Generational Accounts for Korea: An Update

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Where we are?

- 3 Country teams already have results or experience in computing GA
  - Slovenia, Spain, UK
- 8 Country teams will present the results in Belo Horizonte conference
  - Finland, Hungary, India, Indonesia, Japan, Korea, Mexico, U.S.
- 3 country teams working on GA computing
  - Columbia, Peru
- 9 other Latin American countries have age-profiles ready

- New contributors:
  - Austria, Canada, Vietnam, Nigeria, Kenya,

- Schedule
  - Until May 2012, country reports, special issue chapters
  - Until August 2012, international comparison

Structure of Public Finance in Korea

- Korean Public Finance consists of:
  - Social welfare system
  - Government consumption
  - Tax system

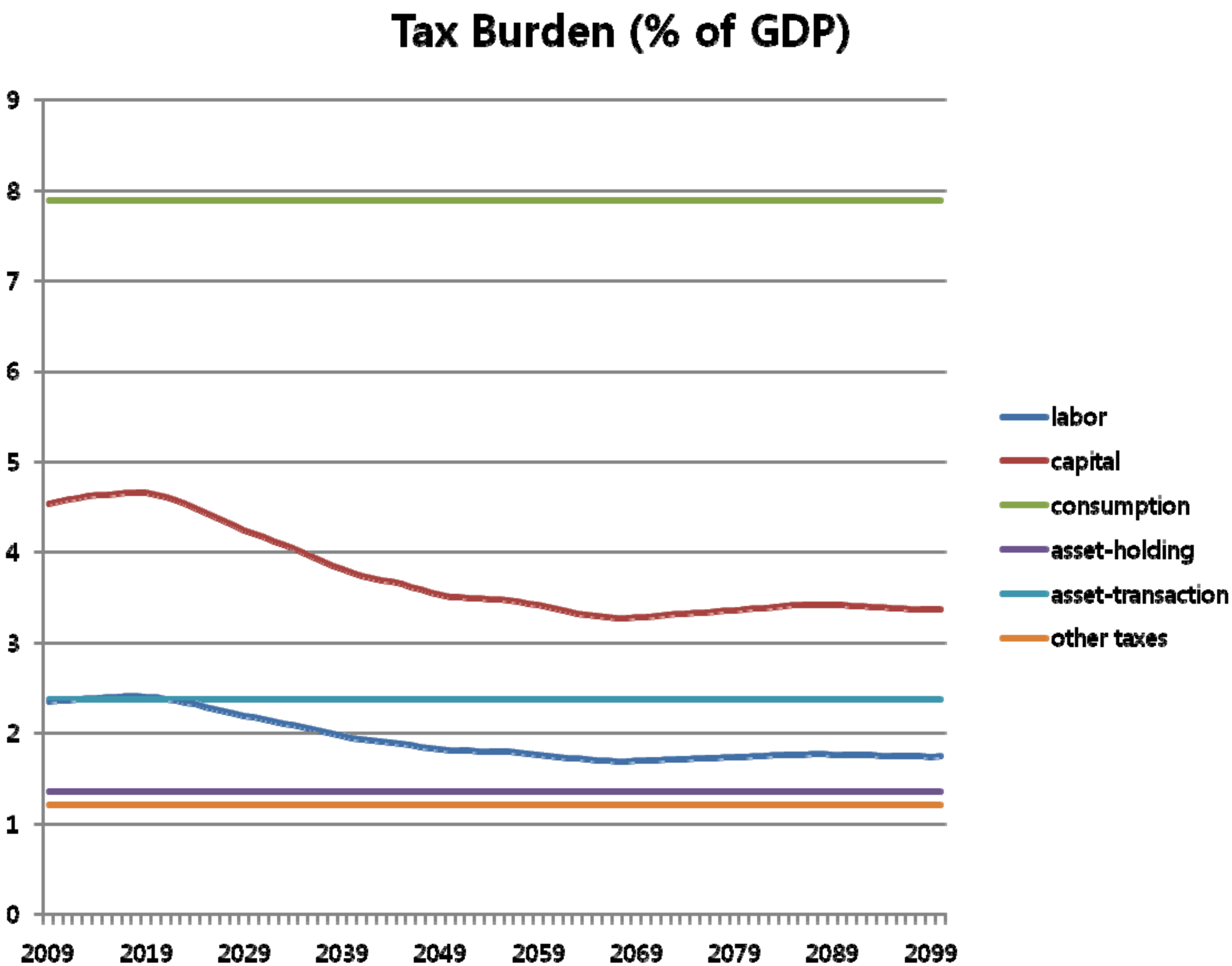
- Social welfare system
  - Public pensions
    - National Pension (NPS)
    - Pension for Civil Servants (PCS)
    - Pension for Private School Employee (PPS)
    - Pension for Military Personnel (PMP)
  - Medical Insurance (MI)
  - Long-term Care Insurance (LCI, introduced in 2008)
  - Basic Pension (BP, Introduced in 2008)
  - Employment Insurance (EI)
  - Industrial Accident Compensation Insurance (IACI)
  - Social Welfare Services and Public Assistance
    - Minimum Living Standards Security (MLSS)
    - Other Social Transfer Programs (OSTP)

- Tax System:
  - Labor Income Taxes
  - Capital Income Taxes
  - Consumption Taxes
  - Tax on Asset-Holdings
  - Tax on Asset-Transactions
  - Other Taxes
- Government Consumption

  (Classified by function)
  - General Public Service, Defense, Public Order and Safety, Economic Development, Environment, Housing and Community Amenities, Health, Recreational-Cultural-Religious Activities, Education, Social Protection

Government Cash Flow and Financial Capital

- Tax and non-tax revenue is about 32-33% of GDP.
  - During the period 2000-2008, Tax revenue increased from 18.8% to 20.7% of GDP.
    - Large proportion of consumption tax and capital income tax revenue
    - Small proportion of labor income tax
    - Larger proportion of taxes on asset transaction than taxes on asset-holding


Tax Burden (% of GDP)
9
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6
5
4
3
2
1
0
2009
2019
2029
2039
2049
2059
2069
2079
2089
2099
labor
capital
consumption
asset-holding
asset-transaction
other taxes

- Social Insurance Contribution increased from 3.8% to 5.8% of GDP.
- Other revenue consists of:
  - Current transfers, Capital transfers from domestic non-governmental sectors and from abroad

- Government expenditure is about 30.4% (33.1%) of GDP in 2008 (2009).
  - During the period 2000-2008, it creased from 22.4% to 30.4%
  - Among the components of the expenditure, the health and the social protection show the largest increase
    - Extension of the coverage of the public MI
    - Introduction of LCI, BP
  - Large increase in Health
    - Extension of coverage of the treatment
    - Increase in proportion of MI benefits in treatment fee

- The fiscal balance had been the surplus for the period 2000-2008.
  - 3.0% of GDP (2008)
- Net financial is positive.
  - 37.9% of GDP (2008)

Table 2. Summary of Korean Public Finance (Unit: % of GDP)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Government Cash Flow and Financial Wealth										
Total Revenue	27.9	28.3	28.7	29.4	28.8	30.0	31.7	33.3	33.4	31.9
Total Expenditure	22.4	23.9	23.6	28.9	26.1	26.6	27.7	28.7	30.4	33.1
Balance	5.8	4.8	5.7	1.0	3.1	3.4	4.1	4.6	3.0	-1.1
Balance excluding net property income	4.4	3.8	4.7	0.1	2.0	2.3	2.7	3.0	1.5	-2.0
Balance excluding net property income and NPS primary balance	3.2	2.4	3.2	-1.4	0.7	1.0	1.5	1.8	0.5	-2.8
Net financial wealth	-	-	32.3	30.9	31.4	35.6	37.0	40.4	37.9	38.4
Net financial wealth excluding NPS fund	-	-	17.1	13.7	12.6	14.5	13.5	14.9	10.5	9.0

Government Expenditure by Function (Unit: % of GDP)										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
General Public Service	4.7	4.9	4.7	5.5	4.8	5.0	4.9	5.3	5.6	5.5
Defense	0.5	0.6	0.6	0.9	0.8	0.8	0.7	0.8	0.9	1.0
Public Order and Safety	1.0	0.9	0.9	1.2	1.1	1.1	1.1	1.1	1.2	1.3
Economic Development	1.3	2.2	2.0	2.4	2.1	2.1	2.7	2.4	2.4	2.8
Environment	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Housing and Community Amenities	0.4	0.4	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Health	2.9	3.1	3.2	3.8	3.7	3.8	4.0	4.1	4.4	4.8
Recreational, Cultural, Religious Activities	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Education	2.3	2.3	2.3	2.9	2.5	2.6	2.6	2.8	2.8	3.0
Social protection	8.5	8.7	8.8	10.8	9.8	10.0	10.3	10.9	11.7	13.0

Source: OECD Economic Indicator, May 2011.
National Pension Statistical Yearbook, 2010
OECD Revenue Statistics, 2010

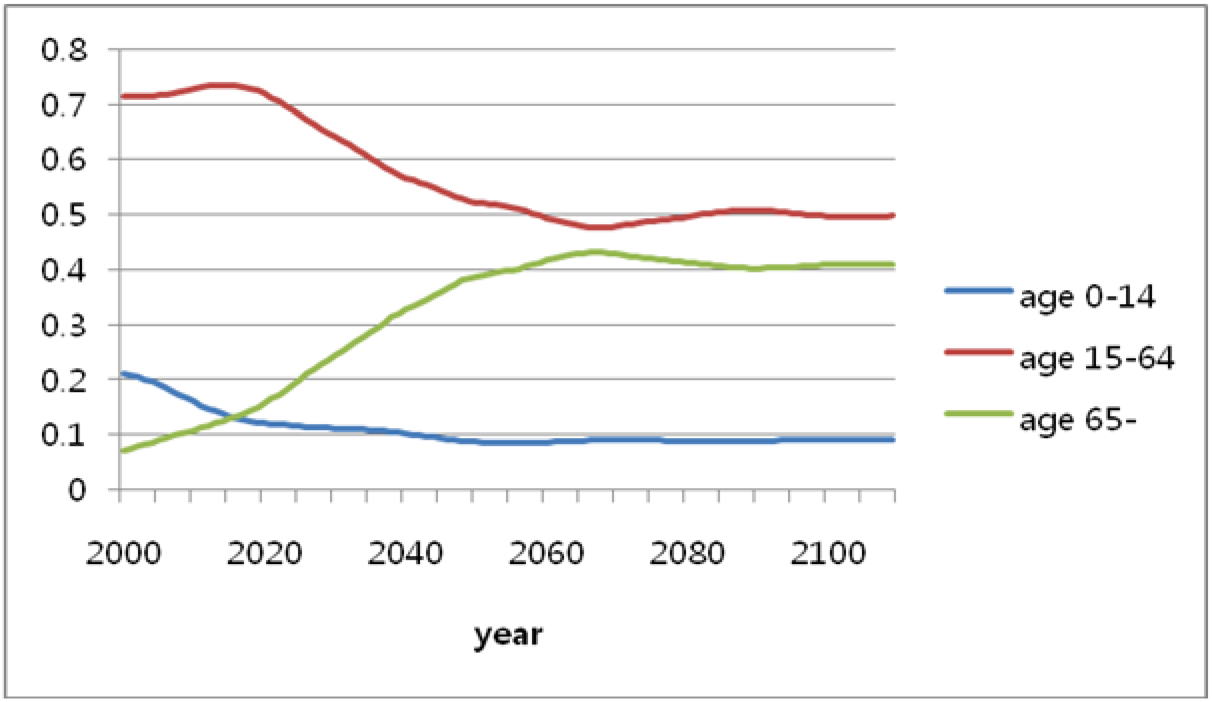
Special Features

- The current fiscal policies in Korea are not sustainable, because:
  - The fiscal surplus now is due to the positive net property income and the primary surplus of the NPS.
    - Excluding the net property income reduces the fiscal surplus from 3% to 1.5% (2008).
    - Further excluding the primary surplus of the NPS reduces the fiscal surplus to 0.5% (2008).

- The large net financial asset is due to the large NPS fund.
  - Excluding NPS fund reduces the net financial asset from 38.4% (2009) to 9.0%.
  - New concept of the public finance in Korea ('**Management-target budget**'):
    - Defined as the 'consolidated budget' excluding the 'NPS budget'.
- Increase in the proportion of the entitlement programs to the elderly.
  - Fast population aging will increase the expenditure of entitlement programs (see Figure 3).

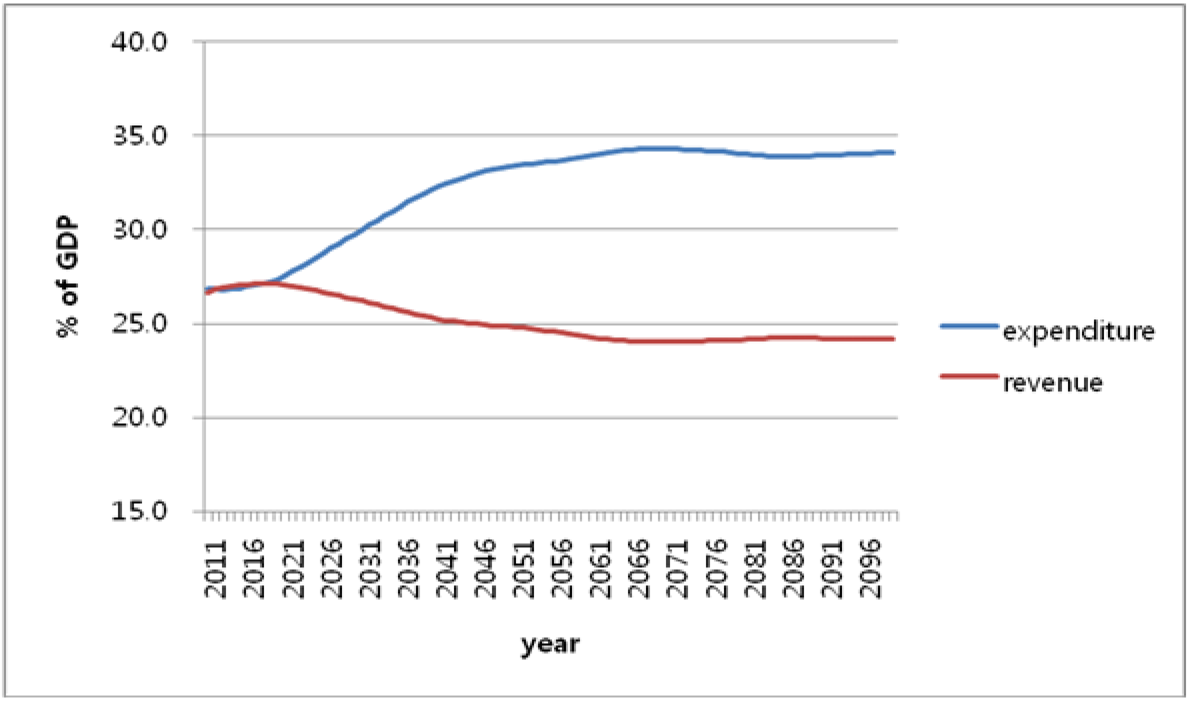
- Long-term fiscal imbalance
  - The revenue will increase from 26.6% to 27.1% (2020) then will decline to 24.2%.
    - Due to the decrease in the labor force.
    - The revenue includes only ‘tax’ and ‘social contribution revenue’.
  - The expenditure will increase from 26.8% to 34.5%.
    - Due to the increase in benefit payment of the public pensions, the MI, the BP, the LCI.
    - The expenditure includes only ‘government consumption’ and ‘government transfers’, ‘**net** current and capital’ transfer from the non-governmental sectors and from abroad.

Figure 1. Change in Demographic Structure



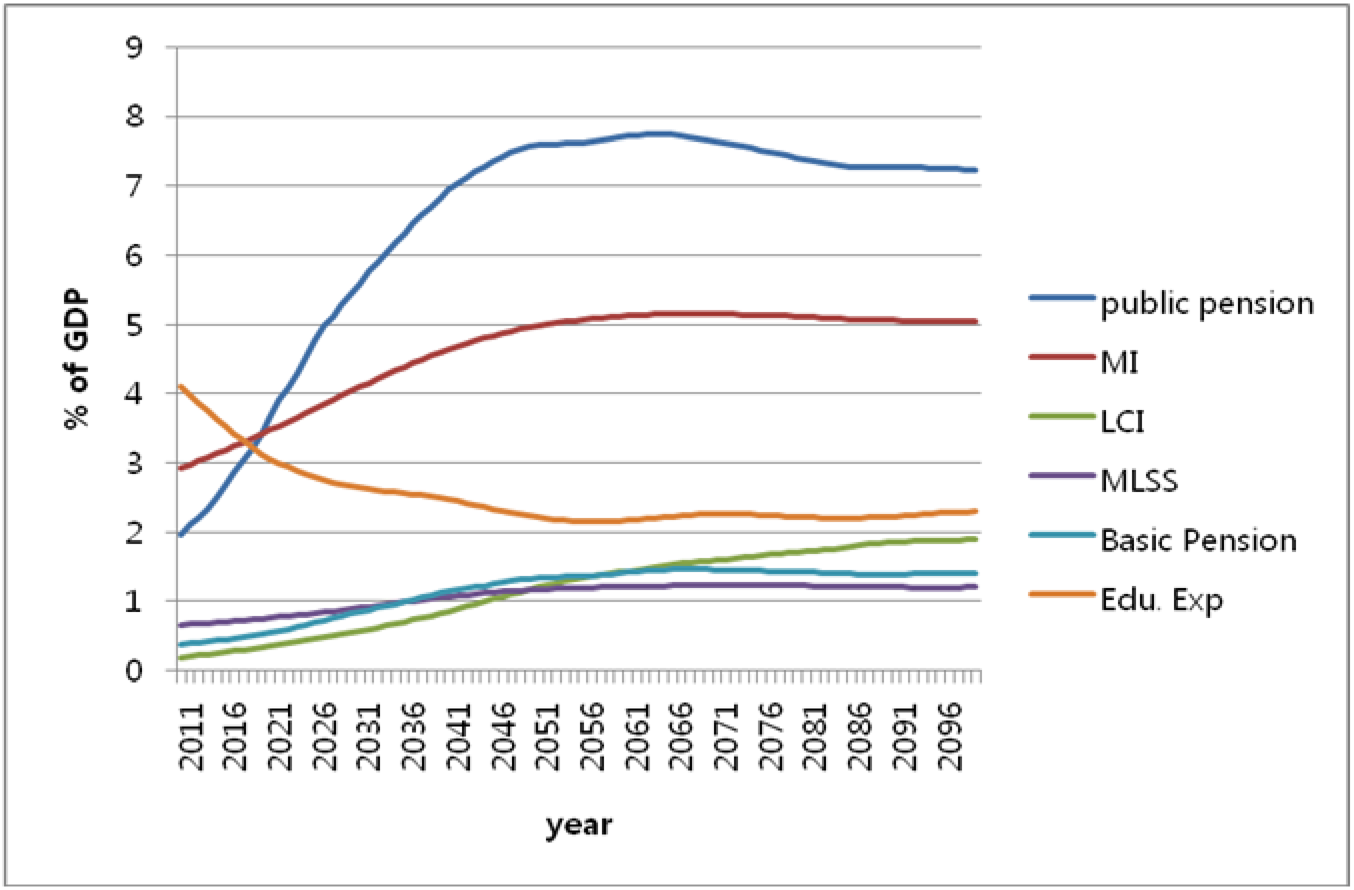
Source: Author's calculation using NSO's population projection assumption

Figure 2. total government revenue and expenditure.

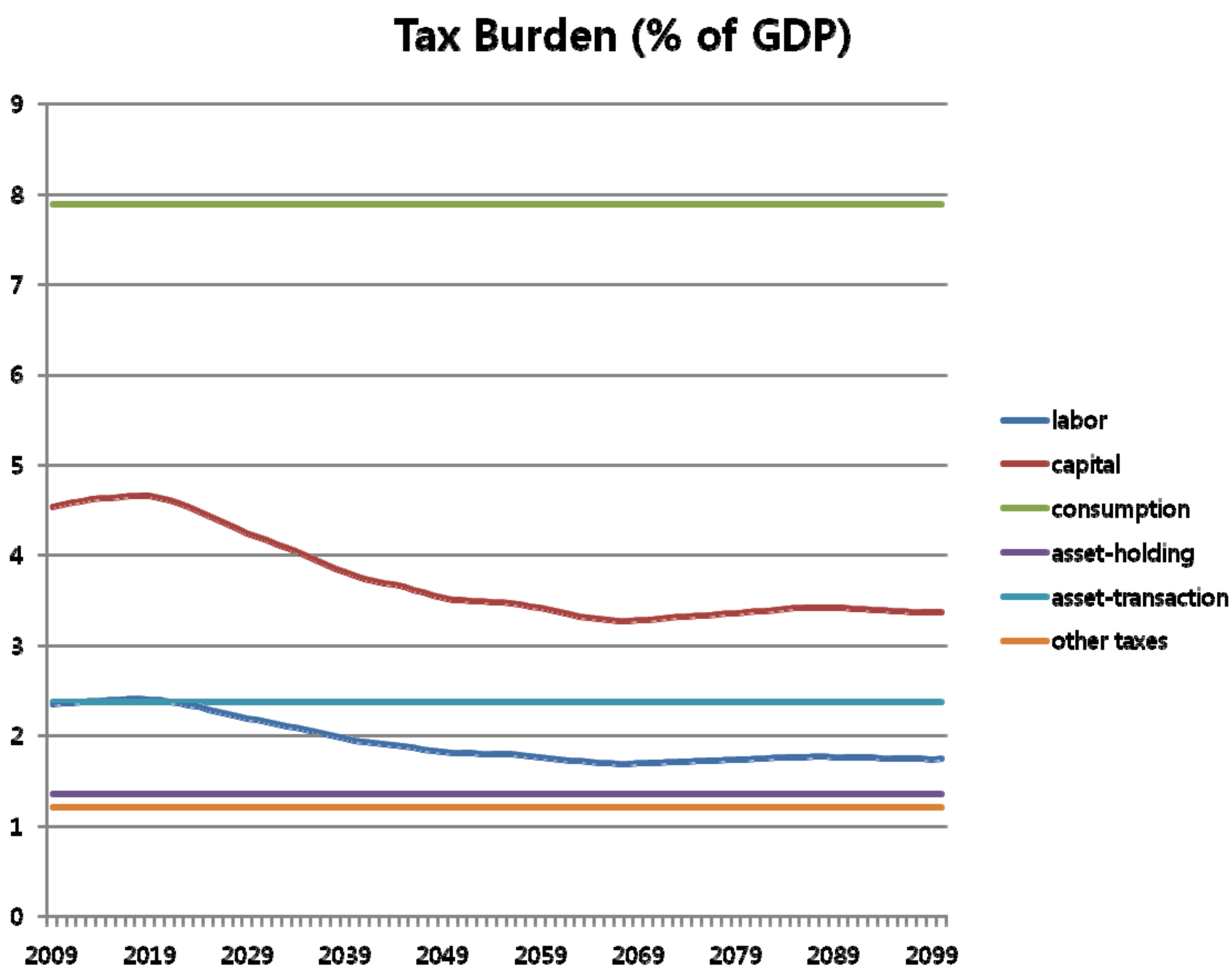


Source: Author's calculation

Figure 3. Projection of Major components of Expenditure



Source: Author's calculation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Fiscal sustainability in GA

- The budget balance and the net financial debt are not adequate to evaluate the sustainability of the public finance in Korea.
  - They reflect the government cash flow of the present and the past.
- GA provides useful indices, because:
  - It reflects the government cash flows of the future.

- Generational Imbalance is 189% in benchmark economy.
- Required tax adjustment
  - ➢23.9% of the tax revenue under current tax policies if adjusted in 2020.
  - ➢31.4% (42.7%) if adjusted in 2040.
- Accounts for current generations
  - – Net payment:
    - Positive value for the aged 0-50.
    - Negative value for the aged more than 50.

- Public Pensions
  - Still not sustainable despite the NPS Act revision, which reduces the replacement ratio from 60% to 40% because:
    - Low level of NPS contribution rate 9%
    - Fiscal imbalance of the PCS, the PPS, the PMP.
- Medical Insurance (MI)
  - The Fiscal imbalance is more serious in MI than in public pensions.
  - The large gap between the benefit expenditure and the contribution revenue.
  - The gap is filled with the subsidy from central government.
- Long-term Care Insurance (LCI)
  - Contribution revenue is 50% of the expenditure.
  - The deficit is filled with the subsidy from central government

- Minimum Living Standard Security (MLSS)
  - The value of the benefit is large, despite its narrow coverage, because of the high level of benefit of the benefit recipients.
- Basic Pension (BP)
  - The value of the benefit is large, because its wide coverage, 70% of the population aged 65 and older.
- Taxes
  - Large share of consumption tax
  - Relative unimportance of the labor income tax
  - Large proportion of taxes on asset transactions

Table 4. Generational Accounts (unit: 1,000 Korean won)

age	Net payment	Public pension	MI	Long-term care	MLSS	Basic Pension	Edu. Exp.	Labor income tax	Capital income tax	Consump. tax	Taxes on asset-holding	Taxes on asset-trans.
0	127,666	6,465	-4,188	-2,888	-5,142	-3,347	-55,324	15,049	22,482	64,649	7,980	18,183
5	138,498	6,953	-1,905	-3,282	-5,535	-3,741	-61,953	16,792	25,714	66,079	8,878	19,703
10	149,497	7,108	-508	-3,041	-5,777	-4,267	-47,486	18,779	29,562	67,116	9,877	21,353
15	161,823	7,322	179	-3,332	-5,945	-4,638	-26,583	21,061	34,243	68,699	11,067	23,326
20	171,785	6,470	-54	-3,652	-5,938	-5,126	-5,570	23,035	39,060	69,978	12,274	25,287
25	158,139	143	-3,427	-4,055	-6,300	-6,121	-157	22,958	39,643	67,938	12,656	23,935
30	136,495	-5,480	-7,638	-4,489	-6,774	-5,906	-81	21,305	38,117	63,093	12,653	21,449
35	105,988	-15,415	-11,586	-5,015	-7,242	-6,925	-76	19,992	35,664	57,288	12,147	18,180
40	71,994	-27,296	-16,299	-5,540	-7,613	-7,172	-71	16,355	33,757	51,240	11,229	15,849
45	24,688	-53,817	-20,355	-6,134	-7,750	-8,464	-66	13,068	32,001	45,318	10,724	13,573
50	5,983	-48,567	-24,467	-6,786	-7,752	-8,367	-60	8,273	27,274	39,694	9,266	12,078
55	-20,428	-50,813	-27,222	-7,416	-7,599	-9,084	-53	4,039	23,505	33,518	7,505	8,960
60	-32,160	-37,836	-28,187	-8,226	-7,557	-10,792	-46	1,225	17,903	27,711	5,818	4,821
65	-41,451	-28,226	-27,373	-8,783	-7,493	-13,001	-39	115	13,820	22,231	4,381	825
70	-27,893	-9,537	-23,781	-9,450	-7,049	-9,811	-32	0	10,143	17,308	3,184	46
75	-26,484	-5,298	-20,530	-9,675	-6,354	-7,515	-25	0	6,252	13,993	1,957	0
80	-25,579	-2,961	-16,354	-9,436	-5,356	-5,663	-20	0	3,096	9,533	1,178	0
85	-23,190	-1,646	-12,044	-8,590	-4,154	-4,282	-15	0	1,306	5,570	533	0
90	-21,988	-687	-8,256	-6,964	-2,935	-3,360	-10	0	180	169	47	0
95	-16,977	-430	-6,268	-5,630	-2,339	-2,372	-8	0	63	131	8	0
99	-4,676	-82	-1,904	-1,215	-730	-761	-2	0	15	40	2	0
Future	368,875	45,743	49,637	21,322								

Table 5. Generational Imbalance (GI) and Required Tax Change[1)] (unit: %)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
GI	189	231	161	166	177	155	236
Current[2)]	23.2	26.1	20.8	21.3	21.9	24.7	22.0
Future[3)]	90.8	102.2	80.3	82.8	84.3	74.8	112.8
2010[4)]	23.9	26.7	21.4	22.0	22.5	23.6	24.2
2020[4)]	31.4	34.7	28.2	29.0	29.5	30.3	32.5
2030[4)]	42.7	46.9	38.5	39.7	40.1	40.0	45.5

Note: 1) Percentage increase in tax burden to attain long-run budgetary balance
2) Tax burden of current generations is adjusted, while that of future generations not changed.
3) Tax burden of future generations is adjusted, while that of current generations not changed.
4) Adjust tax burden is adjusted for all age groups from the respective year.

Policy scenarios: [1] Base case, Fiscal Policy as of 2008
[2] Not incorporating the 2007 National Pension Act revision
[3] Not incorporating the introduction of Basic Pension
[4] Not incorporating the introduction of Long-Term Care Insurance
[5] [2]+[3]+[4]
[6] High fertility rate assumption
[7] Low fertility rate assumption

Policy Experiments

- Policy changes since 2007.
  - NPS Act revision
    - Lowered the replacement from 60% to 40%
  - Introduction of the BP
  - Introduction of the LCI
- Change in fertility rate
  - Low fertility rate assumption
    - Total fertility rate falls to 0.97 in 2040.
  - High fertility rate assumption
    - Total fertility rate rises to 1.58 in 2040.

- Disregarding the NPS Act revision ([1]→[2])
  - Raises the Generational Imbalance from 189% to 231%
  - Raise the required tax adjustment from 23.9% to 26.7%, if adjusted in 2020.
- Disregarding the BP ([1]→[3])
  - lowers the Generational Imbalance to 161%
  - Raise the required tax adjustment to 21.4%.
- Disregarding the LCI ([1]→[4])
  - lowers the Generational Imbalance to 166%
  - Raise the required tax adjustment to 22.0%.

- Disregarding all the policy revision since 2007 ([1]→[5])
  - Deteriorates the fiscal sustainability
  - lowers the Generational Imbalance to 177%
  - Raise the required tax adjustment to 22.5%.
- High fertility assumption
  - lowers the Generational Imbalance to 155%
  - lowers the required tax adjustment to 23.6%.
- Low fertility assumption
  - Raises the Generational Imbalance to 236%
  - Raises the required tax adjustment to 22.2%.

Summary

- The current cash flow and the financial asset data of the Korea government may cause the fiscal illusion that government budget is financially sound.
- It is necessary to take into account the future cash flow of the government finance and GA is a useful to evaluate the fiscal sustainability of Korean government.
  - Increase in the entitlement programs, especially for the elderly
  - Population aging