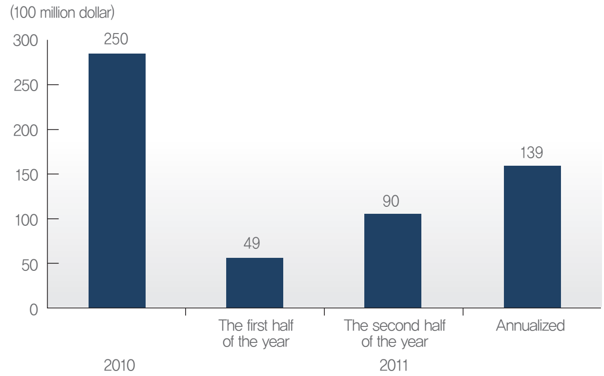
Current Account Balance and Exchange Rate

The current account balance in 2011 will see the surplus of 13.9 billion dollars, a reduction from the surplus in 2010. The growth of import of goods exceeds the growth of export of goods, reducing the surplus from the balance of goods. The dificit in the service balance will increase, driven mainly by the deficit from other business services. The exchange rate between Won and Dollar will decrease from 1,115 won in 2010 to the 1,108 average during 2011 due to the current account surplus and the flow of foreign capital for investment Korean securities.

Employment

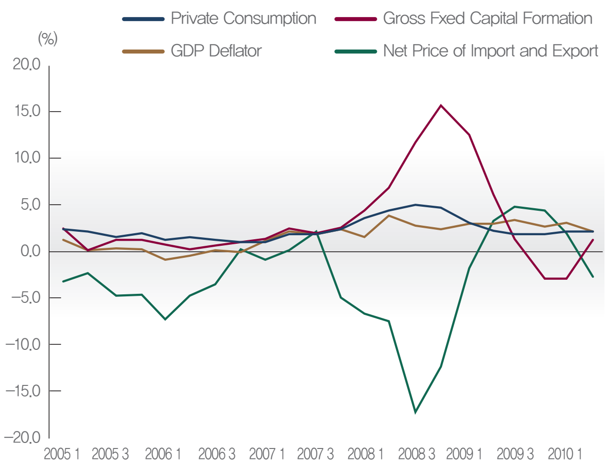
The number of new employees in 2011 is expected to increase by .192 million (0.8%) and the unemployment rate is expected to be 3.5%. In 2010, the number of new employees in the manufacturing industry will increase for the first time since 2004 as exports and equipment investment improve with the economic recovery, resulting in the .285 million (1.2%) increase in the total number of new employees and the unemployment rate of 3.7%. In 2011, however, the growth of new employees in the service sector slows down with the decelerated growth of equipment investment and private consumption, and the number of new employees in manufacturing will again decrease as the quantity of exports shows the slowdown from the 13.3% growth in 2010 to 7.2% growth in 2011.

Figure 22 _ 2011 Current Account Projection



Sources: NABO, Bank of Korea

Figure 23 _ Growth Rate of Deflator by Components



Note : Net price of import and export = Export deflator increase rate − Import deflator increase rate

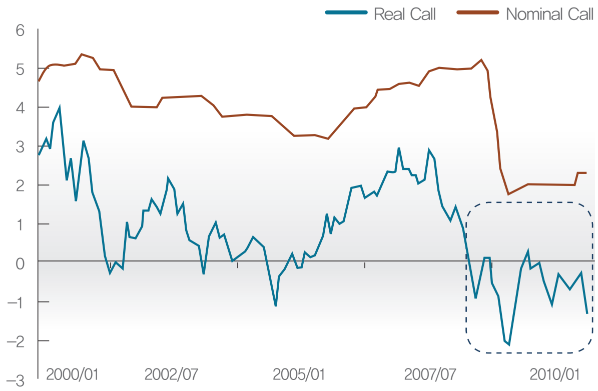
Source : Statistics Korea

Price Level and Interest Rate

The growth of GDP deflator will decline modestly from 2.6% in 2010 to 2.3% in 2011. By component, total export deflator will increase by 2.5% as private consumption slows down, and equipment investment deflator will increase only by 1.8% with sluggish growth of investment and fall in exchange rate. The construction investment deflator will rise 3.1% in 2011, a rate similar to that in 2010, as it is difficult to expect an improvement in housing investment. Total export deflator will increase 2.5% from the previous year due to the modest growth of the global economy (4.2% during 2011), and total import deflator will increase at the slightly higher rate of 2.8%.

Despite the Bank of Korea's increasing of target interest rate to normalize the extremely low interest rate, that makes the real call interest rate negative, KTB (3 years) yield will have the average of 4.0% during the year as the economic growth rate and CPI growth rate in 2011 are lower than those in 2010 and as bond investment by foreign capital increases.

Figure 24 _ Real and Nominal Call Rate



Note: Real Call = Nominal Call – Consumer Price Increase rate
Source: Bank of Korea

Ⅱ. Total Revenue

Total revenue in 2011 is expected to be 313.7 trillion won, 0.9 trillion won smaller than the administration's budget proposal of 314.6 trillion won. Tax revenue is forecasted to be 186.2 trillion won, 1.6 trillion won lower than the administration's projection of 187.8 trillion won. The difference in the projections of the two organizations comes from the administration's comparatively optimistic economic outlook (4.5 trillion won) and conservative estimate of the tax revenue (–2.9 trillion).

1. Administration's Budget Proposal

Size of Total Revenue

The administration estimated total revenue to be 314.6 trillion won, a 23.8 trillion won increase (8.2%) from the 2010 total revenue of 290.8 trillion won, in its 2011 budget proposal. Estimate of the tax revenue is 187.8 trillion won, 17.3 trillion (10.1%) higher than the 2010 budget proposal of 170.5 trillion won and 12.8 trillion won (7.3%) higher than the 2010 forecast of 175 trillion won. Non-tax revenue is estimated to be 126.8 trillion won, 6.5 trillion won (5.4%) higher than the 2010 budget proposal of 120.3 trillion won.

Examining Tax Revenue by Component

Income tax is estimated to be 40.0 trillion won, a 6.9 % increase from the administration's 2010 projection of 37.5 trillion won, and value added tax is estimated to be 52.9 trillion won, a 6.9% increase from the 2010 projection of 49.5 trillion won, so that the growth of the two components will be slightly lower than the average growth of total tax revenue (7.3%). Corporate tax will be 41.5 trillion won, 13.8% higher than the 2010 projection of 36.4 trillion won, and inheritance gift tax will be 3.1 trillion won, 0.3 trillion won (11.6%) higher than the 2010 projection. Selective excise tax is forecasted to be 5.0 trillion won, an increase of 0.3 trillion won (6.8%) from the previous year. Revenue from tariffs will be 11.4 trillion won, 0.9 trillion won (8.7%) higher than the 2010 projection of 10.5 trillion won, and Traffic Energy Environment tax will be 12.5 trillion won, 0.4 trillion won (3.1%) lower than the 2010 projection of 12.9 trillion won. Education tax and comprehensive real estate holding tax will be 4.6 and 1.1 trillion won, similar to the 2010 projection amounts.

2. Evaluating the Difference between the Administration's Budget Proposal and NABO's Outlook

Comparison between the Administration's Budget Proposal and NABO Outlook

The administration's projection of total revenue is 314.6 trillion won, whereas NABO's projection is 313.7

Table 18 _ 2011 Budget Proposal: Total Revenue

(unit: tril. won, %)

	2009	2010 Budget	2010 Net Increase	2010 Growth Rate	2011 Budget Plan	2011 Net Increase	2011 Growth Rate
Total Revenue	275.7	290.8	15.1	5.4	314.6	23.8	8.2
Tax Revenue	164.5	170.5	6.0	3.6	187.8	17.3	10.1
Non–Tax Revenue	111.2	120.3	9.1	8.2	126.8	6.5	5.4

trillion won, 0.9 trillion won (0.2%) lower than the administration's. The administration's forecast of tax revenue is 187.8 trillion won, whereas NABO's forecast is 186.2 trillion, 1.6 trillion won (0.9%) lower than the administration's.

When comparing the tax revenue by component, the forecast of income tax is 40.1 trillion won for NABO and 40.0 trillion won for the administration so that NABO's forecast is 0.2% higher than the administration's. The forecast of value added tax is 53.1 trillion won for NABO and 51.9 trillion won for the administration so that NABO's forecast is 0.3% higher than the administration's. Forecasted corporate tax is 39.9 trillion won for NABO and 41.5 trillion won for the administration, meaning NABO's forecast is 4.0% lower than the administration's forecast. The forecast of Traffic Energy Environment tax is 12.6 trillion won for NABO and 12.5 trillion won for the administration so that NABO's forecast is 0.6% higher than the administration's, and revenue from tariffs is forecasted to be 10.7 trillion won by NABO and 11.4 trillion by the administration so that NABO's forecast is 6.2% lower.

Comparison in the Macroeconomic Outlook of the Administration and NABO

The difference in the tax revenue forecast of the two organizations mainly comes from the difference in their forecasts of the macro economy. The administration has a more optimistic outlook than NABO does, expecting a large increase in imports and exports, a rise of interest rate, and little change in the Won/Dollar exchange rate.

The administration's forecast of nominal GDP growth rate is 7.6% while NABO's forecast is 6.2%, implying a difference of 1.4%p. The majority of the difference in nominal GDP growth rate lies in the forecast difference in real GDP of 1.1%p. The administration expects a 5.0% growth of real GDP, whereas NABO expects a 3.9% growth .

Exports in dollar will increase 10.0% from the previous year to 500 billion dollar according to the administration's forecast and will increase 5.0% from the previous year to 473.8 billion dollar according to NABO's forecast. Imports will increase 13.0% from the previous year to 489.3 billion dollar according to the administration's forecast and will increase 8.3% from the previous year to 451.7 billion dollar according to NABO's forecast. The Won/Dollar exchange rate will be 1,150 won, similar to the previous year's (1,160 won), according to the administration's forecast but 1,108 won, a 5% fall from the previous year (rise in value), according to NABO's forecast. Corporate bond yield (based on 3 years, AA-) will have the average of 5.5% during the year, a higher rate than the 2010 average, according to the administration but will have the average of 4.7%, a slightly lower rate than the 2010 average, according to NABO.

Forecasted Size of Tax Revenue using the Administration's Outlook on the Economy

The difference between NABO's forecast and the administration's (1.6%) forecast of the tax revenue can be decomposed into the macroeconomic factors and other factors. The decomposition is done by applying the administration's macroeconomic variables are applied to NABO's forecast model. This increases tax revenue to 190.7 trillion won, a 4.5 trillion won increase from NABO's original projection (186.2 trillion won) and a 2.9 trillion won increase from the administration's projection (187.8 trillion won). Therefore, the fact that the difference caused by economic projection reaches 4.5 trillion won while total difference between the two organizations'forecasts is 1.6 trillion won suggests that the administration has a conservative tendency

Table 19 _ 2011 Total Revenue Forecast; NABO and the Admin

(unit: bil. won, %)

	NABO (A)	Gov't (B)	Gap (B–A)	(%)
Total Revenue	313,725	314,564	839	0.2
Tax Revenue	186,224	187,847	1,623	0.9
Non–Tax Revenue	127,501	126,717	–784	–0.6

Sources: Ministy of Strategy and Finance, 「2011 Tax revenue budget plan」

Table 20 _ Economic Outlook Comparison–NABO and Administration

(unit: %, $100 mil.)

	2009	2010 Admin			2011	
		Budget	Projection	NABO	Budget Plan (by Admin)	NABO
Nominal GDP Growth Rate	3.6	6.6	8.4	8.6	7.6	6.2
Real GDP Growth Rate	0.2	5.0	5.8	5.8	5.0	3.9
GDP Deflator	3.4	1.5	2.5	2.6	2.5	2.3
Export(100 million dollars)	3,636	4,101	4,545	4,511	5,000	4,738
(%)	(−13.9)	(12.8)	(25.0)	(24.1)	(10.0)	(5.0)
Import (100 million dolalrs)	3,232	3,897	4,330	4,173	4,893	4,517
(%)	(−25.8)	(20.6)	(34.0)	(29.2)	(13.0)	(8.3)
Nominal Wage Growth Rate	−0.5	6.0	6.0	6.8	6.0	5.4
Exchange Rate(won/USD)	1,276	1,150	1,160	1,161	1,150	1,108
(%)	(15.8)	(−9.9)	(−9.1)	(−9.0)	(−0.9)	(−4.6)
Corporate Bond Interest Rate (3yr mat, %)	5.8	6.0	5.0	4.8	5.5	4.7

Sources: Ministy of Strategy and Finance, 「2011 Nat'l tax revenue budget plan」

Table 21 _ Tax Revenue Forecasts under Administration's Economic Outlook

(unit: bil. won, %)

	NABO (A)	Gov't (B)	Gap (B–A)	Gap as Percentage
National Tax	190,735	187,847	−2,888	−1.5
General Accounting	183,553	180,986	−2,567	−1.4
Internal Tax	153,605	151,497	−2,108	−1.4
1. Income Tax	40,769	40,040	−730	−1.8
2. corporation tax	40,787	41,456	669	1.6
3. V.A.T	54,496	52,943	−1,553	−2.8
4. Individual Consumption tax	5,008	4,970	−38	−0.8
5. Securities Transaction Tax	4,015	3,933	−81	−2.0
Traffic–Energy–Environment Tax	12,555	12,457	−98	−0.8
Customs Duties	11,873	11,366	−507	−4.3
Education Tax	4,453	4,598	144	3.2
Comprehensive Real Estate Holding Tax	7,182	6,861	−322	−4.5
Special tax for Rural Development	4,510	4,214	−296	−6.6

(-2.9 trillion won) in its estimate of tax revenue.

Conservative Tendency in the Administration's Tax Revenue Estimation

The tax revenue estimated by applying the administration's macroeconomic forecast to NABO's forecast model is higher than the administration's. This is associated with the conservative tendency in the administration's tax revenue estimation. Such conservative tendency can be verified in the historical evidence, the difference between budget and settled account. When comparing the budget proposal's total revenue and settlements using the 2005~2009 figures submitted by the administration, the settlement has been 3.4% larger on average so that total revenue in budget proposal has been underestimated. Tax revenue also shows settlement 3.4% larger than the budget so that most of the errors in the forecast of tax revenue comes from the underestimation of tax revenue. When examining the forecast error by component, the forecast errors are particularly high for corporate tax (8.4% average forecast error) and tariffs (7.1% average forecast error).

Figure 25 _ Decomposition of Gaps ; NABO and Gov't

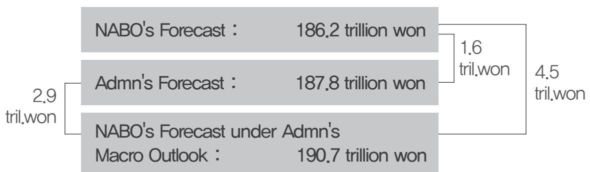
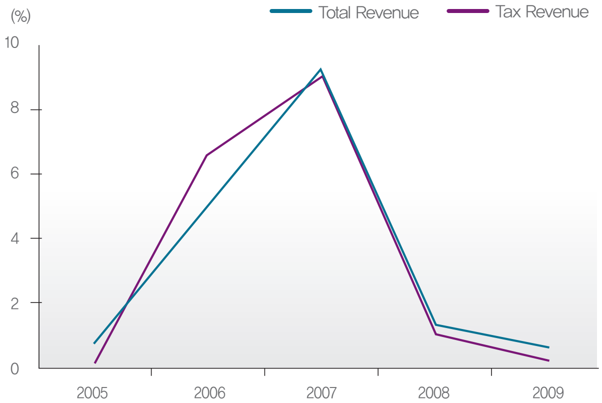


Figure 26 _ Budget Plan Forecasting Error of the Executive Branch



Ⅲ. Total Expenditure

Total expenditure in the administration's 2011 budget proposal is 309.6 trillion won, a 5.7% increase from the previous year. That the growth of total expenditure is 2.5% lower than the growth of total revenue suggests the administration's motivation to restore budget soundness. It is, however, necessary to come up with the ways to suppress the rapid increase of mandatory expenditure.

1. Total Expenditure

Size and Trend

Total expenditure in 2011 is 309.6 trillion won based on the budget proposal, and this is a 5.7% increase from 2010. Examining the trend of total expenditure since 2005, it has been increasing at the average rate of 6.7% with total expenditure of 209.6 trillion won in 2005 and that of 309.6 trillion won in 2011 based on the budget proposal. When examining the trend until 2008, which is before the crisis, the growth rate is 7.8%. The growth of total expenditure in 2011 is 5.7%, lower than the growth rate of 6.7% for the recent 7 years, and a 3 trillion won increase from 306.6 trillion won, the planned amount of total expenditure for 2011 in <2009~2013 National Fiscal Management Plan>. Expenditure and net lending in 2011 based on the consolidated public finance is expected to be

Table 22 _ Total Expendiure & Consolidatory Expenditure on Budget Plan 2011

(unit: trillion won, %)

		2010 Budget	2011 Budget Proposal	Growth Rate
Total Expenditure	Amount	292.8	309.6	5.7
	– Budget	205.3	215.9	5.2
	– Fund	87.5	93.7	7.0
Consolidated Fiscal Expenditure	Amount	264.4	280.0	5.9
Mandatory Expenditure		132.7	144.9	9.2
Components of Mandatory Expenditure (unit: 100 billion won, %)				
Basic Livelihood Security		66,472	68,609	3.2
Tax Allocated to Local Government		273,920	302,161	10.3
Grant for Local Education		322,980	353,061	9.3
Interest Payment		207,894	235,565	13.3
Pension for Special Occupations		133,418	140,832	5.6
National Pension		90,174	103,598	14.9
Occupational Health and Safety · Health · Unemployment Insurance		131,347	135,638	3.3
Elderly Pension		27,202	28,223	3.8
Veterans Compensation + Mother & Newborn Benefit		40,435	43,952	8.7
Others		33,083	36,774	11.2
New Items		–	446	–
Discretionary Expenditure		160.1	164.7	2.9

Note: the classification and projection of mandatory and discretionary expenditures are based on NABO's analyses.

280.0 trillion won, a 25.6 trillion won (5.9%) increase from 264.4 trillion won in 2010. Examining the historical trend of consolidated public finance, it has been increasing at the average annual rate of 6.7% from 2000 to 2011 and at the rate of 8.0% when only up 2008 before the crisis is considered.

Size of Mandatory Expenditure Increase

Within the 2011 total expenditure of 309.6 trillion won, mandatory expenditure is 144.9 trillion won (46.8%) with the increase of 12.2 trillion won (9.2%) from 132.7 trillion won based on the 2010 budget. Discretionary budget is 164.7 trillion won, 4.6 trillion won (2.9%) increased from the 2010 budget of 160.1 trillion won.

Assessment of the Expenditure Amount

Comparing 5.7% growth of total expenditure in 2011 from the previous year to the average growth rate of 7.8% in the previous years renders a positive perspective, considering that ‘the budget for restoring budget soundness’ is one of the main objectives of this year's budget proposal. Although the figure 309.6 trillion won is 3.0 trillion won higher than the total expenditure plan of 306.6 trillion won in <2009~2013 National Fiscal Management Plan>, the growth of total expenditure is 2.5%p lower than the growth of total revenue, as the outlook on the growth of total revenue in 2011 is 8.2%. This difference of 2.5%p is similar to the difference 2.4%p announced in the last year's national fiscal management plan.

Nevertheless, to prevent fiscal management from stiffening due to the increased mandatory expenditure, it is necessary to find the ways to suppress the increase in mandatory expenditure. Whereas total expenditure in 2011 budget proposal has a 16.8 trillion won increase from the previous year, mandatory expenditure's increase is 12.2 trillion won (9.2%). In contrast to the high growth rate of mandatory expenditure, discretionary expenditure grows only by 4.6 trillion won (2.9%), less than half of the 7.5% growth rate during the 5 years preceding the crisis. Considering that discretionary expenditure includes R&D expenditure and SOC budget that have positive impact on the potential GDP growth rate, the fall in discretionary expenditure by more than half leaves some concern about the economic outlook in the medium and long term.

2. Fiscal Policy Stance

Structural Fiscal Balance and Fiscal Impulse Indicator

When examining the structural fiscal balance based on the administration's national fiscal management plan and NABO's scenario 1, scenario 2, and fiscal rule, despite some differences between 2009 and 2011, all of them show deficits so that the fiscal policy stance is expansionary overall. When the change in fiscal policy stance is examined through the Fiscal Impulse Indicator (FI), it is found to be very contractionary with the administration's outlook in 2010 compared to 2009 being -1.67 and NABO's fiscal outlook being -2.05. The difference in the two outlooks comes from the difference in outlooks on tax revenue, and both imply contractionary stance despite the difference in numbers.

The FI in 2011 compared to that in 2010 is -0.49 for ‘2011 Budget Proposal Compared to FY2010 Budget’, 0.04 based on NABO's scenario 2, and -0.26 based on NABO's fiscal rule. In the case of ‘2011 Budget Proposal Compared to FY2010 NABO Forecasted Budget’, which uses NABO's forecast of tax revenue, shows the FI of 0.02, a neutral stance as in 0.04 of NABO's scenario 2. The figure -0.26 for the fiscal rule shows a somewhat contractionary stance.

Analysis of the Impact of Automatic Stabilizer

Measuring the impact of automatic stabilizer gives 0.19 for 2007 and 2008 before the global financial crisis, 0.24 in 2009 so that the impact was increased due to the direct affect of the crisis, and 0.22 and 0.21 for 2010 and 2011 so that the impacts are decreased.

Table 23 _ FY 2011 Structural Budget Balance and Fiscal Impulse Indicator

(unit: trillion won, %)

Year	2009	2010		2011				
		Government (Budget proposal compared to 2010 budget)	NABO	Government (Budget proposal compared to 2010 budget)	Government (Budget proposal compared to 2010 forecast)	Scenario 1	Scenario 2	NABO Fiscal Rule
Structural Budget Balance	−42.2 (−4.0)	−26.4 (−2.3)	−22.0 (−1.9)	−22.0 (−1.8)	−23.8 (−1.9)	−31.7 (−2.6)	−24.1 (−2.0)	−20.4 (−1.7)
FI	3.14	−1.67	−2.05	−0.49	0.02	0.66	0.04	−0.26

Note : The inside number of ( ) is per cent of GDP
DATA : Korea government, NABO

The interpretation is that first, the size of the automatic stabilizer greatly expanded during 2009 the year of financial crisis, and second, the size of the automatic stabilizer returned to a lower level as the economy recovers from the crisis (2010~2011).

The bigger the size of the automatic stabilizer, the greater the contribution of expenditure expansion, which includes decreased tax revenue and unemployment benefits, on reducing the size of economic fluctuation.

Table 24 _ Automaic Stabilizer Effect of Korea

Year	2007	2008	2009	2010	2011
Automatic Stabilizer	0.1885	0.1892	0.2395	0.2178	0.2136

◆ Comparing the Fiscal Impulse Indicator

There are two methods of measuring structural fiscal balance to find the Fiscal Impulse (FI), the IMF method and the OECD method. Both NABO and the Ministry of Strategy and Finance use the IMF methodology. NABO sets the year when real GDP as similar to potential GDP as the base year, calculates the fiscal stance measure (FIS) for each year, and uses the yearly difference in FIS as the Fiscal Impulse Indicator. On the other hand, the Ministry of Strategy and Finance (Korea Institute of Public Finance) divides the change in the Cyclically Adjusted Balance (CAB), which removes the business cycle effects, by the nominal GDP in the respective year. Therefore, the

Figure _ Comparison of FIs

Sources: MOSF, "Report for macro economic stabilizaton", NABO difference in the FI's of the two organizations comes from the measurement method such as the selection of base year as well as the data such as the use of potential GDP. Despite the difference in figures, the sign (positive or negative) of the indicator, which determines whether the fiscal policy is 'contractionary or expansionary', shows a match.

◆ Analyzing the Impact of the Major OECD Countries' Automatic Stabilizer

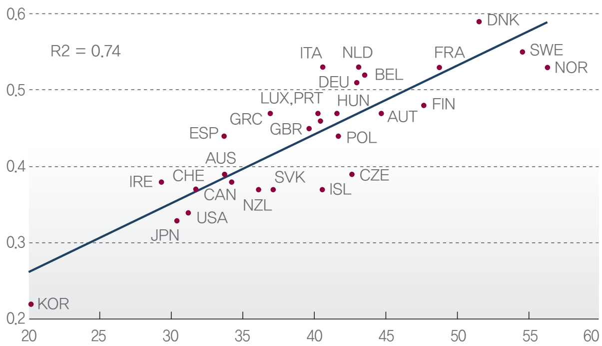
According to Girouard and Andre (2005), the effect of automatic stabilizer as of 2003 is low in Korea (0.22), United States (0.34), and Japan (0.33) but high in Germany (0.51), France (0.53), and Denmark (0.59) with the OECD average of 0.44. The size of automatic stabilizer is analyzed to have a high correlation with government size (Total Expenditure/GDP).

Table _ Automatic Stabilizer of OECD Countries

country	Automatic stabilizer	country	Automatic stabilizer
Korea	0.22	United Kingdom	0.45
United States	0.34	Canada	0.38
Japan	0.33	Denmark	0.59
Germany	0.51	Finland	0.48
France	0.53	Norway(mainland)	0.53
Italy	0.53	Sweden	0.55
OECD average	0.44	Euro area average	0.48

Source : N. Girouard, C. Andre, "Measuring Cyclically-adjusted Budget Balances for OECD Countries", OECD working paper #434, 2005.

Figure _ Government Size and Automatic Stabilizer of OECD Countries



Source : Girouard and Andre(2005)

Ⅳ. Budget Soundness

Consolidated fiscal balance in 2011 is expected to show be a surplus of 4.1 trillion won, and managed fiscal balance is estimated to be a deficit of 27.2 trillion won. National debt is projected to reach 439 trillion won (9.8 trillion won increase from the previous year), approximately 35% of GDP. The growth rate of national debt is similar to that after the currency crisis of 1998 and provides an affirmative evaluation on the improvement of budget soundness.

1. Fiscal Balance

Consolidated Fiscal Balance

Using NABO's forecast of tax revenue and the administration's forecast of total expenditure in its budget proposal, the consolidated budget balance in 2011 is expected to show the surplus of 4.1 trillion won. This is an improvement by 6.1 trillion won compared to the administration's 2010 outlook of 2 trillion won deficit and is 0.9 trillion won lower than the administration's planned consolidated budget balance of 5.0 trillion won surplus. Such difference comes from the 0.9 trillion won difference in NABO's and administration's forecasts of 2011 tax revenue.

Looking at the trend of consolidated fiscal balance after 1998 gives the following observations. The balance has been positive in the 2000s, reaching the surplus of 33 trillion won in 2007, but turned negative to the deficit of 18 trillion won in 2009 because of the supplementary budget in response to the crisis. Beginning in 2010, the deficit amount has greatly decreased and the balance will turn positive in 2011.

Table 25 _ Projected Fiscal Balance in 2011

(unit: trillion won)

	2010 (Admin's Forecast)	2011 (Admin's Forecast)	2011 (NABO Single-Year Forecast)
Consolidated Fiscal Balance	-2.0	5.0	4.1
Managed Fiscal Balance	-30.1	-25.3	-27.2

Managed Budget Balance

The managed budget balance in 2011 is projected to be a deficit of 27.2 trillion won, an improvement by 2.9 trillion won from the administration's 2010 outlook of 30.1 trillion won deficit and 1.9 trillion won larger deficit than the administration's 2011 outlook of 25.3 trillion won deficit. The difference between NABO's projection and the administration's comes from the fact that NABO's forecast of tax revenue is 0.9 trillion won lower and NABO's forecast of

Table 26 _ Trend of Fiscal Balance after 1998

(unit : trillion won)

Year	98	99	00	01	02	03	04	05	06	07	08	09	10	11
Consolidated Fiscal Balance	-18.8	-13.1	6.5	7.3	22.7	7.6	5.2	3.5	3.6	33.8	11.9	-17.6	-2.0	4.1
Managed Fiscal Balance	-24.9	-20.4	-6	-8.2	5.1	1.0	-4.0	-8.1	-10.8	3.6	-15.6	-43.2	-30.1	-27.2

Note : The figure in 2011 is NABO's forecast.

the surplus in social security fund is 1.0 trillion won larger. Examining the managed budget balances since 1998, it has continued to show deficits except in 2002~2003 and 2007, had reached the deficit of 43 trillion won in 2009, immediately after the crisis, and would show the deficit decreasing again with 30 trillion won and 27 trillion won as the deficits in 2010 and 2011.

2. National Debt

The State and Trend of National Debt

Looking at the state of national debt based on 2009 settlements, total national debt is 359.6 trillion won, a 50.6 trillion won (16.4%) increase from 2008. This is consisted of government bond of 337.5 trillion won, government borrowing of 5.4 trillion won, government obligation of 3.2 trillion won, and local government net debt of 13.5 trillion won. The central government's debt that excludes the local government net debt is 346.1 trillion, and the 45% of it (155.2 trillion won) is deficit covering debt that has to be paid out from the tax in the future and the remaining 55% (190.9 trillion won) is the financial debt that can be paid out from corresponding asset, national debt in 2011 is expected to reach 439 trillion won, 38.6 higher than the administration's projection in 2010 and 2.2 trillion won higher than the administration's 2011 proposal of 436.8 trillion won.

NABO's projection is 2.2 trillion higher because of the 1.9 trillion difference in NABO's and administration's projections of managed budget balance, and the rest 0.3 trillion won comes from the possibility that the administration finances the expenditure through means other than bond issuance or borrowing.

National debt, which exceeded 100 trillion won for the first time in 2000, is expected to be approximately 439 trillion won in 2011. The national debt to GDP ratio has also increased steadily, beginning from 18.5% in 2000, exceeding 30% for the first time in 2006 (31.3%), and reaching approximately 35% in 2011.

Evaluation of Budget Soundness

According to NABO's forecasts, national debt in 2011 will be 439 trillion won, 42 trillion won (9.8%)

Figure 27 _ Trend of National Debt to GDP

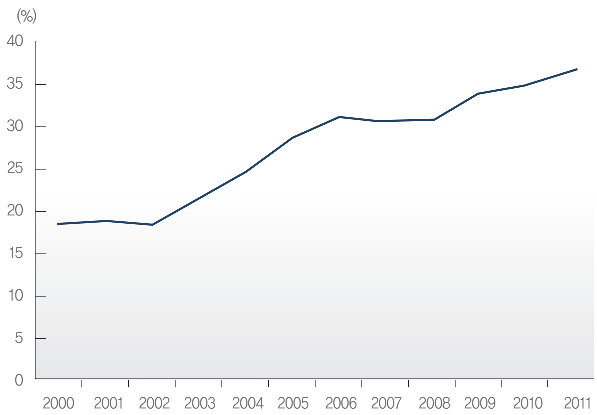


Table 27 _ Projection of 2011 National Debt

(unit: trillion won, %)

	2010 (Admin's Forecast)	2011 (Admin's Forecast)	2011 (NABO Single-Year Forecast)
National Debt	400.4	436.8	439.0
Ratio to GDP	34.7	35.2	35.8

Table 28 _ Growth Rate of National Debt since 2001

(unit: %)

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Growth Rate	9.9	9.8	23.9	22.3	22.2	14.1	5.7	3.3	16.5	11.1	9.8

larger than the forecast for 2010 of 397.3 trillion won. Compared with the historical trend, this pace is slightly slower than the growth rate of 11.1% in 2010 and similar to the growth rate (9.8%) between 2000 and 2002, when the government had to suppress the growth rate of total expenditure to restore budget soundness after the currency crisis of 1998. Thus, budget soundness based on the size of total expenditure growth is expected to show an improvement from the previous year. On the other hand, the reason why the increase in national debt is larger than the managed fiscal deficit is that along with the increase in deficit covering debt of 27 trillion won, the increase in financial debt is expected to be 15 trillion won, a 5.3 trillion won increase from the previous plan in the 2009~2013 national fiscal management plan and national debt management plan. Financial debt is mainly used as a resource to stabilize the currency market, although there are debates on the appropriateness and validity of intervening in the currency market as well as the likely benefit and cost of the intervention. To secure budget soundness, it is necessary to put more efforts in suppressing and managing financial debt.

V. Allocation of Finances

The 2011 budget proposal increases the proportion of expenditure on health, welfare, and education that have large reallocation effects and reduces the proportion of expenditure on the economic projects that have larger inductive effects on economic growth.

1. Analysis on the Allocation of Finances

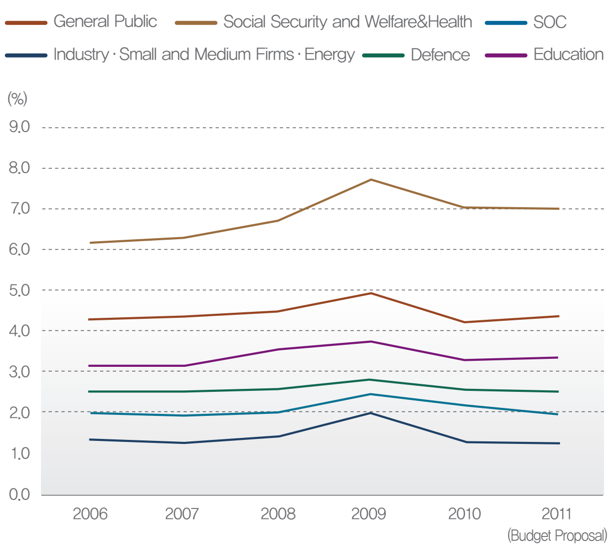
Allocation of Finances by Components in the Administration's Budget Proposal

In the 2011 budget proposal, the items that have the higher rates of increase than the growth (5.6%) of total government expenditure are the following 6 areas: reunification and diplomacy (12.1%), R&D (8.8%), general public administration (9.2%), education (7.8%), health and welfare (6.3%), and national defense (5.7%). The items with the lower rates of increase than the total expenditure are the following 6: SOC (-3.2%), industry, small and medium enterprises, and energy (0.7%), food, agriculture, forestry, and fisheries (2.3%), culture, sports, and tourism (5.1%), public order and safety (5.4%), and environment (5.6%). Whereas the 2010 budget proposal had the contractionary stance, the 2011 budget proposal has the neutral stance with the similar allocation of finances (based on each item's ratio to GDP) as that before the crisis (except for the economic project expenditure).

The areas of economic project (SOC, industry·small and medium enterprises·energy, agriculture and forestry·fisheries·food) continue to show the declining trend as in 2010. In the case of industry·small and medium enterprises·energy, the budget for industrial finance is reduced, and is seen as an appropriate allocation of finances as the increased industrial finance by the government can produce side-effects in the current situation where the size of private financial market had increased.

The area of health·welfare continues to show the upward trend in 2011, and this is associated with the increased size of mandatory expenditure. Although the increased size of benefits from welfare expenditure can increase the level of welfare sensed by the public, it may be necessary to examine whether it neglects the poor in the blind spot. The allocation to the R&D areas, which can be said to induce the recovery of economic vitality and the development of future growth momentum, has recently been showing steady increases. It nonetheless requires the scrutiny on its real contribution to the securing of future growth

Figure 28 _ Trends in Functional Resource Allocation (% of GDP)



momentum. In particular, the investment on existing projects among the projects related to developing new growth momentums should be limited to the areas that have demonstrated their contribution to future growth momentum.

Education was the only area other than industry·small and medium enterprises·energy that showed a decrease in expenditure 2010 based on the proportion to total expenditure, but it marked the growth rate of 7.8% in the 2011 budget proposal, which is 2.2%p higher than the growth rate of total expenditure (5.7%). This is influenced in part by the increase in financial grants of local education with the increased outlook on interval revenue, but also by the overall increase in the budget for early childhood·elementary and middle school education, high school education, continuing education·vocational education.

Overall Review of Financial Allocation

The 2011 budget proposal shows increased proportion of expenditure on the areas like health·welfare and education that have the larger distributional effects but shows decreased proportion of expenditure on the areas of economic projects that have the larger inductive effects on economic growth. Such trend also appears during 2010~2014, the period of medium term expenditure framework.

It seems that the budget authority, despite the reduced allocation on the areas of economic projects, seeks to stimulate the economy through the promotion of industries with new growth momentum by increasing the R&D expenditure. Nevertheless, it is questionable how much economic stabilization effects can be achieved through R&D expenditure, as the size of expenditure itself is small and as R&D is dispersed into the 16 areas such as economic projects and welfare, instead of being an independent budget area.

2. The Policy Situation and Financial Allocation of Main Areas

Welfare and Working Class Policies

According to the Korean General Social Survey (KGSS) and the Statistics Korea's “report on the analysis of social statistics”, our citizens actively agree that our income inequality is large and very positive about the government's efforts on income redistribution.

Although the Korean economy had entered the recovery stage, it is difficult for the working class to sense the recovery because of the polarization of income redistribution. The Gini coefficient between 2003 and 2009 had increased from 0.293 to 0.319 based on “market income”. The main reasons behind income bipolarization include the increased proportion of temporary workers, the increased income gap between large export companies and domestic small and medium enterprises as well as the smaller employment proportion by the large companies due to the weakened industrial linkage effects, and the earnings fall and exits by the small self-employed due to the decline of domestic consumption and increased productivity gap.

In the 2011 financial allocation to welfare areas, the residential·medical areas (which take up the largest proportion) and the budget for supporting the lower-income group will grow by 5.7% and 5.2% respectively, showing the overall average growth of 10.1%, but there is a pronounced increase in the budget for childcare, education, and the disabled. Such financial allocation on welfare is meaningful in the sense that the welfare expenditure, which previously focused on the welfare recipients, is expanded to include a wide variety of vulnerable classes of people. Nevertheless, it is necessary to develop safety net for people who are actually in poverty but are excluded from public assistance, the people who are inapplicable for employment insurance, national pension, and health insurance, or the low incomes and working poor who are

Table 29 _ Trend in Functional Expenditure(Based on the Settled Budget)

(unit : trillion won, %)

	2009				2010			2011(Budget Proposal)	
	Original Budget(Revised Budget)		Revised Supplementary Budget			Revised Supplementary Budget			
	Amount	%Change	Amount	%Change	Amount	%Change from 09 OB[5]	%Change from 09 RSB[6]	Amount	%Change
SOC	24.7	20.5	25.4	23.9	25.1	1.6	–1.2	24.3	–3.2
Industry · Small and Medium Enterprises · Energy	16.2	10.2	20.8	41.5	15.1	–6.8	–27.4	15.2	0.7
Agriculture · Forestry · Fisheries · Food	16.9	0.6	17.3	3.0	17.3	2.4	0.0	17.7	2.3
Health · Welfare	74.6	8.4	80.5	17.0	81.2	8.8	0.9	86.3	6.3
Education	38.2	5.8	39.2	8.6	38.3	0.3	–2.3	41.3	7.8
Culture · Sports · Tourism	3.5	6.1	3.6	9.1	3.9	11.4	8.3	4.1	5.1
Environment	5.1	13.3	5.7	26.7	5.4	5.9	–5.3	5.7	5.6
National Defense[1]	28.5	7.1	29.0	9.0	29.6	3.9	2.1	31.3	5.7
Reunification · Diplomacy	3.0	7.1	3.0	7.1	3.3	10.0	10.0	3.7	12.1
Public Order · Safety	12.3	5.1	12.4	6.0	12.9	4.9	4.0	13.6	5.4
General Public Administration	48.6	5.9	51.7	12.6	48.7	0.2	–5.8	53.2	9.2
Others[2]	12.9	16.2	13.2	18.9	12.0	–7.0	–9.1	13.2	10.0
R&D[3]	12.3	10.8	12.7	14.4	13.7	11.4	7.9	14.9	8.8
Total Expenditure	284.5	8.3	301.8	14.8	292.8	2.9	–3.0	309.6	5.7

Notes: 1. 1) Based on the general account.
2) 'Others' includes communication, science, technology, and emergency.
3) Total amount of R&D spending across the 16 areas of budget.
4) %Change is the rate of increase form the previous year's budget
5) '09 OB' denotes FY2009 Original Budget
6) '09 RSB' denotes FY2009 Revised Supplementary Budget
7) Numbers exclude inter-transaction and conservation spending among the general account, the special account, and government funds

excluded from social insurance as delinquent taxpayers or exceptions from the payment.

Labor Market Programs

Labor force participation rate and employment-to-population ratio had continued to decline from September 2008 to the first half of 2009, and the employment index in September 2010 does not show an improvement from the previous year either.

Looking at the present conditions by component, the employment problem for the younger population, elderly, and self-employed has a relatively greater importance. The younger population, which had the employment rate of 43.4% in 2006, is not showing a recovery with the employment rate of 40.5% between January and September of 2010. For the elderly, the proportion of temporary workers among the employed workers is steadily increasing, and the earnings level of households with a householder of 60 years old or older compared to that of urban households of size 2 or more had a sharp decline from 79.6% in 2003 to 54.9% in 2009. The problem with the self-employed is that the number of new workers had a sharp decline with the advent of economic crisis in 2009.

The problems with the financial allocation to the employment policies is first that the medium term expenditure framework is unavailable for the areas of labor market programs and that categorization and statistics of the budget on employment programs is changing every year.

The second problem is that it is necessary to

Table 30 _ Trends in Index of Income Distribution

Distribution Index	Income	2003	2004	2005	2006	2007	2008	2009
Gini Coefficient	Market Income	0.293	0.301	0.306	0.313 (0.331)	0.321 (0.340)	0.323 (0.344)	0.319 (0.345)
	Disposable Income	0.277	0.284	0.287	0.291 (0.306)	0.296 (0.312)	0.296 (0.315)	0.293 (0.314)
Income-Quintile Ratio	Market Income	5.00	5.27	5.52	5.75 (6.66)	6.08 (7.10)	6.16 (7.39)	6.10 (7.70)
	Disposable Income	4.44	4.61	4.75	4.82 (5.39)	4.97 (5.61)	4.97 (5.71)	4.92 (5.76)
Relative Poverty Rate (Lower than 50% of Median Income)	Market Income	13.2	13.8	14.6	14.7 (16.7)	15.4 (17.4)	15.0 (17.5)	15.4 (18.1)
	Disposable Income	11.6	12.1	12.7	12.7 (14.4)	12.9 (14.8)	13.0 (15.0)	13.1 (15.2)
Middle Class (50%~ 150% of Median income)	Market Income	67.7	65.5	65.3	63.8 (60.8)	62.6 (59.4)	62.3 (58.8)	62.6 (58.7)
	Disposable Income	70.1	68.7	68.2	67.4 (64.9)	66.7 (63.8)	66.2 (63.2)	66.7 (63.2)

Note: The figures are computed based on the non-agricultural households of 2 or more persons, and the figures in the parantheses are computed based on all households.
Source: Statistics Korea

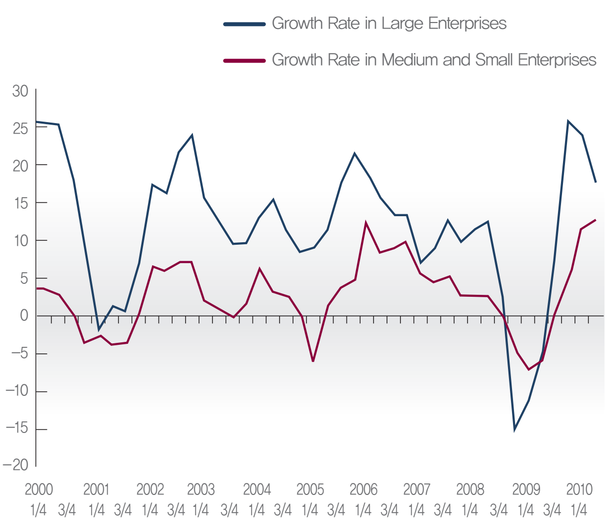
expand the job training and employment services for the vulnerable employment classes as the budget for direct job creation takes up over 50% of total budget for active employment programs and as the investment in job training as well as in public employment service and administration is relatively weaker compared to the major OECD countries.

Policies for the Small and Medium Enterprises and for the Small Commercial and Industrial Enterprises

Between 2003 and 2008, small and medium businesses'contribution to economic growth had decreased in terms of business production (40.7%) and added value (42.4%). This insinuates that the productivity of small and medium businesses had declined during that period.

When comparing the small and medium enterprises' productivity to that of large businesses, the labor productivity gap between the two had been large except for the third quarter of 2008 to the third quarter of 2009, the period of global financial crisis. In particular, the labor productivity gap after the crisis had significantly increased from -4.04% in the first quarter of 2009 to 20.55% in the fourth quarter of 2009. The profitability of large businesses had surpasses that of small and

Figure 29 _ Trend of Growth Rate of Worker Productivity

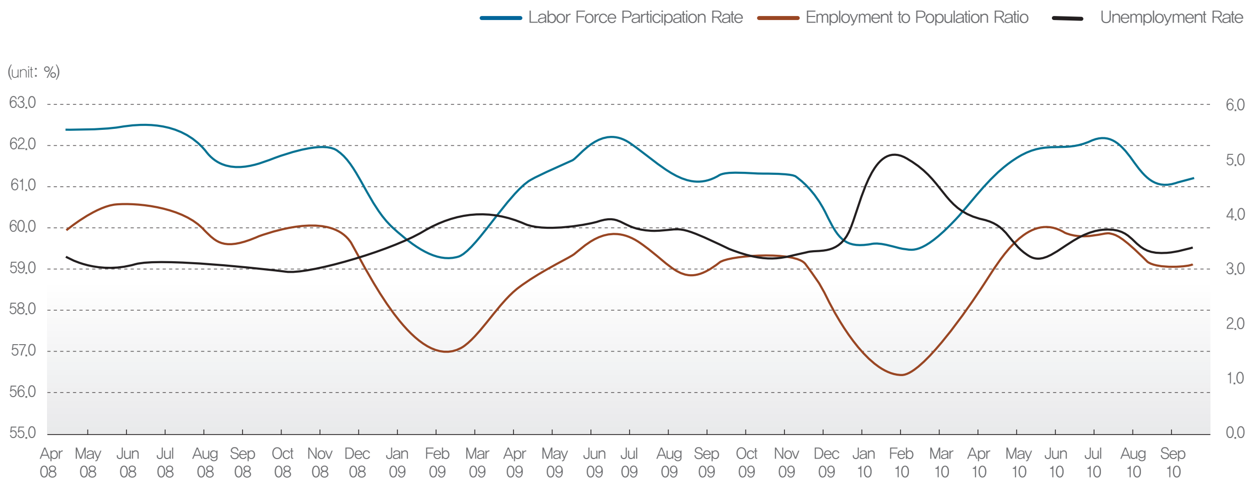


Note: Compared to the same period in the previous year
Source: Korea Productivity Center

medium businesses by a large amount after 1990. In particular, the profitability gap between large the businesses and the small and medium businesses had significantly increase from 2002 (2.25%) to 2005 (5.32%) with the profitability of large businesses increasing by a large amount and that of small and medium businesses decreasing during that period.

The budget items belonging to the 'Improving the Competitiveness of Small and Medium Enterprises and Small Commercial and Industrial Enterprises' in 2011 budget proposal is expected to reduce the labor productivity gap between large businesses and small and medium businesses. It would be more appropriate, however, to allocate the budget for sunshine loan to working class·hope budget instead of future preparation budget as it fits better to the administration's 'budget principle that provides hope to the working class'. In addition, as the long-term trend shows a slowdown in the proportion of added value and shipment amount, it is necessary to provide policies that develop the independent growth capabilities of the small and medium enterprises as well as to consider the comprehensive support policies that nurtures the 'small and medium sized, high-growth enterprises' by providing support in each stage of growth.

Figure 30 _ Trend of Labor Force Participation Rate, Employment to Population Ratio and Unemployment Rate



Source: Statistics Korea

Analysis of the 2010~2014 National Fiscal Management Plan

Ⅰ. Summary of the 〈National Fiscal Management Plan〉 and the Evaluation of 〈Administration's Evaluation of the Previous Year's Plan〉

According to the 〈2010~2014 National Fiscal Management Plan〉, the administration plans to turn the managed fiscal balance to surplus and maintain national debt in 2014 to be around 492.2 trillion won (31.8% of GDP).

1. Summary of the Administration's 〈National Fiscal Management Plan〉

With the revision of <National Public Finance Act> this May, the structure and contents of the national fiscal management plan had also been revised and substantiated. Accordingly, the administration submitted its evaluation of the previous year's plan, medium and long term fund financial management plan, and guaranteed debt management plan along with the plan itself.

Comparison between this year's 2010~2014 national fiscal management plan and the previous year's 2009~2013 national fiscal management plan tells us that the direction of fiscal management has changed from 'active fiscal management and early restoration of budget soundness' to 'expansion of investment for the future, stabilization of the lives of the working class, and restoration of budget soundness. Based on the figures in 2013, the size of national debt and the national debt's proportion to GDP have decreased.

Fiscal Condition

The administration forecasts the real GDP growth rate from 2011 to 2014 to be 5% as exports continue to grow with the recovery of the global economy and as domestic consumption continues to expand. The administration also expects total revenue to show improvement due to such rise of economic growth and the postponement of income tax and corporate tax cuts. For total expenditure, the administration also expects to see an expansion of mandatory expenditure and the demand for financial support to stabilize the working class citizens' lives.

Direction of Fiscal Management

The administration expects that total revenue would increase at the average annual growth rate of 7.7% during 2010~2014. This growth rate is 2.1%p higher than the growth rate 5.6% planned in the previous year, mainly because the average annual growth of tax revenue increased from 5.8% to 9.1% with the upward adjustment on the growth forecast and the postponement of income and corporate tax cuts.

The administration planned the annual growth of total expenditure to be 4.8%, 2.9%p lower than the annual growth of total revenue but slightly higher than the previous year's plan of 4.2%.

Furthermore, the national fiscal management plan states that the managed fiscal balance would see gradual decrease in its deficit, turning to surplus in 2014 (2.7 trillion) and that the national debt-to-GDP ratio to gradually decrease after a peak in 2011, reaching 33.8% in 2013 and 2014 31.8%, which is lower than the previous year's plan (35.9%) based on the 2013 figures.

Policy Direction by Fiscal Sector and Fiscal Investment Plan

During the period of 2010~2014, the areas with growth rates higher than that of total expenditure (4.8%) are health and welfare (6.0%), education (8.0%), reunification and diplomacy (8.1%), general public administration (6.6%), and R&D (8.7%). Within R&D, the administration plans to invest heavily in fundamental research, green technology research, and new growth engine, as well as in the improvement of public education's competitiveness to strengthen the global competitiveness of universities and the reduction of private education cost.

Improving the Fiscal Management System

The administration suggests 10 concrete tasks to improve the fiscal management plan. The tasks are the following: strengthening the national debt management; strengthening the management of fiscal outcome; increasing the efficiency of government sponsored job creation program; supporting the R&D support system; forecasting the medium and long term welfare finance and determining its policy tasks; improving the local educational finance policy; improving the preliminary appropriateness test; improving the sunset scheme of government subsidy program; and strengthening the management of public companies'debt.

2. Evaluation of the 〈Administration's Evaluation of the Previous Year's Plan〉

Problems in 〈Evaluation and Analysis Report〉

The revision of <national public finance act> in May 2010 requires the submission of reports evaluating the previous year's national fiscal management plan. Accordingly, the evaluation and analysis reports on the reasons and contents of adjustments from the previous year's plan as well as the management plan are submitted for the first time. The major problems in the evaluation and analysis reports are like the following.

First, although the fiscal management target and strategy to 'maintain budget soundness and improve growth capability' are specified in the 'evaluation and analysis of management plan', they merely list the areas to be supported without concrete strategies.

Second, as specified in the national public finance act, <Administration's Evaluation of the Previous Year's Plan> needs to provide specific plans on how the change in total budget will affect the current year's fiscal target and how to manage that adjusted portion, along with the provision of fiscal target.

Third, the reports evaluating and analyzing the previous year's plan should be attached to the current year's national fiscal management plan to provide sufficient and accurate understanding of the plan in 2010.

Table 35 _ Medium–Term Fiscal Management Indices in the 2010~2014 National Fiscal Management Plan

(unit: trillion won, %)

	2010	2011	2012	2013	2014	Average Annual Growth Rate
Total Revenue	290.8	314.6	342.9	365.1	390.9	7.7
○ Budget	194.8	212.3	234.4	250.9	270.8	8.6
Tax Revenue	170.5	187.8	204.2	221.1	241.7	9.1
Non–Tax Revenue	24.3	24.5	30.2	29.9	29.1	4.6
○ Fund	96.0	102.3	108.4	114.2	120.2	5.8
Total Expenditure	292.8	309.6	324.8	337.7	353.0	4.8
○ Budget	205.3	215.9	224.9	232.5	244.2	4.4
○ Fund	87.5	93.6	100.0	105.2	108.8	5.6
Fiscal Balance						
○ Consolidated	–2.0	5.0	18.0	27.4	37.9	–
○ Managed	–30.1	–25.3	–14.3	–6.2	2.7	–
Fiscal Balance						
(% of GDP)	(–2.7)	(–2.0)	(–1.1)	(–0.4)	(0.2)	
National Debt	407.2	436.8	468.1	485.7	492.2	–
(% of GDP)	(36.1)	(35.2)	(35.1)	(33.8)	(31.8)	–
Allocation of Finances[1]						
R&D	13.7	14.9	16.6	18.1	19.1	8.7
Education	38.3	41.3	44.9	48.2	52.1	8.0
Reunification and Foreign Affairs	3.3	3.7	3.9	4.2	4.5	7.7
SOC	25.1	24.3	22.4	22.9	23.5	–1.7

Note: 1) 'Allocation of Resources' show the 3 areas with the largest average annual growth rate and the 1 area with a negative average annual growth rate.
Source: Government of Korea, 〈2010~2014 National Fiscal Management Plan〉, 2010.

II. Macroeconomic Outlook

The administration projects the medium term economic growth to be 5%. NABO expects the growth in 2011 to be just 3.9% with the slowdown of the global economy and the medium term growth rates to be modest at 4.2% in 2012, 4.4% in 2013, and 3.8% in 2014.

1. Comparison of the Medium Term Economic Outlooks

NABO's Medium Term Macroeconomic Outlook

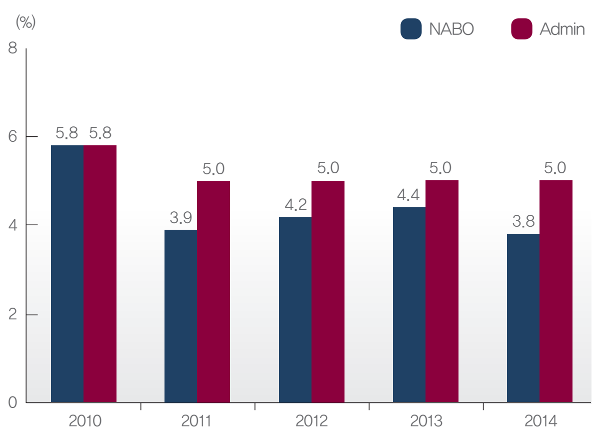
The national economy, which is expected to grow 5.8% in 2010, is expected to grow 3.9% in 2011 as the global economy slows down. In the medium term, however, the national economy will grow modestly by 4.2% in 2012, 4.4% in 2013, and 3.8% in 2014.

Comparison to the Administration's Outlook

NABO's forecast of the real economic growth in 2011 is 3.9%, 1.1%p lower the administration's (5.0%). This first originates from the difference in the forecast of export growth in 2011, which is 10.0% for the administration but only 5.8% (based on international balance of payments) for NABO. Such projection by NABO comes from the factors such as the recent downward adjustment on the outlook (2011) on the U.S. economy (2.9% in July to 2.3% in October based on IMF) and the fall of exchange rate.

Second, the difference in consumption outlook also contributes to the difference in the economic outlook. Whereas the administration expects private consumption to grow 4.3%, NABO expects it to grow 3.2% with the delay of labor market recovery and the increase in financial burden due to the increase in target interest rate.

Figure 31 _ 2010–2014 Real GDP Growth Outlook



Comparison of Medium Term Economic Outlook

NABO expects the real annual growth rate of 4.4% on average between 2010 and 2014. The administration, on the other hand, expects the growth rate of 5%. This projection seems a little optimistic, considering that the real growth rate was 4.7% on average before the crisis (2004~2007).

Although the U.S. economic growth was led by the high level of consumption due to the sharp increase in housing prices, it is difficult to expect the high level of growth led by consumption. In addition, the recovery of European economy would also be interfered with the strengthened policy to restore budget soundness. Considering these factors, NABO expects the growth of national economy in the medium term to be 4.4%.

NABO's projection of medium term nominal GDP growth (2010~2014) is 6.9%, a lower rate than the administration's (7.8%), as NABO expects both the real GDP growth and the growth of GDP deflator to be lower than those expected by the administration.

III. Total Revenue

Whereas the administration projects the medium term total revenue to rise 7.3% annually, NABO projects it to rise 6.3%. Such difference in the two organizations' projections comes mainly from the difference in the projection of tax revenue, which in turn originates from the administration's optimistic outlook on the macro economy.

1. The Administration's Outlook on Total Revenue

Medium Term Outlook on Total Revenue

According to the <2010~2014 National Fiscal Management Plan>, total revenue which is computed as budget plus fund, is expected to increase at the annual rate of 7.3% from 295.3 trillion won in 2010 to 390.9 trillion won in 2014, under the assumption of 7.6% annual growth of nominal GDP (5.0% growth of real GDP). Tax revenue is forecasted to increase annually at the 8.4% average from 175.0 trillion won in 2010 to 241.7 trillion won in 2014, non-tax revenue is forecasted to increase annually at the 4.6% average from 24.3 trillion won in 2010 to 29.1 trillion won in 2014, and fund revenue is forecasted to increase annually at the 5.8% average from 96.0 trillion won in 2010 to 120.2 trillion won in 2014.

Outlook on the Tax Revenue to GDP Ratio

The tax revenue to GDP ratio is expected to show the modest growth between 2011 and 2014 to be around 19%, but such projection is 2%p lower than 21% in 2007~2008. The administration expects the tax revenue to GDP ratio to increase modestly with the reduction of tax breaks and preferences and the development of new tax revenue sources. Nevertheless, overall during the period, the tax revenue to GDP ratio will be lower than that in 2007~2008 as local taxes decrease with the decline in housing prices and trade volume.

Table 37 _ Admin's Mid-term Fiscal Revenue Forecast

(unit: tril. won, %)

	2010	2011	2012	2013	2014	Projected Average Annual Growth Rate
Total Revenues	295.3	314.6	342.9	365.1	390.9	7.3
(% change to previous year)	(5.3)	(6.5)	(9.0)	(6.5)	(7.1)	
Tax Revenue	175.0[1)]	187.8	204.2	221.1	241.7	8.4
(% change to previous year)	(6.4)	(7.3)	(8.7)	(8.3)	(9.3)	
Non-Tax Revenue	24.3	24.5	30.2	29.9	29.1	4.6
(% change to previous year)	(12.0)	(0.8)	(23.3)	(−1.0)	(−2.7)	
Funds Revenue	96.0	102.3	108.4	114.2	120.2	5.8
(% change to previous year)	(2.0)	(6.6)	(6.0)	(5.4)	(5.3)	

Note: 1) Admin's forecast of 2010 Tax Revenue
Source: Government of Korea, 「2010-2014 National Mid-term Fiscal Mgmt Plan」

Table 36 _ Revenue Projection of the Administration (as % of GDP)

(unit: %)

	2010	2011	2012	2013	2014
Total tax revenue as % of GDP(central gov't tax only)	19.7	19.3	19.6	25.2	25.7
Total revenues as % of GDP (incl.SSC and Non-tax revenue)	25.0	19.5	19.8	25.5	26.1

Source: Government of Korea, 「2010-2014 National Mid-term Fiscal mgmt plan」

2. Comparing NABO's and the Administration's Projections of Medium Term Total Revenue

Medium Term Total Revenue Comparison

NABO projects total revenue to grow 6.3% on average each year from 296.3 trillion won in 2010 to 378.1 trillion won in 2014, whereas the administration projects total revenue to grow 7.3% on average each year so that NABO's projection is 1.0%p lower than the administration's. As NABO projects total revenue each year to be 1~13 trillion won lower than the administration, the accumulated difference in total revenue for the 4 years reaches 31.2 trillion won, and such difference mainly comes from the tax revenue.

Figure 32 _ Mid-term Total Revenues : NABO and Administration

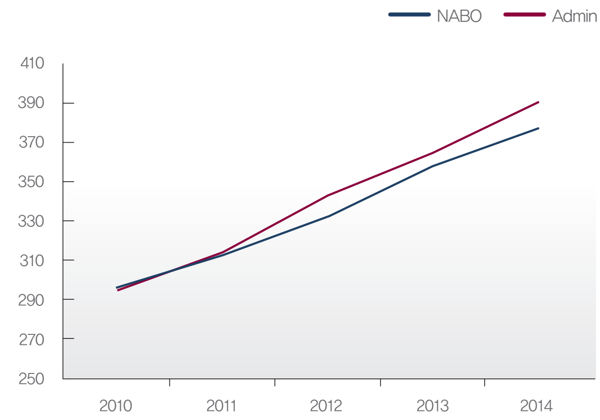
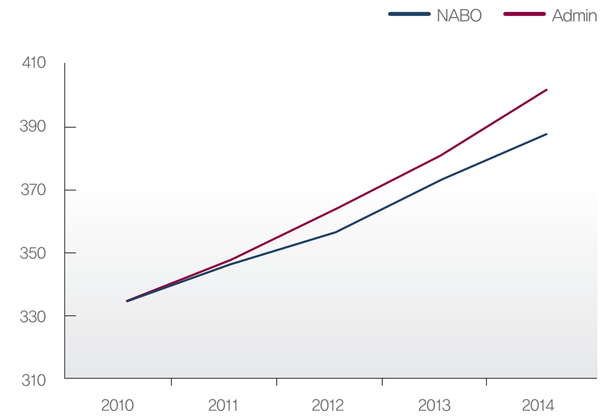


Figure 33 _ Mid-term Tax Revenue



Medium Term Tax Revenue Comparison

Whereas NABO expects tax revenue to grow 7.2% on average each year from 174.6 trillion won in 2010 to 227.7 trillion won in 2014, the administration expects it to grow 8.4% on average each year during the same period so that NABO's projection is 1.2%p lower than the administration's. As NABO projects tax revenue to be 0.4~13 trillion won lower than the administration, the accumulated difference in tax revenue for the 4 years reaches 31.4 trillion won.

When the administration's optimistic growth rate is applied to NABO's tax revenue estimation model, the administration's forecast is 0.6 trillion won higher or lower in 2012 and 2013, and 2.5 trillion won higher in 2014. When the 2.7 trillion won reduction of tax revenue due to the closure of special tax for rural development in 2014 is included in the administration's outlook, the difference comes down to only 0.2 trillion won so that the two organizations' forecasts become very similar. Ultimately, the difference in the accountings of

Table 38 _ Mid-term Total Revenues : NABO and the Administration

(unit: tril. won, %)

		2010	2011	2012	2013	2014	Projected Average Annual Growth rate
Administration (1)	Total Revenue	295.3	314.6	342.8	365.2	391.0	7.3
	(% change to previous year)		(6.5)	(9.0)	(6.5)	(7.1)	
	Tax Revenue	175.0	187.8	204.2	221.1	241.7	8.4
	(% change to previous year)		(7.3)	(8.7)	(8.3)	(9.3)	
	Non-Tax Revenue	120.3	126.8	138.6	144.1	149.3	5.5
	(% change to previous year)		(5.4)	(9.3)	(4.0)	(3.6)	
NABO (2)	Total Revenue	296.3	313.7	332.8	357.7	378.1	6.3
	(% change to previous year)		(5.9)	(6.1)	(7.5)	(5.7)	
	Tax Revenue	174.6	186.2	196.3	213.2	227.7	6.9
	(% change to previous year)		(6.7)	(5.4)	(8.6)	(6.8)	
	Non-Tax Revenue	121.8	127.5	136.6	144.5	150.4	5.4
	(growth rate)		(4.7)	(7.1)	(5.8)	(4.1)	
Gap (1)-(2)	Total Revenue	-1.0	0.9	10.0	7.5	12.9	31.2
	Tax Revenue	0.4	1.6	7.9	7.9	14.0	31.4
	Non-Tax Revenue	-1.5	-0.7	2.0	-0.4	-1.1	-0.2
Gap as percentage (%)	Total Revenue	-0.3	0.3	3.0	2.1	3.4	
	Tax Revenue	0.3	0.8	4.0	3.7	6.1	
	Non-Tax Revenue	-1.2	-0.5	1.5	-0.3	-0.7	

Note: Shadowed figures are cumulative gap during 2011-2014 period

future tax revenue by NABO and the administration originates from the difference in their projections of medium term economic growth.

Medium Term Non-Tax Revenue Comparison

The accumulated difference between NABO's and the administration's projections of medium term non-tax revenue is only -1.1~2 trillion won so that the two organizations have similar expectations. Nevertheless, the administration in its national fiscal management plan does not provide the specific items constituting non-tax revenue, making it difficult to judge which specific item produces how much difference.

3. Policy Implications

Overestimation of Total Revenue due to Optimistic Economic Outlook

The comparison of the two organizations' medium term total revenue estimations suggests that the administration overestimates total revenue with an optimistic view on the economy, calling for the need to come up with more realistic outlook on the medium term tax revenue. Whereas NABO expects the average real GDP growth to be 4% with the potential growth rate after the crisis to be around 4.0%, the administration assumes the average real GDP growth to be 5% and creates its revenue projection accordingly, meaning the revenue projection has the possibility of overestimation.

When the administration establishes the medium term expenditure framework in the past, it would adjust the nominal GDP growth and tax revenue growth downward, implying that the administration tends to overestimate nominal GDP growth, and thus, tax revenue. In its 2004~2008 medium term expenditure framework, the administration projected the average growth of nominal GDP from 2007 to be 8.0% but lowered it to be 7% in the following year. In its 2009~2013 medium term expenditure framework, the administration projected the nominal GDP growth and tax revenue growth to be 7.6% and 9.2%. The administration maintained its projection of nominal GDP growth but adjusted the tax revenue growth downward to be 8.4%. Considering our macroeconomic environment, such projection became closer to the reality but still contains some optimism.

The Need for Disclosing the Details of Total Revenue Projection

The administration in its national fiscal management plan breaks down total revenue into budget revenue comprising tax revenue and non-tax revenue and fund revenue, the lack of further details harms the accuracy of revenue projection and makes it difficult to identify the problems of specific items. Therefore, the administration, like NABO, should provide more details of the total revenue items.

Ⅳ. Total Expenditure and Budget Soundness

The administration in its national fiscal management plan maps out the average rate of growth of total expenditure during 2010~2014 to be 4.7%, but NABO expects the growth rate during the same period to be 5.4% under scenario 2. The projections of consolidated fiscal balance and managed fiscal balance show the difference of 21 trillion won from the administration's outlook on 2014. National debt to GDP in 2014 is expected to exceed 35% under NABO's scenario 2 so that the restoration of budget soundness would not be easy. The measures to restore budget soundness such as the introduction of fiscal rule of 'nominal potential GDP growth minus 2%p' are suggested.

1. Comparison in NABO's and the Administration's Projections

NABO's Outlook on Total Expenditure

NABO's total expenditure projections are divided into scenario 1 and 2 according to the assumption about the growth of discretionary expenditure. If discretionary expenditure is assumed to increase at the average rate during the 5 years preceding the crisis (scenario 1), total expenditure will rise 8.1% on average from 292.8 trillion won in 2010 to 399.3 trillion won. If the real value of discretionary spending is held constant (scenario 2), the size of total expenditure rises approximately 5.4% each year, reaching 361 trillion won in 2014.

Comparison of Medium Term Total Expenditure

In comparison to the administration's total expenditure outlook available in the national fiscal management plan, NABO's projections under scenario 2 are lower by 0.3 trillion won in 2011, 0.9 won I 2012, 4.9 trillion won in 2013, and 8.7 trillion won in 2014 than the administration's plan.

The difference in the projections is because whereas NABO's projection is based on comprehensive consideration of recent growth rates of discretionary expenditure and of mandatory expenditure, the administration's projection of total expenditure rising at the average of 4.7% is more of an 'objective' than a 'projection'. If the mandatory expenditure estimated by NABO is applied to the administration's projection of total expenditure, discretionary expenditure has to grow 3% each year until 2012 and under 1% in 2013 and 2014 to achieve the total expenditure objective. These growth rates are very low compared to the recent trend in the growth of discretionary expenditure (7.4%~25.8%).

Figure 34 _ Comparison of 2010~2014 Total Expenditure Projections

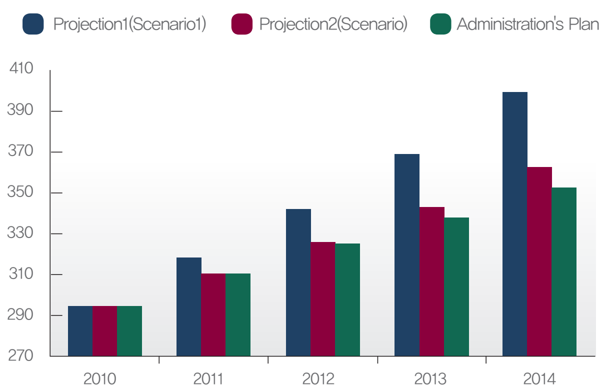


Table 39 _ Comparison of 2010~2014 Total Expenditure Projections

(unit: trillion won)

Year		2010	2011	2012	2013	2014
Scenario1	Mandatory Expen.	132.7	145.4	156.4	169.5	185.5
	Discretionary Expen.	160.1	172.1	185.0	198.9	213.8
	Total Expen.	292.8	317.5	341.4	368.4	399.3
Scenario2(A)	Mandatory Expen.	132.7	145.2	155.7	167.7	182.0
	Discretionary Expen.	160.1	164.7	170.0	174.9	179.7
	Total Expen.	292.8	309.9	325.7	342.6	361.7
Administration's Plan(B)	Total Expenditure	292.8	309.6	324.8	337.7	353.0
Difference(A−B)		—	0.3	0.9	4.9	8.7

Table 40 _ Comparison of 2010~2014 Consolidated Fiscal Balance and Managed Fiscal Balance Projections

(unit: trillion won)

Year			2010	2011	2012	2013	2014
Consolidated Fiscal Balance	NABO Projection	Scenario1	3.5	−3.8	−8.6	−10.7	−21.2
		Scenario2	3.5	3.9	7.2	15.1	16.4
	Administration's Plan		−2.0	5.0	18.1	27.4	37.9
Managed Fiscal Balance	NABO Projection	Scenario1	−25.7	−35.0	−41.2	−45.4	−56.3
		Scenario2	−25.7	−27.4	−25.3	−19.5	−18.7
	Administration's Plan		−30.1	−25.3	−14.3	−6.2	2.7

Comparison of Consolidated Fiscal Balance

The difference between administration's and NABO's (scenario 2) projections of consolidated fiscal balance will increase each year, reaching the difference of 21 trillion for 2014. This originates from the administration's total revenue projection being 13 trillion won higher than the NABO's based on the 2014 figures and the administration's total expenditure projection being 8 trillion won lower than NABO's based on the 2014 figures.

Comparison of Managed Fiscal Balance

Managed fiscal balance, when making the comparison between the administration's plan and scenario 2, also shows the difference of approximately 21 trillion won in 2014, a difference comparable to that of consolidated fiscal balance. This originates from the fact that the two organizations have similar projections of social security contribution balance.

Comparison of National Debt

National debt in 2010 is expected to be 397.3 trillion won. National debt in 2014 is expected to be 614 trillion won (41.8% of GDP) when expenditures follow scenario 1 after 2011 and 535 trillion won (36.0% of

Figure 35 _ Projection and Comparison of Managed Fiscal Balance

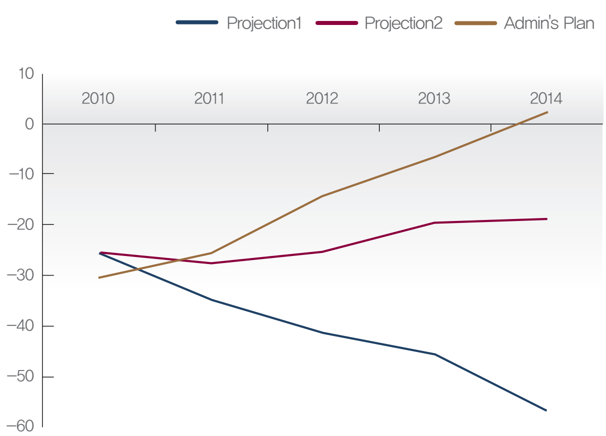
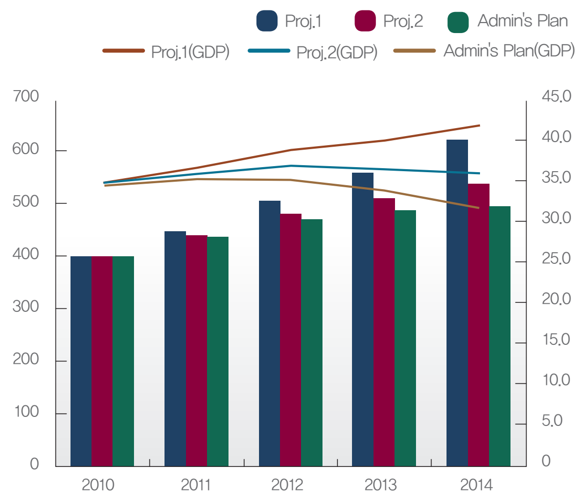


Table 41 _ Projection and Comparison of 2010~2014 National Debt

(unit: trillion, ( ) denotes %)

Year		2010	2011	2012	2013	2014
NABO Projection	Scenario1	397.3 (34.4)	446.8 (36.5)	503.4 (38.6)	558.6 (39.9)	622.3 (41.8)
	Scenario2	397.3 (34.4)	439.2 (35.8)	479.9 (36.8)	509.3 (36.4)	535.4 (36.0)
Admin's Plan		400.4 (34.7)	436.8 (35.2)	468.1 (35.1)	485.7 (33.8)	492.2 (31.8)

Figure 36 _ National Debt Projection



GDP) when expenditures follow scenario 2 after 2011. Although the administration planned the national debt to GDP ratio to reach the peak in 2011 and decrease to under 35% after 2013, NABO's analysis shows that the ratio is expected to stay around 36% until 2014 even under 'scenario 2' which holds constant the real value of discretionary expenditure.

2. Evaluation of the Expenditure Plan

Administration's Expenditure Plan

The administration has the policy to secure budget soundness by maintaining the growth of expenditure to be 2~3%p lower than the growth of revenue between 2011 and 2014. Since such policy does not have a legal ground, it can be broadly interpreted as a fiscal rule, and since the target variable is the expenditure, it can be seen as an expenditure rule.

Evaluation of the Setting of Fiscal Rule

The administration's introdtion and application of such fiscal rule is positive in the sense that it underlines the administration's determination to restore budget soundness and that it is important to secure budget soundness. Budget soundness has quickly deteriorated as the use of supplementary budget to respond to the crisis rapidly increased national debt. Furthermore, according to OECD, the average growth rate of government's general financial liability seems to have been the highest among the OECD members during the recent 2 years of 2009 to 2010. The measures for restoring budge soundness have also become more structured and concrete compared to the previous measures of expanding tax revenue through the modification of tax breaks and preferences or restructuring the expenditures through performance management.

Evaluation of the Target Variable Setting and Plan Period

It is desirable that the administration sets 'expenditure' as the target variable of its fiscal rule and 2010~2014 as the plan period. Empirical researches done by OECD and others suggest that using 'expenditure' as the target variable is superior to using 'fiscal balance' as the target variable and that limiting fiscal rule to a limited period of time to allow for the consideration of fiscal condition in each period is more advantageous in avoiding the 'rigidity of fiscal management'.

Evaluation of Fiscal Management Indicators

Controlling total expenditure growth to be 2~3%p lower than total revenue growth is problematic in the sense that it is pro-cyclical. When the economy enters the recession, total revenue decreases so that total expenditure also decreases under such fiscal rule, intensifying the recession. A pro-cyclical fiscal rule does not seem appropriate, considering that one of the important objectives of public finance is to alleviate the economic fluctuations through active response to recessions.

Evaluation of the Feasibility

The administration's attempt to greatly reduce the growth of total expenditure toward the end of the plan period does not seem very feasible. Although the planned rates of expenditure growth are relatively higher at 5.7% and 4.9% in 2011 and 2012, the growth of total expenditure in 2013 is only 4.0% and that in 2014 is also low at 4.5%. The administration's choice of low expenditure growth rates for 2013 and 2014 can be seen as passing the obligation to lower expenditure to the next administration, whereas the next administration would have insufficient motivation to comply with such plan as the national fiscal management plan and thus the fiscal rule are inherently subject to changes.

3. Recommendation of a Fiscal Rule

Designing a Fiscal Rule

NABO's fiscal rule is to limit the growth of total expenditure to be '2% less than the potential growth of nominal GDP'. The expenditure for the 4 years between 1999 and 2002, when the economy was recovering from the currency crisis of 1998, the growth of total expenditure was internally determined by subtracting 2% from the 'growth of nominal GDP', and such internal rule allowed us to achieve managed fiscal surplus within 4 years in 2002.

When one sets fiscal rule using the 'nominal GDP growth', the rule would be pro-cyclical with budget size decreasing during recession and would thus be problematic in terms of economic stabilization. Therefore, by using 'potential growth of nominal GDP' instead of 'growth of nominal GDP', we can promote budget soundness through a neutral fiscal rule. On the other hand, to avoid the 'rigidity of fiscal management', it is appropriate to use the fiscal rule for a limited period based on an understanding of the fiscal condition of each period.

The Impact of Introducing the Fiscal Rule on Budget Soundness

If the fiscal rule of 'potential nominal GDP growth minus 2%p' is introduced in 2010, total expenditures become 306.2 trillion won in 2011 and 349.8 trillion won in 2014. Structural budget balance, which excludes the changes in revenue and expenditure caused by economic fluctuations, in general shows the negative values according to the administration's projection in its national fiscal management plan and NABO's scenarios 1 and 2. This implies the overall expansionary stance. The Fiscal Impact (FI) indicator in 2011 based on the '2011 Budget Proposal Compared to FY2010 Budget' is -0.49 and thus shows the contractionary stance, but FI based on '2011 Budget Proposal Compared to FY2010 NABO Forecasted Budget' which uses NABO's forecast of tax revenue is 0.02 and thus shows the neutral stance similarly to FI of 0.04 based on NABO's scenario 2.

For 2012, the administration's plan in 'budget proposal compared to budget' has the contractionary FI of -1.02, but the administration's plan in 'budget proposal compared to NABO forecasted budget' is less contractionary at -0.38 similarly to NABO' scenario 2 which shows the FI of -0.34. This implies that the administration's revenue outlook for 2012 is optimistic.

The administration should tighten its budget from the first year of the plan to restore the budget soundness deteriorated by the crisis. Nevertheless, the administration postpones taking the contractionary stance in the budget until 2012, giving negative signals to its determination to restore budget soundness. NABO's fiscal rule ('potential growth of nominal GDP munus 2%) allows the fiscal

Table 42 _ 2010~2014 Fiscal Impact (FI)

(unit : % of GDP)

Year	2010	2011	2012	2013	2014
Admin (budget proposal vs budget)	−1.67	−0.49	−1.02	−0.79	−0.84
Admin (budget proposal vs. projection[1])	−2.05	0.02	−0.38	−0.91	−0.55
Scenario1		0.66	0.29	0.09	0.49
Scenario2		0.04	−0.34	−0.62	−0.29
NABO Fiscal Rule		−0.26	−0.47	−0.80	−0.57

Note: 1) The administration's tax revenue projection is replaced with NABO's projection.
Sources: Government of Korea, 「2010~2014 National Fiscal Management Plan」, NABO

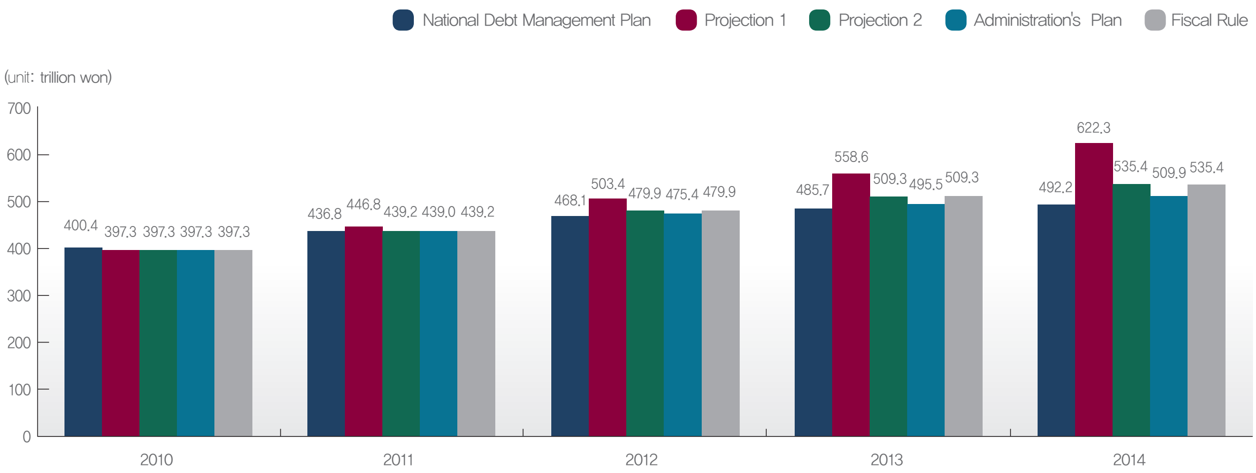
authority to maintain contractionary stance from 2011, in contrast to the administration's plan or to scenario 2.

If the fiscal rule is introduced, consolidated fiscal balance will turn to surplus of 28.4 trillion won in 2014 and managed fiscal balance will turn to surplus of 6.8 trillion won in 2014. This implies the improvement of approximately 12 trillion won from the projections under the case that the fiscal rule is not introduced (scenario 2) and the additional improvement of 3.2 trillion won from the administration's plan, based on the managed fiscal balance in 2014. If the fiscal rule is introduced, national debt would be at 506.7 trillion won (34.0%) in 2014, smaller than that under NABO projection without the fiscal rule or that in the administration's plan.

4. The Need to Find Measures to Manage Mandatory Expenditure

To control total expenditure to be at the appropriate level, it is necessary to separately manage mandatory and discretionary expenditures. If total expenditure complies with the administration's plan or NABO's fiscal rule to grow at the 4% level, discretionary expenditure has to grow at the extremely slow rate of 1% level as mandatory expenditure is projected to grow at 8.2%. Since the expenditure that increases the potential growth rate of GDP, including SOC expenditure or R&D expenditure, is part of discretionary expenditure, it is inappropriate to unconditionally reduce discretionary expenditure and is necessary to give

Figure 37 _ National Debt under Fiscal Rules



Note: The projection denoted 'Administration's Plan' uses NABO's tax revenue forecast for an accurate comparison with NABO's fiscal rule.

Table 43 _ 2010~2014 Structural Fiscal Balance

(unit: trillion won, %)

Year	2010		2011		2012		2013		2014	
Admn (Revenue · Expenditure: Admn's Plan)	−26.4	(−2.3)	−22.0	(−1.8)	−11.3	(−0.9)	−3.5	(−0.2)	6.2	(0.4)
Admin (Revenue:NABO, Expenditure:Admn's Plan)	−22.0	(−1.9)	−23.8	(−1.9)	−21.5	(−1.7)	−11.9	(−0.9)	−6.5	(−0.4)
Scenario1			−31.7	(−2.6)	−38.2	(−2.9)	−42.7	(−3.1)	−52.8	(−3.5)
Scenario2			−24.1	(−2.0)	−22.3	(−1.7)	−16.8	(−1.2)	−15.2	(−1.0)
NABO Fiscal Rule			−20.4	(−1.7)	−17.0	(−1.3)	−9.0	(−0.6)	−3.3	(−0.2)

Note: The numbers in paratheses are percentages of GDP.
Sources: Government of Korea, 「2010~2014 National Fiscal Management Plan」, NABO

further attention to the reduction of mandatory expenditure growth.

According to the national fiscal management plan, the so-called PAYGO principle of reducing the expenditure on the existing projects or making it compulsory to come up with an alternative method of raising the finance is to be introduced in the creation of new mandatory expenditure plans. Such principle, however, lacks the binding power as it is a 'guideline of budget proposal', not a policy based on a legislation. Considering the definition of mandatory expenditure which is the 'expenditure whose obligation arises directly from law', the introduction of new mandatory expenditure is determined in the creation and revision of law, meaning that the PAYGO principle has to be applicable by law from the introducing and reviewing stage of a legislation. In the medium and long term, the PAYGO principle also has to be applicable for a law that eventually leads to the increase in mandatory expenditure, and it requires substantial discussion on whether or not the PAYGO principle should be introduced for a legislative bill by a member of the National Assembly.

5. Evaluation of the Administration's Measures to Restore Budget Soundness

Evaluation of the Measures to Increase the Foundation for Tax Revenue

Korea's tax base has the risk of deterioration as the population structure changes rapidly with the low birth and population aging and as the growth potential slows down, calling for the need to strengthen and concretize the policy efforts to broaden the tax base. To broaden the tax base under its policy of "low tax, broad tax base", the administration suggests the reduction of tax breaks and preferences, strict taxation, and the development of new sources of taxation. Nevertheless, the impact of broadened tax base is insufficient as the annual increase in the tax revenue based on this year's tax reform proposals is expected to be around 1.9 trillion won from 2011 to 2015. For instance, the tax revenue of 0.5 trillion won coming from the reform of 'tax exemption for taxis using LPG fuel' policy has little impact on the restoration of budget soundness as it merely changes from national tax support to fuel price subsidy (direct expenditure) which uses motor fuel tax financed by local tax.

Evaluation of the Measures to Improve Expenditure Productivity

In May 2010, the administration decided to promote the strategy of "10-10(10% restructuring of discretionary expenditure and 10 principles for expenditure efficiency)" for the economy's new take-off after the financial crisis. It is reasonable that the administration examines the efficiency of expenditure in the 10 steps from the planning·demanding stages to the implementation·evaluation stages to improve the expenditure's productivity. Examining the fiscal institutions contained in <Stepwise Strategy> of 2010 proposal allows us to evaluate the plan's potentiality in its implementation. The first is the examination of the need for financial support. Here, each administrative service provider's validity and appropriateness of size can be discussed for the purpose of reexamining the role of central and local governments. Second, it can be examined whether a particular legislation on mandatory expenditure violates the budget decision in the National Assembly based on cost estimates and scorekeeping. Third, it is possible to examine the portfolio based budgeting to strengthen the networking among different programs.

Need for Repairing the Fiscal Statistics

To make fiscal statistics consistent, it is necessary to integrate the fiscal statistics for budget proposal and settlement into one format, as there are two diffirent formats, the format in the statistics for expenditure and revenue is different from the format in the statistics for consolidated expenditure and consolidated revenue (used in the settlement of accounts). The statistics on financial allocation also has 12 areas, it is necessary to match its format to that for settlement (10 for IMF) or to produce the statistics in the two formats. In addition, the general consolidated fiscal statistics that have been produced since 2005 should not only be continued, but also be reproduced up to the 1970s or 1980s.

Since, in compliance with the IMF's 2001 GFS standard, the accrual-based accounting method is used in settlement starting 2011, it is necessary to broaden the scope of fiscal management to the public sector and coincide the scope of current fiscal management with national debt.

V. Financial Allocation by Area

In the 〈2010~2014 National Fiscal Management Plan〉, the expenditure proportion is increased in the areas that have high redistribution effects such as health · welfare and education but decreased in the economic project areas that have high growth effects

1. Trend of Allocation by Area

2011 Budget Proposal

In the 2011 budget proposal, the areas that have higher growth rate than the government's total expenditure are the following 6 areas: reunification · diplomacy (12.1%); R&D (8.8%); general public administration (9.2%); education (7.8%); health·welfare (6.3%); and national defense (5.7%). Although the 2010 budget had the contractionary stance, the 2011 budget proposal has the neutral stance, and the area-specific expenditure to GDP ratios became similar to those before the crisis.

2012~2014 Allocation of Finances

In the fiscal management for 2012~2014, the areas with higher growth rates than the average growth of total expenditure during the period(4.5%) are R&D(8.7%), education(8.1%), reunification·diplomacy(6.7%), health·welfare(5.9%), and general public administration(5.7%), whereas the areas with lower growth rates than the 4.5% growth of total expenditure are SOC(-1.0%), agriculture·forestry·fisheries·food(-0.1%), culture·sports·tourism(1.6%), industry·small and medium enterprises·energy(1.7%), environment(1.8%), public order·safety(2.6%), and national defense(4.4%).

Expenditure on SOC is planned to have the annual growth rates of -7.8% in 2012, 2.2% in 2013, and 2.6% in 2014, decreasing at the overall annual average rate of -1%. Expenditure on industry·small and medium enterprises·energy is planned to have the annual growth rates of 2% in 2012, 3.2% in 2013, and 0% in 2014, increasing at the overall annual average rate of 1.7%.

Health·welfare is planned to have the upward trend, increasing at the annual average growth rate of 5.9% during 2012~2014. In a situation like this when a large amount of finance continues to flow in, administrative ability has the important role of preventing inefficiencies such as the misallocation of finances or double-investment in the same area. Therefore, large efforts are needed to improve the accountability of the administrative structure and the prevention of financial leakages.

The area of education has continues to shown the downward trend from 2008 to the budget of 2010 but shows the large upward trend with the average annual growth rate of 8% during the medium term fiscal plan period (2011~2014). General public administration has been increasing since 2005 and will reach the annual growth rate of 9.2% in 2011 but will have slightly slower paces of growth afterward (7.3% in 2012, 4.2% in 2013, and 5.5% in 2014). R&D has the largest average annual growth rate of 8.7% during 2011~2014. R&D investment needs to be strategic with the detailed performance review as its basis and should focus on gradually increasing the amount of investment instead of unconditionally increasing it.

Table 44 _ Functional Expenditures Plan in National Fiscal Management Plan(NFMP) 2010~2014

(unit: trillion won, %)

	2009 (Revised Suppl. Budget)		2010		2011 (Budget Proposal)		2012		2013		2014	
	Amount	%Increase	Amount	%Increase	Amount	%Increase	Amount	%Increase	Amount	%Increase	Amount	%Increase
SOC	25.4	23.9	25.1	−1.2	24.3	−3.2	22.4	−7.8	22.9	2.2	23.5	2.6
Industry·Small and Medium Enterprises·Energy	20.8	41.5	15.1	−27.4	15.2	0.7	15.5	2.0	16.0	3.2	16.0	0.0
Agriculture·Forestry·Fisheries·Food	17.3	3.0	17.3	0.0	17.7	2.3	18.2	2.8	16.9	−7.1	17.6	4.1
Health·Welfare	80.5	17.0	81.2	0.9	86.3	6.3	92.8	7.5	98.1	5.7	102.4	4.4
Education	39.2	8.6	38.3	−2.3	41.3	7.8	44.9	8.7	48.2	7.3	52.1	8.1
Culture·Sports·Tourism	3.6	9.1	3.9	8.3	4.1	5.1	4.2	2.4	4.2	0.0	4.3	2.4
Environment	5.7	26.7	5.4	−5.3	5.7	5.6	5.7	0.0	5.7	0.0	6.0	5.3
National Defense[1]	29.0	9.0	29.6	2.1	31.3	5.7	32.9	5.1	34.2	4.0	35.6	4.1
Reunification·Diplomacy	3.0	7.1	3.3	10.0	3.7	12.1	3.9	5.4	4.2	7.7	4.5	7.1
Public Order·Safety	12.4	6.0	12.9	4.0	13.6	5.4	14.2	4.4	14.3	0.7	14.7	2.8
General Public Administration	51.7	12.6	48.7	−5.8	53.2	9.2	57.1	7.3	59.5	4.2	62.8	5.5
Others[2]	13.2	18.9	12.0	−9.1	13.2	10.0	13.0	−1.5	13.5	3.8	13.5	0.0
R&D[3]	12.7	14.4	13.7	7.9	14.9	8.8	16.6	11.4	18.1	9.0	19.1	5.5
Total Expenditure	301.8	14.8	292.8	−3.0	309.6	5.6	324.8	4.9	337.7	4.0	353.0	4.5

Notes: 1. 1) Based on the general account.
2) 'Others' includes communications, science and technology, and emergency fund.
3) Total amount of R&D spending across the 16 areas of budget.
2. The %Increase is the rate of increase from the previous year's budget.

2. Area-Specific Examination of the Appropriateness of Fiscal Allocation and the Direction of Fiscal Management

Area-Specific Analysis of the Decision Factors in Fiscal Allocation

To analyze the area-specific decision factors in financial allocation, three-stage least squares (3SLS) is used to examine how the social and economic changes have been reflected in the fiscal expenditure structure. Analysis of the area-specific decisions factors in financial allocation can be thought of as an estimation of a system of several equations, so the 3SLS used in this analysis is a more efficient estimation method in the sense that it utilizes the information from all the equations instead of estimating each equation separately.

The analysis shows that, first, the impact of population aging on the growth of expenditure on social welfare and health is not statistically significant, meaning the population aging is not well reflected in the financial allocation on social development. As the demand for social equality is increasing, the social security expenditure is rapidly increasing, and will continue to show the rapid increase with the aging of the population.

Second, the growth of GDP per capita does not have statistically significant impact on the areas of financial allocation other than the economic project areas. This suggests that the economic growth has not led to the satisfaction of financial demand by the areas other than the economic project areas, as our country has focused on the economic project areas. Furthermore, the added value to GDP ratio is found to have the negative impact on economic project expenditure, and this is consistent with the public finance theory that the government's direct support and investment in the overall industries decline as the industrial structure sophisticates. In summary, the social and economic conditions have been well reflected in the financial allocation to the economic project areas but not in the social development areas.

Review of Social Welfare Areas

Examining the trend of social welfare budget based on consolidated fiscal balance shows that whereas total expenditure had increased 11.4% annually on average from 35.1 trillion won in 1990 to 272.9 trillion won in 2009, social welfare expenditure had increased 16.2% during the same period from 3.3 trillion won to 56.8 trillion won. The proportional size of social welfare expenditure had increased from 9.3% in 1990 to 20.8% in 2009.

NABO forecasted the fiscal expenditure in the areas of social welfare and health based on the budget proposal and the national fiscal management plan (on the total expenditure basis), comparing the forecasts to the <2010 Proposal>. NABO estimated the size of expenditure on social welfare and health separately for mandatory expenditure and discretionary expenditure, and the result is that the expenditure in 2014 will reach 113.1 trillion won under scenario 1 in which discretionary expenditure increases at the average rate in the recent 5 years and 106.3 trillion won under scenario 2 in which discretionary expenditure increases at the same rate as the CPI. Both estimates are larger than the 2014 figure of 102.4 in the national fiscal management plan. The question is whether 2010 Proposal's expenditure in the areas of social welfare and health can be achieved in the future. This is a valid question because there has been a gap between the planned expenditure in the national fiscal management plan and the actual expenditure, meaning the area-specific plans contained in the national fiscal management plan does not serve its role as a fiscal discipline.

Review of Economic Project Areas

The fiscal direction for economic project areas should consider first that the continued fiscal support on the projects with low priorities should be avoided and second that efforts have to be put in to improve the efficiency of fiscal injection. As the financial market is developing at a fast speed, the need for direct fiscal intervention in

Table 45 _ Comparison of NABO's and Admin's[5] Social Welfare & Health Expenditure Projections

(unit: trillion won, %)

Projections		Quantity	2010	2011	2012	2013	2014
NABO Projection	Scenario 1[1]	Amount	81.2	88.9	96.7	103.6	113.1
		% of Total Expenditure[3]	27.7	28.0	28.3	28.1	28.3
		% of GDP[3]	7.0	7.3	7.4	7.4	7.6
	Scenario 2[2]	Amount	81.2	87.5	93.7	98.9	106.3
		% of Total Expenditure[3]	27.7	28.2	28.8	28.9	29.4
		% of GDP[3]	7.0	7.1	7.2	7.1	7.1
National Fiscal Management Plan		Amount	81.2	86.3	92.8	98.1	102.4
		% of Total Expenditure[4]	27.7	27.9	28.6	29.1	29.0
		% of GDP[4]	7.0	7.0	7.0	6.8	6.6

Notes: 1) Uses NABO's projections of total expenditure and nominal GDP
2) Uses the administration's projections of total expenditure and nominal GDP
3) Uses NABO's projections of total expenditure and nominal GDP
4) Uses the administration's projections of total expenditure and nominal GDP
5) Admin's projections come from the National Fiscal Management Plan

various industries is weakening. In the current situation when the size of private financial market is expanding and the interest rate is low, the government's continued fiscal intervention in industries can produce various side effects.

Direct protection and nurturing like in the past can weaken the industrial competitiveness and ultimately the economy's growth potential. More effective could be the indirect measures to strengthen competitiveness such as the expansion of foreign trade, strengthening of fair trade policies, and the promotion of sound financial practices. Fiscal loan, a major tool in economic projects, can damage the autonomous development of the private financial market. Accordingly, the decreasing annual growth in the industrial finance support (-1.3%) planned in <2010~2014 National Fiscal Management Plan> is appropriate.

Second, despite the quantity decrease in the expenditure on the economic projects, it is necessary to find the ways to increase the efficiency of expenditure for the projects with higher growth inducing effects.

In the case of expenditure on SOC, there is an unresolved debate on whether or not the current stock of SOC is sufficient, but more important is the evaluation of whether or not there is an imbalance in financial allocation among the categories of SOC. Through such evaluation, one can reorder the investment priorities and find the ways to improve the efficiency of budget investment, which would lead to higher productivity of SOC. To maximize the expenditure effects, the size of total project expenditure which puts pressure on tax expenditure as well as the project expenditure's impact on fiscal management are examined. As a result, the previously determined expenditure on SOC takes up the majority of total expenditure on SOC (the projects that had their costs determined as of 2009 as of 2009 and require finances until the end), calling for a more comprehensive management of public finance.

3. Evaluation of Changes in the Financial Allocation of National Fiscal Management Plan and the Attainment of Objectives

Evaluation of Changes in the Financial Allocation of National Fiscal Management Plan

Estimating the financial allocation's rate of change between the plans (RMSE in %) gives the following. Comparing the RMSE in <2004 Proposal> ~ <2009 Proposal> and in <2010 Proposal> shows that the areas with the greatest decline in RMSE are health·welfare·labor, diplomacy·reunification, and SOC with the fall of 11.98%p, 10.74%p, and 9.78%p. In particular, health·welfare·labor had very large changes in <2004 Proposal> ~ <2009 Proposal> but had a large decline in the change rate in the <2010 Proposal>. Looking at the overall trend, the average RMSE of the individual plans was 8.40% in <2004 Proposal> ~ <2009 Proposal> but is lower by 3.06%p at 5.34%p for the <2010 Proposal>, meaning the current <2011 Proposal> has a lower rate of change than the previous rates of changes. Although it is desirable for the target RMSE to change based on economic and fiscal conditions, rapid changes in the RMSE without a consistent standard can make the plan itself obsolete. Therefore, changes in the outlook and objective should come after much deliberation.

Examination of the Problems in the Planning and Realizing Financial Allocation

Examining how well the actual expenditure sticks to the area-specific financial allocation plans in the national fiscal management plan, it is concluded that the area-specific expenditures have often been revised and that there has been a persistent difference between the plan and the actual expenditure.

The actual amount has often exceeded the planned amount, and in reverse, the actual amount

◆ Method of Estimating the Rate of Fiscal Allocation Change by Category in National Fiscal Management Plan

The Root Mean Squared Percent Error (RMSE%) is used to measure each fiscal allocation category's yearly difference based on <National Fiscal Management Plan>. Originally, this method is often used to test the stability of an economic model and is given by taking the root of the mean of square errors obtained form estimation like the following:

$$\text{RMSE\%} = \sqrt{\frac{1}{n}\sum_{t=1}^{n}(\hat{X}_t - X)^2} \times 100$$

X_t : particular item's outlook quantity in the previous year's <national fiscal management plan>
X: particular item's outlook quantity in the next year's <national fiscal management plan>
n : number of years used

Table 46 _ Results of Real GDP Decomposition

	Social Development	Economic Projects	Defense	Education	General Administn	Real GDP	Deciles Ratio
1st Year	0.00	0.09	0.00	0.01	0.02	0.88	0.00
2nd Year	0.01	0.10	0.01	0.01	0.02	0.82	0.04
3rd Year	0.01	0.09	0.01	0.01	0.03	0.81	0.04
4th Year	0.01	0.09	0.01	0.01	0.03	0.81	0.04
5th Year	0.01	0.09	0.01	0.01	0.03	0.81	0.04

Table 47 _ Results of Deciles Distribution Ratio Decomposition

	Social Development	Economic Projects	Defense	Education	General Administn	Real GDP	Deciles Ratio
1st Year	0.06	0.02	0.00	0.05	0.02	0.51	0.33
2nd Year	0.09	0.03	0.00	0.05	0.04	0.47	0.31
3rd Year	0.09	0.03	0.00	0.05	0.04	0.47	0.32
4th Year	0.09	0.03	0.00	0.05	0.04	0.47	0.32
5th Year	0.09	0.04	0.00	0.05	0.04	0.47	0.32

Figure 38 _ Results of Real GDP Decomposition

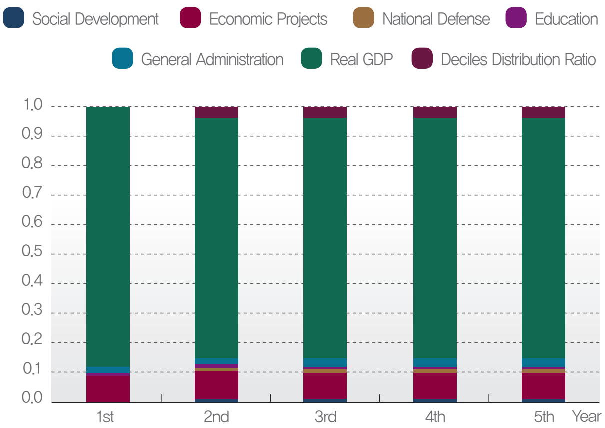
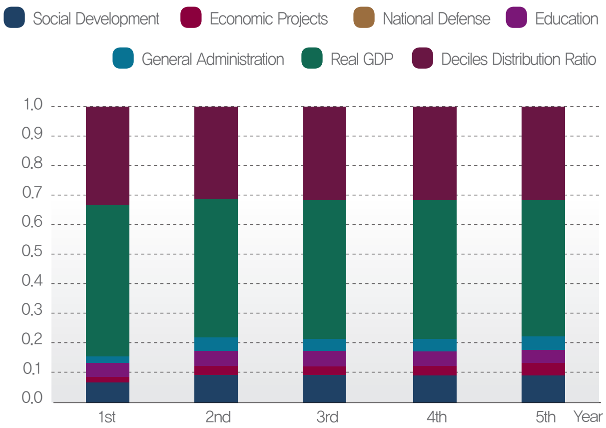


Figure 39 _ Results of Deciles Distribution Ratio Decomposition



has also often come short of the planned amount. There are three categories: first, when actual amount persistently exceeds the planned amount for all years; second, when actual amount exceeds the planned amount in the earlier years but falls short of the planned amount afterward; third, in reverse, when the actual amount falls short of the planned amount in the earlier years but exceeds the planned amount in the latter years. The expenditure items in the first category include R&D, SOC, and agriculture·forestry·fisheries·food. The items in the second category include health·welfare, education, and national defense, and these items saw the difference between actual amount and the planned amount in national fiscal management plan decreasing year after year. The items in the third category include culture·sports·tourism, environment, and diplomacy·reunification, and these are the items whose sizes were underestimated in the planning stage or whose fiscal demand decreased. This result suggests that the area-specific forecast of fiscal demand needs to be more accurate in the planning or in the medium term framework.

4. Area-Specific Analysis of Growth Inducing and Redistribution Effects of Fiscal Allocation

Method of Analysis

Analysis of the economic effects is necessary for efficient allocation of financial resources. The basic roles that governmental fiscal policy plays are stabilization of economic fluctuations, redistribution of income, and efficient allocation of resources. This analysis focuses on the first two tasks of fiscal policy, and the vector autoregression (VAR) model is used to analyze the validity of each fiscal expenditure item.

This model is used to estimate an impulse response function, which in turn is used to analyze the dynamic effects that each expenditure item has on the ratio of income in each decile to per capita GDP, and the distribution of residuals is analyzed to evaluate the relative importance of each fiscal expenditure item.

Outcome of the Analysis

First, expenditure items with the largest impacts on economic growth are economic projects, general administration, social development·national defense·education (these three items have the same level of impact) in the decreasing order of impact. Second, analysis of the impact of each expenditure item on income inequality shows that social development has the largest impact and that education, general administration, economic projects, and national defense have the decreasing order of impact on income inequality.

5. Evaluation of 〈2010~2014 National Fiscal Management Plan〉

The 2010 Proposal shows the expenditure proportion (to total expenditure) increase in the areas with large redistribution effects such as health·welfare and education, but shows the expenditure proportion decrease in the areas with large growth inducing effects such as the economic projects. This can be interpreted as the fiscal authority's logic that R&D expenditure increase can promote the industries of new growth engine to supplement the task of stimulating the economy while decreasing the allocation to economic projects. Nevertheless, it is uncertain how much economic stabilization effect that the increased R&D expenditure can have, as R&D not only is small in proportion, but also is a sub-item (not an independent item) in all expenditure items (16 items) like economic project and welfare instead.

In addition, when the area-specific growth rates of fiscal allocation (the average yearly growth in the pure forecast years of t+2, t+3, t+4, with the issue year t and budget year t+1 excluded) in <2009 Proposal> is compared to those of <2010 Proposal>, expenditures in economic projects (SOC, industry·small and medium enterprises·energy, and agriculture·forestry·fisheries·food) had their average growth rates fall between <2009 Proposal> and <2010 Porposal>, whereas the expenditures in health·welfare and education had their average growth rates stay almost the same. In terms of the medium term fiscal plan's stance, the budget's role as an economic stabilizer has been reduced in the <2010 Proposal>.

◆ Model for Analyzing the Validity of Fiscal Expenditure by Category

A macro economic model used to estimate each expenditure item's impact on economic growth and income inequality can be derived in the following functional form:

$$DCINCOME = F_1(G_1, \dots G_5, DCINCOME_{-1}, u_1) \qquad RGDP = F_2(G_1, \dots G_5, DCINCOME_{-1}, RGDP_{-1}, u_2)$$

DCINCOME : Deciles distribution ratio of income(based on ordinary incoe of household balance)
RGDP : Real GDP $\quad$ $G_1, \dots G_5$: Fiscal Expenditure by Area $\quad$ u_j : Residual

Functions with the structures above can be applied to the VAR model, which has the following basic form:

$$Y(t) = \sum_{s=1}^{n} A_s Y(t-s) + BX(t) + e(t)$$

$Y(t)$: Vector of endogenous variables (Real GDP, Deciles distribution ratio of income)
A_s , B : Matrix of coefficients
$X(t)$: Vector of exogenous variables (Fiscal expenditure by area)
$e(t)$: Vector of error terms

To estimate this, each variable is transformed into the log form and then transformed into the stationary state through the unit root test.

Table 48 _ Comparison of Functional Expenditures Plan in the NFMP 2010 and NFMP 2011

Areas	2009~2013 NFMP 2011~2013 Average Growth	2010~2014 NFMP 2012~2014 Average Growth
SOC	2.5	-1.0
Industry · Small and Medium Enterprises · Energy	5.7	1.7
Agriculture · Forestry · Fisheries · Food	1.1	-0.1
Health · Welfare	6.2	5.9
Education	8.5	8.1
Culture · Sports · Tourism	2.6	1.6
Environment	2.4	1.8
National Defense[1)]	4.4	4.4
Reunification · Diplomacy	0.0	6.7
Public Order · Safety	2.8	2.6
General Public Administration	3.5	5.7
Others[2)]	2.8	0.8
R&D[3)]	10.6	8.7
Total Expenditure	4.7	4.5

Notes: 1. 1) Based on the general account.
2) 'Others' includes communication, science, technology, and emergency.
3) Total amount of R&D spending across the 16 areas of budget.
2. %Change is the rate of increase form the previous year's budget
3. 'NFMP' abbreviates the National FIscal Management Plan

Ⅵ. Evaluation on the Sufficient Application of 〈National Public Finance Act〉 and the Items for Improvement of National Fiscal Management Plan

The report of national fiscal management plan to the standing committee in accordance with the revised national public finance act is conducted as a mere formality and thus requires a progress, and the contents of the documents attached for the first time are unsatisfactory. In addition, more plans to achieve the fiscal management objectives are needed, and compliance to the national fiscal management plan's objectives is requested. Also, medium term tax reform measures should be included in the national fiscal management plan.

1. Evaluation on the Sufficient Application of 〈National Public Finance Act〉

Report of National Fiscal Management Plan to the Standing Committee

In accordance with the <National Public Finance Act> revised in May 2010, the Ministry of Strategy and Finance reported <2010~2014 Direction for Creating National Fiscal Management Plan> to the National Assembly's standing committee on strategy and finance on September 2, 2010. Nevertheless, examining the details suggests that this report procedure does not adequately fulfill the original purpose of the revision.

The original purpose of the revised clause in the law is to overcome the problem that the national fiscal management plan is unable to serve its role to promote more strategic allocation of resources with the medium term perspective, because national fiscal management plan is submitted at the same time as the budget proposal. Nevertheless, the report to the committee on strategy and finance insufficiently serves the original purpose of the <National Public Finance Act> revision, as the report does not provide the details of the economic outlook or fiscal totals (total revenue, total expenditure, consolidated fiscal balance, managed fiscal balance), merely providing the aggregate numbers, and does not provide the item-specific allocation of finances.

Evaluation on the Appropriateness of Attached Documents

Evaluation of national debt management plan, government guaranteed debt management plan (documents related to public finance), and medium and long term fund financial management plan, which are the documents attached to the national fiscal management plan, as well as of other submitted documents gives the following conclusion about the documents' problems and ways of improvement. Evaluation of the national debt management plan gives the following. First, although 'maintaining the sustainability of public finance' is one of the objectives of national debt management, the explanation of the concept of sustainability or the measures to maintain the sustainability are missing. Second, it is suggested that management plan at the level of national debt becomes 'total amount management plan', that the 'tax base be expanded', that 'productivity of expenditure be increased', and that 'fiscal regulation be strengthened and management structure be improved'. The total amount management plan is one of the measures to improve budget soundness and is to be included in the 'deficit covering debt management plan', accordingly requiring a correction. Next, the problem with national guaranteed debt management plan is that the forecast of the size of guaranteed debt has insufficient basis. Last, evaluation of the medium and long term fund financial management plan gives the following. First, the administration should consider setting the comprehensive medium and long term fund financial management plan which covers the submitted medium and long term fund financial management plan for 11 funds. Second, it is necessary to include the long term fund financial management plan based on the results of recalculation to promote sustainability of the 4 public pensions including national pension in the long run. Third, the sheet recording floating liability should show the accounting principle in regards to treating annuity fund as pension unfunded liability. Fourth, it is important to substantiate the information in fiscal balance sheet and the asset-liability sheet, which would help improve the medium term fund financial management plan.

2. Comprehensive Examination of the National Fiscal Management Plan and the Issues Related to Inclusion of Tax Reform Proposals

Lack of Concreteness in Fiscal Management Objectives

The administration in its national fiscal management plan sets the following fiscal management objectives: first, sustainable growth through forward-looking investment and stabilizing the lives of the working class; second, recovery of budget soundness. Nevertheless, its item-specific fiscal investment directions lack the measures to attain the two objectives. Item-specific fiscal investment directions only provide the factors increasing the expenditure amount, including 'securing the basis for sustainable growth', 'job creation and stabilization of the lives of working class', and 'strengthening the global competitiveness', but provides insufficient details on how to control the expenditure to restore budget soundness.

When examining the trend of financial allocation in the national fiscal management plan, SOC and ag riculture·forestry·fisheries·food have the negative average annual growth rates of -1.0% and -0.1% during the plan period of 2011~2014, but 'fiscal direction by area and fiscal investment plan' only contains the plans to expand investment, lacking the concrete explanations on whether there are problems with the projects with decreased expenditure due to smaller budget or whether there are means to supplement the smaller budget.

Problem of Realizing the Plan

Historically, the national fiscal management plan has had the tendency to overestimate total revenue through optimistic outlook on the economy and to plan total expenditure to be lower than the actual outcome of the expenditure, resulting in a larger gap between the projected and realized fiscal balances. In case of managed fiscal balance, the realized balance was always worse than the projected balance. National debt also has been optimistically underestimated except in two cases.

In <2010~2014 National Fiscal Management Plan>, the administration had overall higher forecasts of economic growth than the National Assembly Budget Office (NABO). The relatively higher outlook on the economy leads to the higher projection of tax revenue in the total revenue forecast than NABO. On the other hand, the administration's forecast of total expenditure is lower than NABO's estimate. This leads to the administration's projections of fiscal balance and national debt being much more optimistic than NABO's. Nevertheless, the important issue is whether such medium term fiscal plan by the administration can be achieved in reality. Since the medium term national fiscal management plan in the past has always shown a gap between the projected and realized figures, it is necessary to reconsider the potential to achieve the fiscal objective of ‘restoring budget soundness’.

The Need to Include Medium and Long Term Tax Reform Proposals in the National Fiscal Management Plan

The tax reform proposals, which guide the direction of the administration's important tax policies, should be established and implemented in the medium and long term policy perspectives with the medium and long term fiscal management condition in consideration. The tax reform proposals, announced by the administration each year, respond too sensitively to the short term demands for tax policies and lack the consideration of the medium term direction of tax reforms or the connection to the medium and long term national fiscal management plan. Furthermore, tax reforms in the short-term can lower the predictive power by the economic agents and damage the credibility of the tax system. Therefore, the national fiscal management plan should include the direction of medium and long term tax reform as well as the plan of actions for each year, thereby providing a guideline for checking and evaluating the creation and implementation of tax reform proposals in the corresponding years.

2010~2014 Economic Outlook and Fiscal Analysis

Publish Date	January 2011
Editing	Economic Policy Analysis Team, Economic Analysis Division
Publisher	Shin, Hae-Ryong
	National Assembly Budget Office, 1 Uisadang-ro Yeondeongpo-gu Seoul
	TEL 02·2070·3114
Design	May Communication, Co. Ltd. (TEL 02·761·8340)

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ISBN 978-89-6073-424-1 93350