Sustainable level of government debt

Government debt

Government debt, also known as national debt, or public debt, refers to the amount of money that a government owes to lenders outside of the government itself.

- Total amount of money owned by the government to its domestic and foreign creditors, such as commercial banks, the IMF and the World Bank.

How government debt arises

- **A government budget** is a type of plan of a country's revenues and expenditures over a period of time (usually a year).

- If tax revenues = government expenditure for the government

  → **balanced budget. (rarely)**

- If tax revenue < government expenditure,

  →**Budget deficit**

  → The government finances (pays for) the excess of expenditures over revenues **by borrowing**.

- If tax revenue > government expenditure

  →**Budget surplus**

Budget deficit/surplus V.S Government Debt

	Year 1	Year 2	Year 3
Budget deficit	-1000	-5000	+2000
Government debt	-1000	-6000	-4000

Government debt (national debt or public debt) is the sum of all **accumulated** government budget deficits from previous years.

= the government's accumulation of deficits – surpluses

Sustainable debt

Sustainable debt refers to a level of debt where the borrowing government has **enough revenues** to **meets it debt obligations** (payment of interest and repayment of the borrowed amount) without accumulating arrears (overdue debt payments) while also **allowing economic growth** to continue at an acceptable level.

- A sustainable level of government debt is important for effective operations of the macro economy over the long term.
- The extent to which national debt is affordable is determined by measuring the debt in terms of the country's GDP.

How government borrow

- Government (borrower) issues a certificate called a **bond** that promises to **pay interest** at various intervals until a certain date when the money is repaid to the bond holder (lender)
- Buyer of government bond could be **individuals, firms, banks, or any type of organization**.
- Sometimes, government may borrow directly from financial institutions or other sources, within the country or from other countries.

Measurement of government debt

- The main method used to measure and report government debt is to express the national debt as a **percentage of GDP**, rather than to convey this in absolute terms.

Rank	Country	Government debt ($)
1	USA	23,409,959,000,000
2	Italy	2,652,196,000,000
3	Jamaica	1,998,668,000,000
4	Spain	1,329,687,275,000
5	Brazil	1,109,207,000,000
6	Sri Lanka	69,596,000,000
7	Ukraine	30,421,426,000
8	Serbia	26,642,000,000
9	Belarus	18,844,403,000
10	Kazakhstan	18,079,072,000

2020

Measurement of government debt

- **Debt-to-GDP ratio**: it measures the size of a country's government debt as a share of GDP of the borrowing country.

Country	Government debt ($)	Nominal GDP ($)	Debt to GDP ratio (%)
Spain	1,329,687,275,000	1,460,687,000,000	91.07
Brazil	1,109,207,000,000	2,020,000,000,000	54.91

- **The smaller the debt to GDP ratio, the more affordable the debt.**

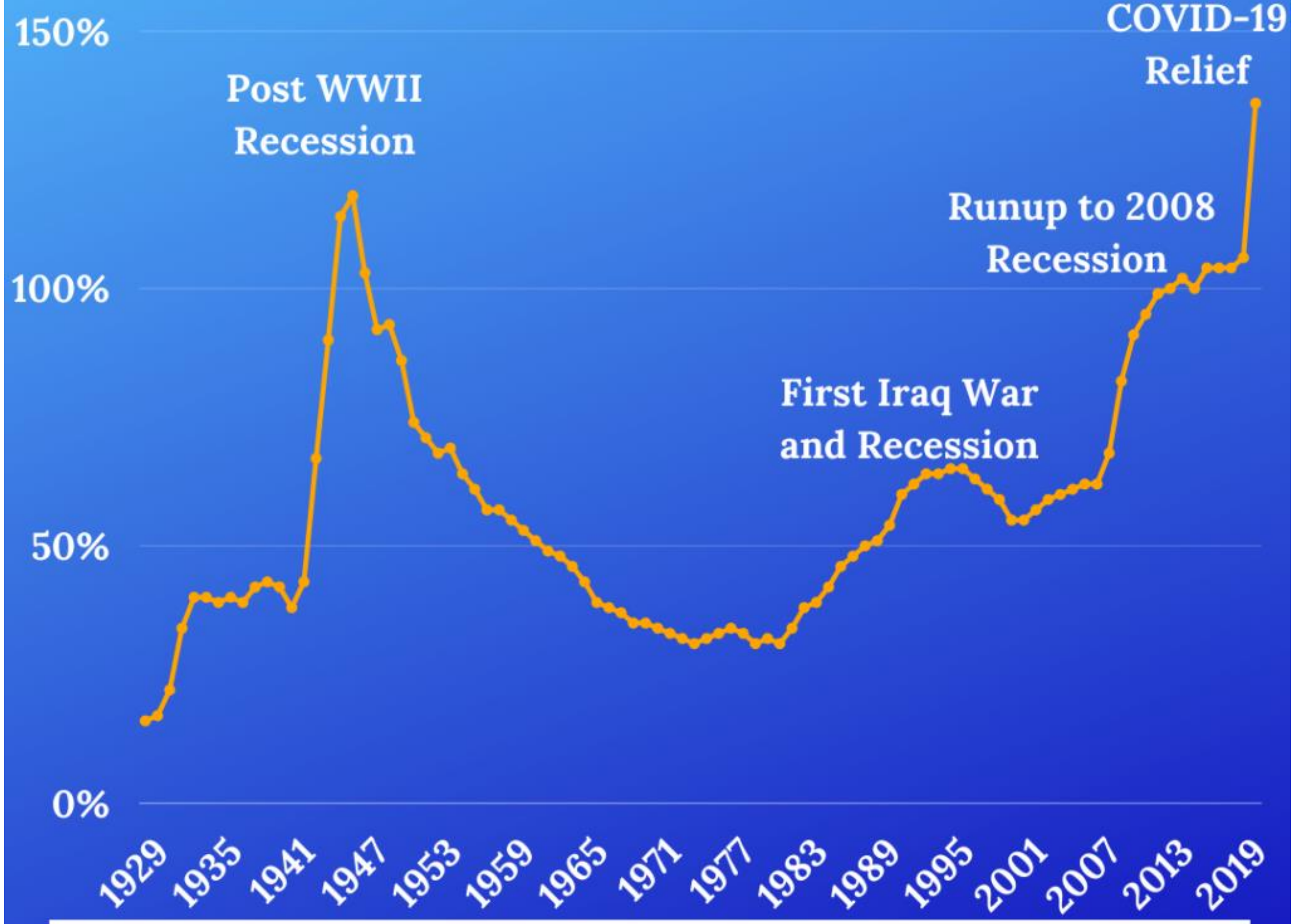
Debt-to GDP ratios in selected countries

in March 2018

Country	Debt-to-GDP ratio % 2018	Country	Debt-to-GDP ratio % 2018
Japan	234.2	Zimbabwe	72.6
Greece	181.8	Angola	71.6
Italy	127.5	Zambia	68.0
United States	109.5	India	67.3
Gambia	105.2	Sierra Leone	64.0
France	96.2	China	54.4
Brazil	90.2	Cameroon	34.1
Canada	83.8	Chile	24.6
United Kingdom	85.9	Bulgaria	22.8

- Budget deficits can be beneficial in the **short run**, as the increased government spending represents an injection into the circular flow of income, thereby stimulating economic growth and maintaining and/or creating jobs.
- However, budget deficits are not sustainable in the **long run**.
- E.g. Japan has a debt to GDP ratio of 234.2%, this means that for every $1 of GDP, the nation owns $2.34 → the government needs to pay off this debt by reducing its spending and/or raising tax revenue.

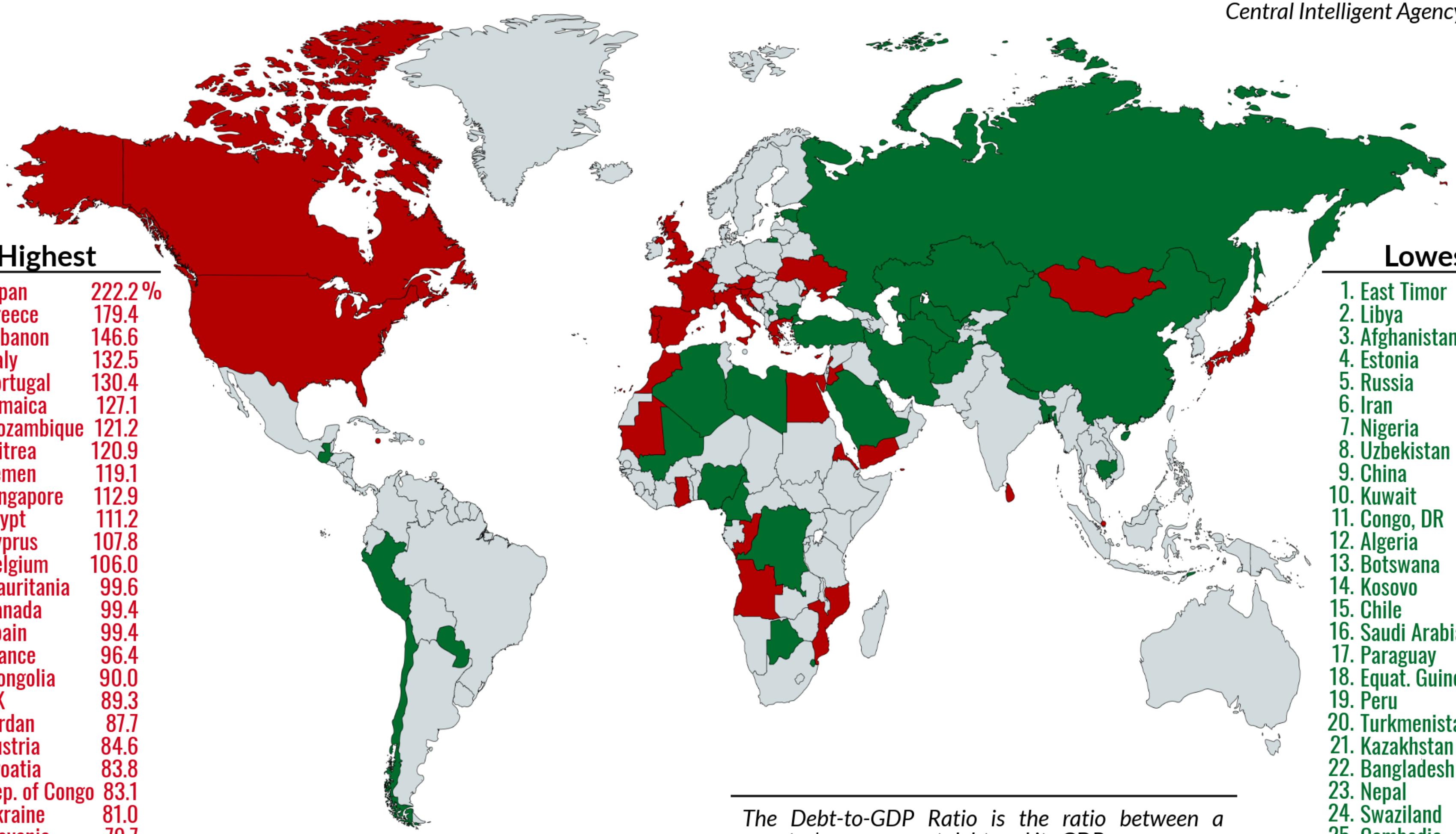
US NATIONAL DEBT TO GDP RATIO BY YEAR



30 Countries with the Highest and Lowest Debt-to-GDP Ratio

*Not included countries with less than 1 million inhabitants

Source:
The World Factbook,
Central Intelligent Agency (CIA)
2016



Highest

1.	Japan	222.2 %
2.	Greece	179.4
3.	Lebanon	146.6
4.	Italy	132.5
5.	Portugal	130.4
6.	Jamaica	127.1
7.	Mozambique	121.2
8.	Eritrea	120.9
9.	Yemen	119.1
10.	Singapore	112.9
11.	Egypt	111.2
12.	Cyprus	107.8
13.	Belgium	106.0
14.	Mauritania	99.6
15.	Canada	99.4
16.	Spain	99.4
17.	France	96.4
18.	Mongolia	90.0
19.	UK	89.3
20.	Jordan	87.7
21.	Austria	84.6
22.	Croatia	83.8
23.	Rep. of Congo	83.1
24.	Ukraine	81.0
25.	Slovenia	79.7
26.	Sri Lanka	79.3
27.	Ghana	78.1
28.	Morocco	77.5
29.	Angola	77.2
30.	United States	76.5

Lowest

1.	East Timor	0.0 %
2.	Libya	7.4
3.	Afghanistan	8.3
4.	Estonia	9.5
5.	Russia	10.0
6.	Iran	13.4
7.	Nigeria	14.3
8.	Uzbekistan	15.4
9.	China	16.1
10.	Kuwait	17.3
11.	Congo, DR	17.6
12.	Algeria	18.0
13.	Botswana	18.1
14.	Kosovo	20.6
15.	Chile	21.3
16.	Saudi Arabia	22.3
17.	Paraguay	22.4
18.	Equat. Guinea	23.1
19.	Peru	23.8
20.	Turkmenistan	23.9
21.	Kazakhstan	26.2
22.	Bangladesh	26.9
23.	Nepal	27.3
24.	Swaziland	27.5
25.	Cambodia	29.1
26.	Guatemala	29.2
27.	Turkey	29.4
28.	Bulgaria	29.5
29.	Mali	29.7
30.	Cameroon	30.5

The Debt-to-GDP Ratio is the ratio between a country's government debt and its GDP.
A low Debt-to-GDP ratio indicates an economy that produces and sells goods and services sufficient to pay back debts without incurring further debt. (Wikipedia)

Costs of high levels of debt

1. Debt servicing costs:

- It is the payments that must be made in order to repay the principal (the amount of the loan) plus interest payments.

= the loan repayment + interest charges incurred on the loan.

- Large debt service payments have major opportunity costs.
- The portion of the debt that is from external (foreign lenders) must be repaid in foreign currencies

  → government have to use export earnings for debt servicing

  →less foreign currencies to pay for imports of needed capital equipment, other production inputs and goods and services generally.

  → The forgone imports are an additional opportunity cost with negative consequences for economic growth.

Costs of high levels of debt

2. Poor credit ratings

- A **credit rating** is an assessment of the ability of a borrower to pay back loans, usually carried out by agencies that are qualified to do this.
- It depends on various factors such as:
  - The borrower's previous credit record
  - The amount the borrower needs
  - The amount of existing loans
  - The income of the borrower (or the real GDP for a country)
  - Debt to GDP ratio, etc.

→**High credit rating**: it is expected to be able to pay back its loans in full and on time without difficulties.

→**Low credit rating**: it is expected that the government may have difficulties servicing its debt.

- Low credit rating makes it more difficult for the borrowing government to find financial investors willing to lend (by buying the government's bond) as well as more difficult to borrow from financial institutions.
  - → Government with low credit rating has to offer higher interest rates to financial investors
  - → increase the debt servicing costs to the government.

Costs of high levels of debt

3. Impacts on future taxation and government spending

- In order to reduce the size of its debt, the government must have budget surpluses rather than budget deficits. i.e. revenue > spending
- In order to achieve budget surpluses, it must either **increase taxes**, or **decrease spending**. (both are politically unpopular) – austerity measures

> - Increased taxes on consumer income → C ↘
> - Increased taxes on business profit → I ↘
> - Decreased government spending → G ↘

→ **Aggregate demand ↘**

→ **Real GDP ↘ recessionary gap → Increased debt-to-GDP ratio**

↓ **Cyclical unemployment arise, unemployment rate ↗, income ↘**

← **Government tax revenue ↘ Government spending on unemployment benefits ↗**

↔ **Conflicts with the budget surpluses objectives, vicious circle of further decrease in AD and falling real GDP**

- **Effects to the debt-to- GDP ratio → increase! Government worse off.**
- **The government can reduce the debt-to-GDP ratio by encouraging economic growth which involves higher real GDP. As GDP increases, the debt-to-GDP ratio falls.**

Costs of high levels of debt

4. Increased income inequality

- Buyers of government bonds tend to be higher income people.
- Government pays interest through tax revenues.

→Transfer of income away from lower income taxpayers and toward higher income bond holders.

5. Lower private investment

- Fears that a government may be unable to service its debts create uncertainty regarding economic conditions and scares away private investors, both domestic and foreign.
- Short-term investment projects with quick return, rather than longer-term ones with greater potentials to support economic growth.

Costs of high levels of debt

6. Possibility of a debt trap

- As levels of debt rise, there comes a point where the level of debt cannot be sustained → new debt requires higher debt service payments → more foreign borrowing → more debt servicing payments → and so on…
- 'Debt trap' – a country must keep on taking out new loans in order to pay back the old ones.

7. Lower economic growth

- Higher levels of debt (lower government spending, increased taxes, reduced investment and fewer imports of capital goods) → lower economic growth