

Public Finance Analysis on South Korea 2013-2023

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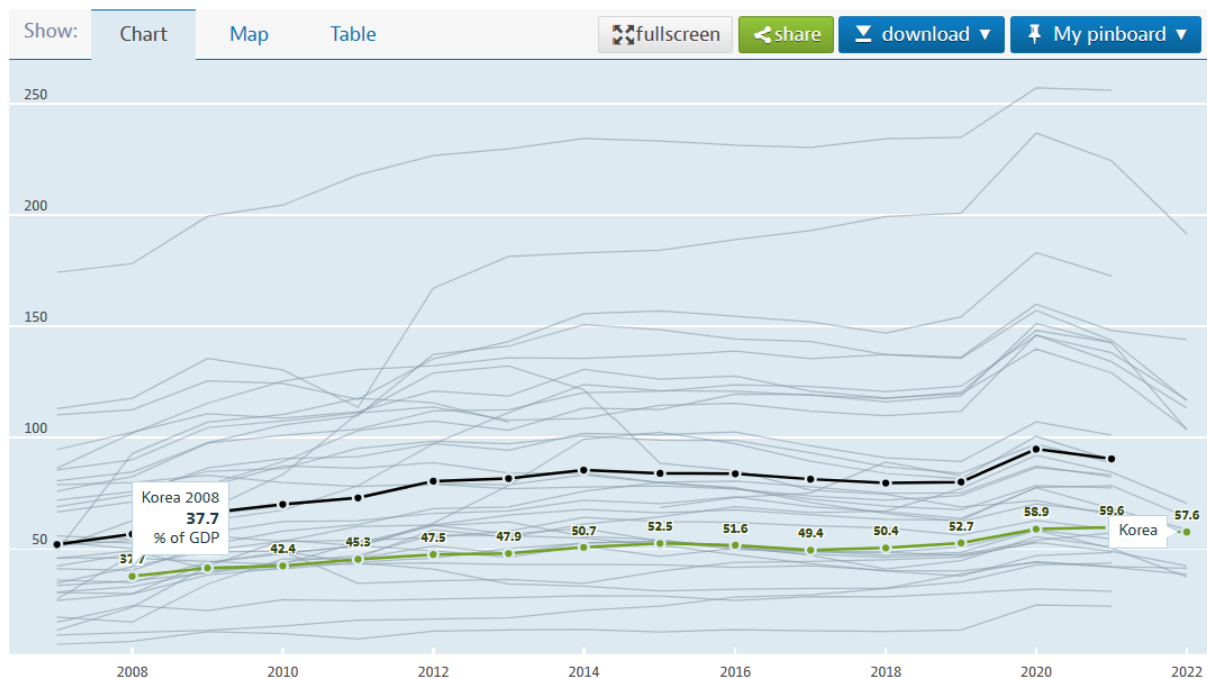
Abstract

This paper analyze South Korea's public finance data from 2013 to 2023 and it's projections, aiming to estimate South Korea's fiscal (public debt) sustainability. Concerns on South Korea's government revenue sustainability and expenditure demands are also discussed.

Overview

General government debt Total, % of GDP, 2007 – 2022

Source: National Accounts at a Glance



At a quick glance overview, South Korea's fiscal status appears to be good. It includes gradually from 2008's 37.7% to 2022's 57.6% [1], a Compound Annual Growth Rate (CAGR) of 5.36%, it appears to be relatively stable and much lower than many OCED countries.

But, if we looks more closely into its fiscal data, there may be some deeper concerns.

Fiscal Analysis

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	CGAR
GDP growth %	3.16	3.20	2.81	2.95	3.16	2.91	2.24	-0.71	4.15	2.60	1.60	2.40		
Natioanl Debt(trillion won)	464	533.2	591.5	626.9	660.7				970.7	1,067.70	1,134.80	1,201.20	1,271.90	
Natioanl Debt(% to GDP)	32.5	35.9	37.8	38.3	38.6				46.90	49.6	49.8	50.6	51.4	
Central government		503	556.5	591.9	627.4	651.8	699	819.2	939.1	1033.4				
Net debt of local government		30.1	34.9	35	33.4				31.5	34.2				
External Debt (US \$billion)	423.5	424.3	396.1	380.9	412	441.2	470.7	550.6	632.4	664.5				7.67%
Short Term	111.8	116.4	104.3	105.2	116	125.6	135.5	160.1	164.7	166.7				6.93%
Long Term	311.7	307.9	291.7	275.8	296.1	315.6	335.3	390.6	467.7	497.8				7.93%
National assets	1,666.30	1,759.30	1,856.20	1,966.80	2,063.20	2,123.70	2,299.4	2,490.20	2,866.1	2,836.3				6.09%
National liabilities	1,117.90	1,212.70	1,293.20	1,433.10	1,555.80	1,682.70	1,743.7	1,985.30	2,195.3	2,326.2				8.48%
Government bonds, housing fund liabilities	521.60	567.6	624.9	680.5	710	742.8								7.33%
Pension fund liabilities	596.3	643.6	659.9	752.6	845.8	939.9								9.53%
General and special accounts														
Total revenues	292.9	298.7	328.1	345	359.5	385	402	465.5	524.2	573.9				7.76%
General Account		239.2		281.7	292.9	316.2	332.2	392.4	438.4	493.9				9.49%
Tax revenue		199.3			258.5	285.9	286	276.3						5.60%
Non-Tax revenue		39.9			34.4	30.3	46.2	116.1						19.48%
Special Account		59.5		63.3	66.6	68.8	69.8	73.1	85.8	80.1				3.79%
Tax revenue		6.2			6.9	7.7	7.4	9.3						6.99%
Non-Tax revenue		53.3			59.7	61.1	62.3	63.9						3.07%
Total expenditures	286.4	291.5	319.4	342.9	342.9	364.5	397.3	453.8	496.9	559.7				7.73%
General Account		236.4			280.5	299.9	330.9	385.2	417.7	485				6.29%
Special Account		55.2			62.4	64.6	66.4	68.6	79.1	74.7				2.75%
Fiscal Account														
Total revenues	351.9	356.4	371.8	401.8	430.6		473.1	478.8	570.5	617.8	625.9	655.7	685.6	6.45%
Total expenditures	337.7	347.9	372	384.9	406.6		485.1	549.9	600.9	682.4				8.13%
Interest Rate %	2.5	2.25	1.75	1.25	1.25	1.5	1.5	0.75	0.5	3	3.5	3.5		

Above data chart are compiled from annual Financial Statement and Government Revenues and Expenditures reported by Fiscal Management Bureau [2] from Ministry of Economy and Finance of South Korea.

Ministry of Economy and Finance doesn't not provide Government Revenues and Expenditures statement before and including 2013, this may still appears to be fine as it may be too early, and South Korea didn't have the system to report such data yet. But the data for 2015 and 2016 are partially missing as well, the Financial Statement are simply in different format and Government Revenues and Expenditures for 2016 are not provided. My guess this is could be due to impeachment of formal President Park Geun-hye [3] .

Break down of National liabilities data is also provided until 2018. Tax and Non-Tax revenue in General and Special Account are also provided until 2020. In fact, the revenue for 2021 and 2022 is also labeled as "Tax Revenue":

Key statistics about settlement result in the 2022 fiscal yearTotal tax revenue and expenditure*(trillion won)*

		2 nd Supplementary Budget	Total Tax Revenue (A)	Total Tax Expenditure (B)	Settlement Surplus (C=A-B)	Carry- over amount (D)	Surplus (E=C-D)
2022		573.5	573.9	559.7	14.2	5.1	9.1
	General accounts	495.2	493.9	485.0	8.8	2.8	6.0
	Special accounts	78.3	80.1	74.7	5.4	2.3	3.1
2021		506.7	524.2	496.9	27.3	4.0	23.3
	General accounts	424.4	438.4	417.7	20.6	2.6	18.0
	Special accounts	82.3	85.8	79.1	6.7	1.3	5.3
Changes		66.8	49.8	62.8	-13.1	1.1	-14.2

I'm also not able to find National Debt and net debt of local government for 2018 to 2020, it only appears as one paragraph statement in Financial Statement in 2018:

Government debt

Central government debt was 651.8 trillion won in 2018 (36.6 percent to GDP), an increase of 24.4 trillion won compared with 2017 (627.4 trillion won, or 36.3 percent to GDP). Debt grew at the slowest pace since 2009.

Whereas it has more detailed data tabulate data in previous years like 2017:

2017 Government Debt

	2016 Debt (A)	2017		(trillion won) Change	
		Outlook (B)	Debt (C)	From previous year (C-A)	From outlook (C-B)
Central government (a)	591.9	633.5	627.4	35.4	-6.1
% to GDP*	36.1	37.5	36.6	0.5%p	-0.9%p
Government bonds	587.5	629.6	623.3	35.8	-6.2
- Treasury bonds	516.9	552.6	546.7	29.8	-5.9
- FX stabilization bonds	6.7	7.8	7.2	0.5	-0.6
- Housing bonds	64.0	69.1	69.4	5.4	0.3
Borrowings	3.9	3.7	3.8	-0.1	0.1
Debt to fund project earmarks	0.5	0.2	0.2	-0.3	-0.0
Local government ¹ (b)	35.0	35.7	33.4	-1.6	-2.4
Total ¹ (a+b, preliminary D1 ²)	626.9	669.2	660.7	33.8	-8.5
% to GDP*	38.3	39.6	38.6	0.3%p	-1.1%p

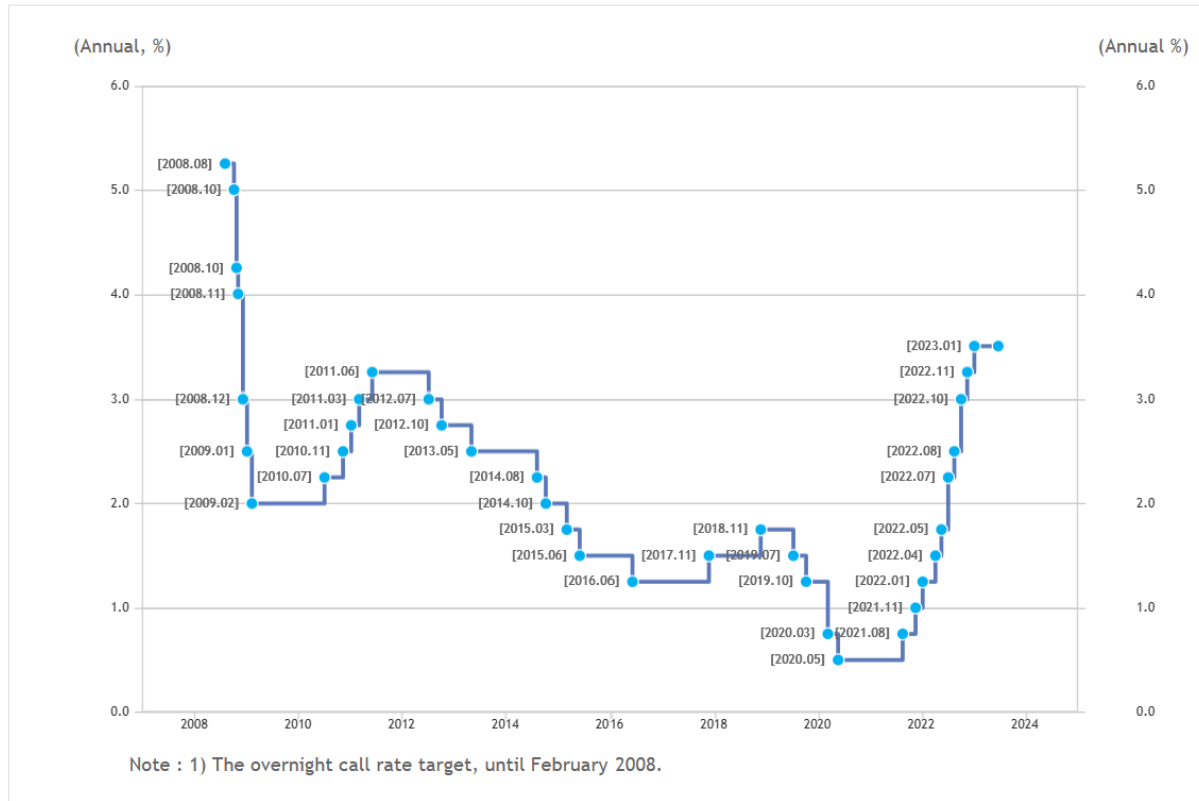
* According to 2017 budget plan: supplementary budget of 1,688.5 trillion won and settlement of 1,713.5 trillion won

1. Preliminary
2. Loans and securities

But by comparing its values with previous data, I would assume these numbers are the “Total Revenue” from General and Special Accounts in previous years, which include both Tax and Non-Tax revenue.

The interest rate data is estimated from The Bank of Korea Base Rate [4] :

◆ The Bank of Korea Base Rate ¹⁾



Findings

- Central government holds majority of national debts,

Budgets

The more consistent data could be found its South Korea's annual budget provided by Budget Office [5] from Ministry of Economy and Finance:

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	CGAR
Total expenditures	342.5	355.8	375.4	386.4	400.5	428.8	469.6	512.3	558	607.7	638.7			6.43%
Welfare, employment	92.6	106.4	115.7	123.4	129.5	144.6	161	180.5	199.7	217.7	226			9.33%
Education	45.5	50.7	52.9	53.2	57.4	64.2	70.6	726	71.2	84.2	96.3			7.79%
Grants to local governments	38.4		39.4	41.2	42.9	49.5	55.2	55.4	53.2	65.1	75.8			7.04%
Culture, sports, tourism	4.6	5.4	6.1	6.6	6.9	6.5	7.2	8	8.5	9.1	8.6			6.46%
Environment	5.9	6.5	6.8	6.9	6.9	6.9	7.4	9	10.6	11.9	12.2			7.54%
R&D	16	17.8	18.9	19.1	19.5	19.7	20.5	24.2	27.4	29.8	30.7			6.73%
Industry, SMEs, energy	15.1	15.4	16.4	16.3	16	16.3	18.8	23.7	28.6	31.3	26			5.58%
SOC	23.1	23.7	24.8	23.7	22.1	19	19.8	23.2	26.5	28	25			0.79%
Agriculture&forestry, fishery and food	18.1	18.7	19.3	19.4	19.6	19.7	20	21.5	22.7	23.7	24.4			3.03%
National defense	33	35.7	37.5	38.8	40.3	43.2	46.7	50.2	52.8	54.6	57			5.62%
Diplomacy, reunification	3.9	4.2	4.5	4.7	4.6	4.7	5.1	5.5	5.7	6	6.4			5.08%
Public order, safety	14.5	15.8	16.9	17.5	18.1	19.1	20.1	20.8	22.3	22.3	22.9			4.68%
Public administration, local governments	55.1	57.2	58	59.5	63.3	69	76.6	79	84.7	98.1	112.2			7.37%
Grants to local governments	33		34.9	36.1	40.7	46	52.5	52.2	51.8	65.1	75.3			8.60%

The top 3 areas that grows fastest are:

- Welfare & Employment 9.33%
- Public administration 7.37%, especially Grants to local governments 8.60%
- Education 7.79%

There are also 3 supplementary budget passed during 2020, 2021, but I decided not to included them as they should be temporary and shouldn't appear again in post-pandemic era. Validating normal annual bug

Revenue

Tax bouancy

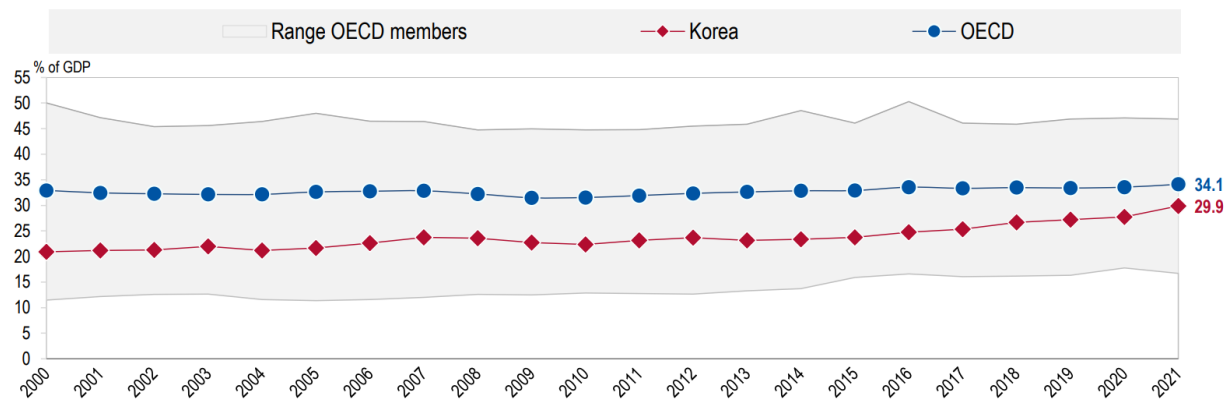
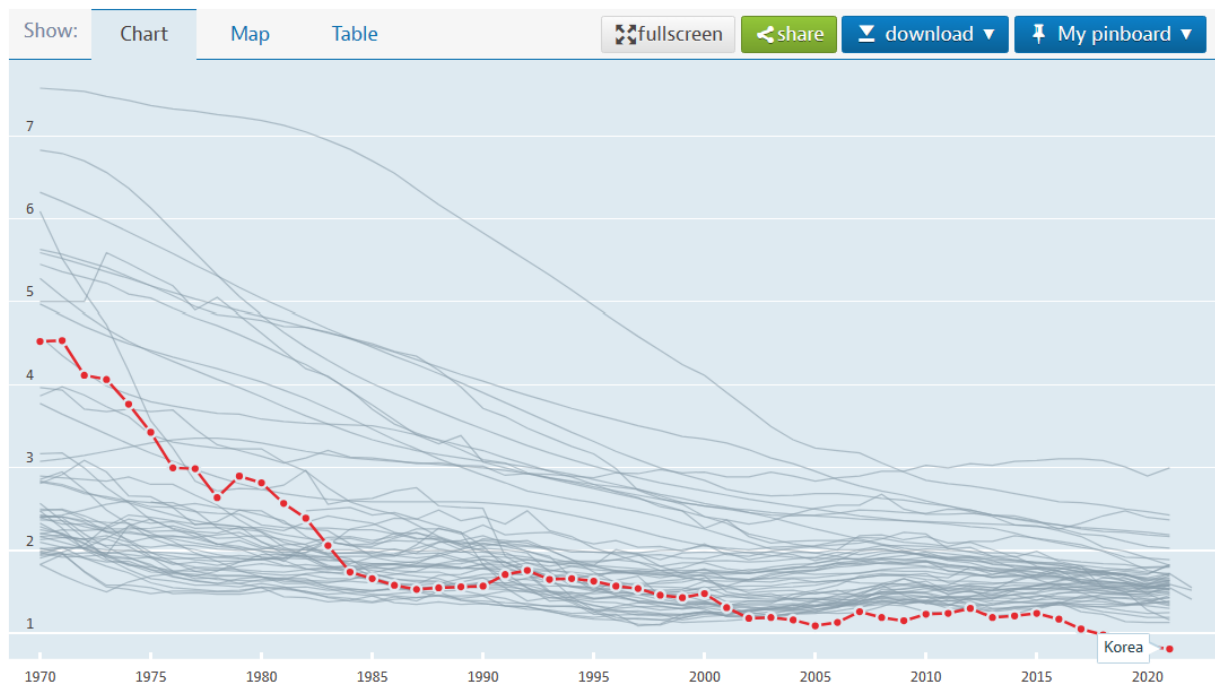
Housing bubble burrt

Growth the government's projection for 2023 is 1.6% and 2024 2.4%

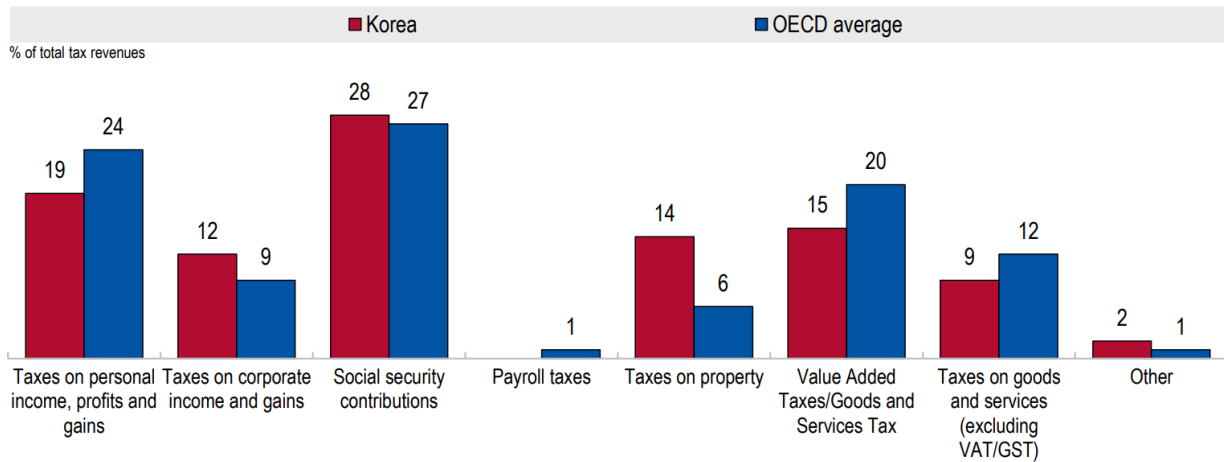
Worsen by the aging population, South Korea has the lowest fertility rate in the world:

Fertility rates Total, Children/woman, 1970 – 2022

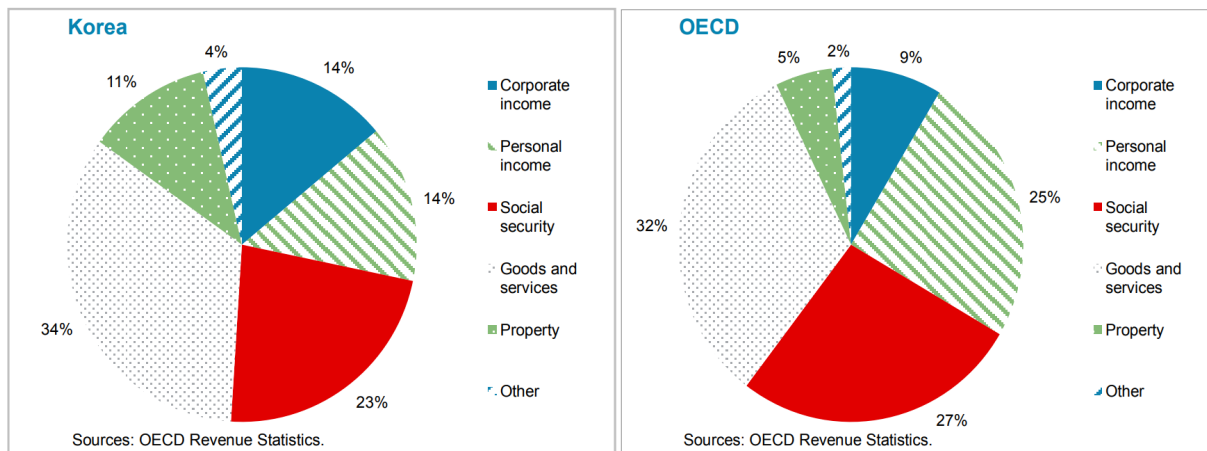
Source: Family Indicators



That implies that South Korea will have much more higher budget for welfare, lower GDP growth due to lack of new force.



2013 ARTICLE IV CONSULTATION [6]



Tax structure

	Tax Revenues in national currency			Tax structure in Korea			Position in OECD ²		
	Won, billions			%					
	2019	2020	Δ	2019	2020	Δ	2019	2020	Δ
Taxes on income, profits and capital gains ¹	174 040 000	166 564 000	-7 476 000	33	31	-2	17th	21st	-4
<i>of which</i>									
<i>Personal income, profits and gains</i>	91 714 000	101 286 000	+9 572 000	18	19	+1	27th	26th	+1
<i>Corporate income and gains</i>	82 326 000	65 278 000	-17 048 000	16	12	-4	5th	8th	-3
Social security contributions	140 071 000	150 854 000	+10 783 000	27	28	+1	23rd	23rd	-
Payroll taxes	1 597 000	1 607 000	+ 10 000	-	-	-	16th	16th	-
Taxes on property	59 732 000	76 512 000	+16 780 000	11	14	+3	4th	1st	+3
Taxes on goods and services	135 276 000	131 353 000	-3 923 000	26	24	-2	32nd	32nd	-
<i>of which VAT</i>	82 174 000	81 452 000	- 722 000	16	15	-1	30th	30th	-
Other	13 269 000	11 560 000	-1 709 000	3	2	-1	3rd	3rd	-
TOTAL	523 985 000	538 450 000	+14 465 000	100	100	-	-	-	-

Tax revenue includes net receipts for all levels of government; figures in the chart and table may not sum to the total due to rounding.

1. Includes income taxes not allocable to either personal or corporate income.

Source: OECD Revenue Statistics 2022

Comparing the tax structure between 2022 and 2013: the main increase of tax revenue is:

- Personal income: 15% -> 19%
- Social security: 23% -> 28%
- Cooperate income: 14% -> 12%
- Property: 11% -> 14%
- Good and service: 34% -> 23% 14% GST + 9%
- Others

But the average effective tax rate at South Korea's chaebol (conglomerates that are legally prohibited from cross-investing) is 16.2%, which means their tax burden is lower than the average of all corporations. 1,539 companies belong to these chaebol, accounting for 0.3% of all taxable corporations.

One noteworthy thing is that a company's proportional tax burden decreases as its wealth increases, even among this small group of companies that are part of South Korea's chaebol. The average effective tax rate is 20.6% at companies ranked 30-39, 16.6% at companies ranked 20-29, and 15.2% at companies ranked 10-19.

As a percentage of GDP, Koreans pay 6.274 percent in property taxes in 2021, according to analysis by Rep. Yoo Gyeong-joon of the People Power Party (PPP) released Friday. That is the highest of the 38 members of the OECD, where the average is 1.986 percent.

South Korea has one of the highest inheritance tax rates among the Organization for Economic Cooperation and Development member states – 50 percent on anyone who inherits more than 3 billion won.

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