Citizens’ Wealth Framework: 2024

27.11.2024

Since 2012, JI-Analytics has invested in the Citizens’ Wealth Framework (CW Framework) intellectual property over US$250 million, with the work of approximately 300 of the smartest experts across twenty-one (21) professional sectors and built on continuously updated analytics of decades of information from eleven (11) informational silos to discover previously hidden intelligence.

The Citizens’ Wealth Framework (CW Framework) is both “a quantum leap in government financial performance management” and “the greatest advance in sovereign risk analysis”.

The CW Framework includes real-time Government Total Balance Sheet (GTBS) intelligence for decision-making. The CW Framework represents a quantifiable improvement over financial debt and cash deficit framework, and especially the focus on a single debt number that is only one of four parts of the GTBS.

The CW Framework identifies and corrects systemic misconceptions, and reveals previously hidden insights, resulting in improved government financial position and performance.

JI-Analytics has discovered that it is not uncommon for numbers from widely used official statistics to incorrectly overstate or understate GTBS true and fair numbers by 50+ percentage points of GDP.

Performance Gaps: JI-Analytics quantifies the performance gap between a government and its benchmarks on the CW Framework 12 KPIs.

See below the Citizens’ Wealth Framework 2024 with seven sections: Section A. Terminology Definitions; Section B. Terminology Rationale; Section C. 12 KPIs Definitions; Section D. Sources and Methodology; Section E. Citizens’ Wealth Additional Information; Section F. KPIs Formula Examples – United States Federal Government; Section G. Select Citizens’ Wealth KPIs: Basic Math Examples (2001-2021).

Section A. Terminology Definitions:

1. **Citizens’ Wealth (CW):** CW is the conversational summary term for CW1, CW2, and CW3. CW can be per person or total CW. KPI #1 and #9.
2. **Citizens’ Wealth 1 (CW1):** Total economy GDP plus Government Total Net Worth (Net Worth or GTNW). CW1 can be per person or total CW1.
3. **Citizens’ Wealth 2 (CW2):** Total economy GDP less Net Debt (government financial net debt). CW2 can be per person or total CW2.
4. **Citizens’ Wealth 3 (CW3):** Total economy GDP less Gross Debt (government financial debt). CW3 can be per person or total CW3.
5. **CW Change “swing”:** The difference in the change in CW per person between the two halves of the analyzed period. If a 20-year period, it is the change in CW per person in the

latest decade less the change in CW per person during the prior decade. If a 10-year period, it is the difference between the two 5-year periods. KPI #8.

6. **CW Created/Destroyed Per Day:** Change in total CW divided by the number of working days during a specified period. KPI #7.
7. **CW Created/Destroyed "return":** Change in CW per person divided by the absolute value change in Net Worth, Gross Debt, or Net Debt per person during a specified period. If there is an increase in Net Worth (GTNW) or a decrease in Net or Gross Debt, the KPI is not measurable (typically noted as "NM"). In rare cases where there are multiple "NM", "NM" country performance rankings are determined based on the change in CW per capita. KPI #6.
8. **Debts:** Changed the balance sheet term Liabilities to Debts (note the "s").
9. **Financial Burden:** For ease of common understanding, it can be helpful to view a negative GTNW per person as a financial burden put on citizens by the government.
10. **Four Parts:** Noting that there are four parts of a Government Total Balance Sheet, which are financial assets, non-financial assets, financial debts, non-financial debts, and the result is the Government Total Net Worth.
11. **Framework:** Concept of a framework to describe and compare the Government Total Balance Sheet framework with the debt and cash deficit framework.
12. **GDP/GTNW "multiplier":** Change in GDP per person divided by the absolute value change in Net Worth, Gross Debt, or Net Debt per person during a specified period. If there is an increase in Net Worth (GTNW) or a decrease in Net or Gross Debt, the KPI is not measurable (typically noted as "NM"). In rare cases where there are multiple "NM", "NM" country performance rankings are determined based on the change in CW per capita. KPI #4.
13. **GTNW/GDP "inverse multiplier":** Absolute change in Net Worth, Gross Debt, or Net Debt per person divided by the change in GDP per person during a specified period. If there is an increase in Net Worth (GTNW) or a decrease in Net or Gross Debt, the KPI is not measurable (typically noted as "NM"). In rare cases where there are multiple "NM", "NM" country performance rankings are determined based on the change in CW per capita. KPI #5.
14. **Government:** Inserting the word Government before four major balance sheet line items.
15. **Government Total Balance Sheet (GTBS):** Government Total Assets plus Government Total Debts. Inserting the word "Total" after Government and before Balance Sheet, Assets, Debts, Net Worth, and Net Debts. Government Total Assets include both financial assets and non-financial assets; Government Total Debts include financial debts and non-financial debts (often referred to as liabilities in accounting terminology). Adjustments may be necessary and appropriate to have numbers consistent with international standards, for example: (a) scope of entities included, (b) asset valuations both before and after depreciation and valuation adjustments, (c) government employee pension debts and other pension employment benefits (OPEB) often found only in the notes and/or not properly disclosed.
16. **Government Total Net Worth (GTNW or Net Worth):** Government Total Assets (financial assets plus non-financial assets) less Government Total Debts (financial debts plus non-financial debts).

17. **Gross Debt:** General government financial debt; if not available, financial debt from government financial statements or public sector statistics. Central bank balance sheets are not consolidated into the general government, and for comparability, government debt held by a central bank is not subtracted from Gross Debt.
18. **Net Debt:** Gross Debt less government financial assets. Government financial assets can be the IMF narrow definition of financial assets or a broader definition used in financial statements. Central bank balance sheets are not consolidated into the general government, and for comparability, government debt held by a central bank is not subtracted from Net Debt.
19. **Per Person:** KPIs per person based on total population.
20. **Purchasing Power Parity (PPP) and Real GDP:** The World Bank defines PPP as a spatial deflator and currency convertor that eliminates the effects of the differences in price levels between economies, thereby allowing volume comparisons of GDP. In inflationary (deflationary) periods, Real GDP can be more meaningful than Nominal GDP.

Section B. Terminology Rationale:

1. **Citizens' Wealth (CW):** The Citizens' Wealth Framework (CW Framework) provides a true and fair internationally comparable picture of government financial performance, and represents a quantifiable improvement over financial debt and deficit metrics. The CW Framework 12 KPIs are both "a quantum leap in government financial performance management" and "the greatest advance in sovereign risk analysis". The Citizens' Wealth Framework is an improvement over financial debt and deficit metrics, and over the focus on a single (central government rather than general or whole of government) debt number. Citizens' Wealth includes all government assets and all government debts (the total government balance sheet), and a government's GDP. Ideally, the total government balance sheet is from the audited financial statements based on international generally accepted government accounting standards. Citizens' Wealth provides previously hidden insights into government financial performance and position, and the relationship to GDP for both single government historical benchmarking and peer benchmarking. Recognizing the importance of CW, the former head of Moody's Sovereign Bond Ratings stated that the greatest advance in sovereign risk analysis has been the development of a measure of Citizens' Wealth. See Section E. Citizens' Wealth Additional Information.
2. **Citizens' Wealth 1 (CW1):** CW1 is the most comprehensive of the three CW terms as it utilizes the Government Total Balance Sheet, as opposed to CW2 and CW3 which only utilize parts of the Government Total Balance Sheet.
3. **Citizens' Wealth 2 (CW2):** CW2 is an improvement upon CW3 (government Gross Debt) as it utilizes not only government Gross Debt but also the financial assets on the government balance sheet, hence the term Government Net Debt.
4. **Citizens' Wealth 3 (CW3):** CW3 is the most easily understood of the CWs, as it utilizes the familiar government Gross Debt.
5. **CW Change "swing":** An easy-to-understand math term for focusing on the relative rate of change (similar to a second derivative) during two sub-periods, by subtracting from the change in CW per person over the latest sub-period the change in CW per person during the prior sub-period. The goal is to understand whether the rate of change in CW per

person is increasing or decreasing. For example, a positive/negative "swing" indicates an improvement/deterioration in the latest sub-period compared to the earlier sub-period. KPI #8.

6. **CW Created/Destroyed Per Day:** To understand the daily magnitude, measure the change in total CW per government working day over a specified period. KPI #7.
7. **CW Created/Destroyed "return":** A KPI with similar traits to a return on investment ratio. The numerator is the change in CW per person, which can be positive or negative, divided by the absolute value change in GTNW, Gross Debt, or Net Debt, which can be thought of as the cost of obtaining the increase in CW. KPI #6.
8. **Debts:** Using Total Debts is easier to communicate than Total Liabilities and distinguishes from financial debt without the "s".
9. **Financial Burden:** Financial burden is easier to understand than the technical term Government Net Liabilities in describing the burden put on citizens by the government.
10. **Four Parts:** Four parts of a Government Total Balance Sheet contrast with one part focus on the debt and cash deficit framework with its omission of financial assets, non-financial assets, non-financial debt, and the result Government Total Net Worth. Stressing that there are four parts to a Government Total Balance Sheet exposes partial or improperly reported government balance sheets as significantly deficient.
11. **Framework:** Framework is a good starting point to understand the significant comparative advantage of a Government Total Balance Sheet framework (also referred to as the New Zealand government public financial management – PFM – framework) compared to the debt and cash deficit framework. The New Zealand PFM framework has built over 30 years a culture of using the Government Total Balance Sheet and Government Total Net Worth for decision-making and financial management. New Zealand has built a full system of PFM using international standards with timely and insightful financial reporting and projections. This is complemented by financial reporting based on international accounting and auditing standards, produced on a timely monthly and annual basis, and projected key balance sheet numbers. Simply put, the debt and cash deficit framework is both chronically flawed and massively value-destructive in part because it enables corruption and mismanagement. In point of fact, for massive and highly complex organizations (unlike households or small businesses), cash-based fiscal balances (i.e., cash deficits) provide vastly more flexibility to create fiscal illusions than do numbers calculated in accordance with international accounting standards.
12. **GDP/GTNW "multiplier":** The GDP/GTNW "multiplier" is a useful KPI to show the change in GDP associated with the change in the burden put on the government's citizens; the burden is calculated as a decrease in Net Worth, or increase in Gross Debt, or Net Debt. A related number is the claims associated with the impact on GDP from government spending. Not uncommon are claims by governments that specific spending will have a multiple impact on GDP, but omitted from the conversation is the relationship between the increase in GDP and the decrease in GTNW. KPI #4.

13. **GTNW/GDP "inverse multiplier":** The GTNW/GDP "inverse multiplier" is, as its name indicates, the mathematical inverse of the GDP/GTNW "multiplier". The "inverse multiplier" shows the ratio of the burden put on the country's people needed to increase GDP by one unit. For example, a ratio of 1.5x means that for every one unit increase in GDP, the government put 1.5 units of government total financial burden on its people. For conversational purposes, the "inverse multiplier" can be communicated as steps forward or back. For example, a 1.5x would mean that for every one step forward in GDP, the government's total financial burden placed on its population took 1.5 steps back. KPI #5.
14. **Government:** Inserting the word government before items of the government balance sheet reinforces that all four parts of the Government Total Balance Sheet are under the legal stewardship of the government and elected officials.
15. **Government Total Balance Sheet (GTBS):** The word Total is inserted after Government and before the word Balance to stress that there is much more than debt and cash on Government Total Balance Sheet. For example, with six AAA-rated governments that publish an internationally comparable balance sheet, an average of 63% of the balance sheet is outside of cash and gross debt. The UK Treasury Chief Secretary recently stated that the benefits to taxpayers from improved balance sheet management include increased returns on public assets, higher quality public services, lower taxes, as well as substantially reduced costs and risks across its liabilities.
16. **Government Total Net Worth (GTNW):** The importance of Government Total Net Worth continues to increase as the financial and economic footprint of government continues to increase as indicated in officially reported statistics. Recent IMF research noted that (i) countries with stronger GTNW experience shallower recessions and recover faster in the aftermath of economic downturns, and (ii) managing GTNW means better managing government assets, which yields higher asset values, higher economic growth, and higher tax revenue. Research from the University of Oxford recently stated GTNW is the most important country-specific fiscal factor driving bond yields.
17. **Gross Debt:** From a practical perspective, government Gross Debt may be the only balance sheet number available. The scope and quality of the numbers can and, indeed, will vary significantly, but NGO and multi-national databases may be the only sources of Gross Debt data available. Most often the scope of Gross Debt is general government.
18. **Net Debt:** Net Debt is an improvement over government Gross Debt, as it includes financial assets as a reduction from the Gross Debt. The rationale is in part based on the fact that financial assets and financial debts are highly fungible and should be considered together. The composition of financial assets will vary significantly, as certain sources only include financial assets corresponding to the Gross Debt, while other sources provide a more comprehensive financial asset number including financial assets such as equity financial assets. For classification purposes, accounts receivable should not be included in financial assets and accounts payable should not be included in financial debts.
19. **Per Person:** Per person (also referred to as per citizen) calculated with total population numbers is a more meaningful, easier to understand, and more helpful management KPI than abstract percentages or numbers in the millions, billions, or trillions.

20. **Purchasing Power Parity (PPP) and Real GDP:** When there are significant changes in the currency relationships or large differences in GDP and GDP in PPP, or in developing economies, GDP in PPP can offer additional if not greater comparative financial insights than GDP converted to US Dollars. Additionally, in inflationary (deflationary) periods, Real GDP can be more meaningful than Nominal GDP.

Section C. 12 KPIs Definitions:

1. **KPI #1 - Citizens' Wealth (CW) per person Change:** Change in the CW per person over a determined period.
2. **KPI #2 - Government Total Net Worth (GTNW) per person Change:** Change in the GTNW, Gross Debt, or Net Debt per person over a determined period.
3. **KPI #3 - CW (GTNW) % of GDP Change:** Change in the CW as a percentage of GDP over a determined period. Measured in percentage points. Change in CW1 as a percentage of GDP and change in GTNW as a percentage of GDP are mathematically equal. Change in CW2 (CW3) as a percentage of GDP and the negative change in Net Debt (Gross Debt) as a percentage of GDP are mathematically equal.
4. **KPI #4 - GDP/GTNW "multiplier":** Change in GDP per person divided by the absolute value change in Net Worth, Gross Debt, or Net Debt per person during a specified period. If there is an increase in Net Worth (GTNW) or a decrease in Net or Gross Debt, the KPI is not measurable (typically noted as "NM"). In rare cases where there are multiple "NM", "NM" country performance rankings are determined based on the change in CW per capita.
5. **KPI #5 - GTNW/GDP "inverse multiplier":** Absolute value change in Net Worth, Gross Debt, or Net Debt per person divided by the change in GDP per person during a specified period. If there is an increase in Net Worth (GTNW) or a decrease in Net or Gross Debt, the KPI is not measurable (typically noted as "NM"). In rare cases where there are multiple "NM", "NM" country performance rankings are determined based on the change in CW per capita.
6. **KPI #6 - CW Created/Destroyed "return":** Change in CW per person divided by the absolute value change in Net Worth, Gross Debt, or Net Debt per person during a specified period. If there is an increase in Net Worth (GTNW) or a decrease in Net or Gross Debt, the KPI is not measurable (typically noted as "NM"). In rare cases where there are multiple "NM", "NM" country performance rankings are determined based on the change in CW per capita.
7. **KPI #7 - CW Created/Destroyed Per Day:** Change in total CW divided by the number of working days during a specified period.
8. **KPI #8 - CW Change "swing" per person:** The difference in the change in CW per person between the two halves of the analyzed period. If a 20-year period, it is the change in CW per person in the latest decade less the change in CW per person during the prior decade. If a 10-year period, it is the difference between the two 5-year periods.
9. **KPI #9 - Citizens' Wealth (CW) per person:** CW per person at year-end.
10. **KPI #10 - Government Total Net Worth (GTNW) per person:** GTNW, Gross Debt, or Net Debt per person at year-end.
11. **KPI #11- Government Total Net Worth (GTNW) % of GDP:** GTNW, Gross Debt, or Net Debt as a percentage of GDP at year-end.

12. **KPI #12 - Citizens' Wealth (CW) % of GDP:** CW as a percentage of GDP at year-end.

Section D. Sources and Methodology:

1. **Information Sources:** For CW analysis purposes, raw data are typically retrieved from IMF World Economic Outlook Database, IMF Article IV, EC AMECO Database, Eurostat Database, or World Bank Database. The goal is to use the closest to primary source possible, based on the same standards. Importantly, Government financial statement numbers based on international accounting standards are preemptive. Extra care is taken to carefully analyze the financial statements and footnotes to adjust the numbers, if materially necessary, to be consistent with International Public Sector Accounting Standards (IPSAS). The numbers are obtained from the latest financial statements to reflect restatements, if applicable. The latest IMF WEO online database is often the first source for internationally comparable numbers on gross debt, net debt, GDP, and population. The AMECO and Eurostat databases are alternative sources of numbers. For intra-Europe analyses, the Eurostat database is used for retrieving financial assets and financial debts. Eurostat has data available for European countries and is the preferred source for financial assets and debts data, as there can be a wide discrepancy from IMF financial asset data. AMECO database is used for calculating non-financial assets and non-financial debts, through the methodology described in point 5 of this section. In addition to European Union countries, the AMECO database has data on Albania, Australia, Canada, Iceland, Japan, Korea, Mexico, Montenegro, New Zealand, North Macedonia, Norway, Serbia, Switzerland, Turkey, UK, and USA. Country population and GDP data are available for each of these countries. Gross Debt figures are not available for Australia, Canada, Korea, Mexico, New Zealand, and Switzerland. Net Debt figures are not available in AMECO database. For most metrics and countries, data are available from 1960 onwards. According to IMF methodology, for economies whose fiscal years end before June 30, data are recorded in the previous calendar year; for economies whose fiscal years end on or after June 30, data are recorded in the current calendar year. IMF's Article IV reports are a useful reference check to confirm the accuracy of the WEO database, as corrections may be required. World Bank database can also be a useful source given the extensive list of indicators it covers for every country worldwide. For all online database numbers, the date of access should be referenced in the note as the data may have been updated or corrected. AMECO, Eurostat, and IMF databases update their annual data twice a year, every April and October.
2. **Country-Specific Data**: For country-specific data, typically the following sources are considered: Central Bank of the determined country; Ministry of Finance of the determined country; Institute of Statistics of the determined country.
3. **Data Consistency**: In order to ensure consistency in the comparison of country KPIs, the following should be taken into consideration: (i) Government Aggregate – Central Government vs General Government vs public sector, (ii) Accounting Framework – SNA 2008 vs GFSM 2014, (iii). Consolidation Scope – Consolidated accounts vs Unconsolidated accounts, (iv) Valuation of Debt – Nominal vs Face vs Current Market, (v) Financial Assets – [This type of information can be found on Country specific sources or on IMF Fiscal Monitor.]

4. **Multi-Currency Period Change**: When analyzing period changes in multi-currency countries, one can follow two methodologies: 1. Converting both periods to the determined currency using the respective fx rate at the corresponding period, and calculating the period change in foreign currency; 2. Calculating the period change in local currency and then converting the local currency change to foreign currency at the latest fx rate. The main difference between the two approaches is that 2. does not take into account currency fluctuations, only measures the real period change of the analyzed KPI, while 1. takes into account both the real KPI change plus the fx fluctuations impact. As a best practice, in each situation, the analyst should calculate using both methodologies and access which of the two is more meaningful for the purpose of the analysis.
5. **Non-Financial Assets and Non-Financial Debts:** For NFA and NFD, when audited financial statements are available, these serve as the starting point, and all years for which there are reports, the numbers are corrected to conform with international generally accepted government accounting standards to achieve the most reliable “true and fair” reflection of financial reality. When either NFA or NFD are not disclosed in audited financial statements, multi-decade models are built using relevant historical statistics and peer comparison ratios. For intra-Europe analyses, the Eurostat accounts receivable and accounts payable figures are considered as NFA and NFD, respectively. The JI-Analytics Balance Sheet model outputs are compared with the numbers reported in government audited financial statements and found to be within 90% to 95% of the audited financial statements.
6. **Citizens’ Wealth Databases:** our country/government (C/G) databases have annual historical and projected numbers. Using 2021 as a reference year, the database includes 193 C/Gs for CW3, 97 C/Gs for CW2, and 45 C/Gs for CW1. Click here to see the full list of countries.

Section E. Citizens’ Wealth Additional Information:

1. **Background:** The historical highlights of the CW family of KPIs include: (i) KPIs first created by our Founder in the 1980s to brief the Goldman, Sachs & Co. management committee on previously hidden critical insights into corporate and government financial performance, (ii) an essential analytical and management tool in all of Japonica Partners transformational investments, (iii) a cornerstone of the Kazarian Foundation core competencies, (iv) a core part of Columbia Business School class B8024 on Understanding Sovereign Risk from Financial Statements, and (iv) a main focus of the Center for Economic and Policy Research (CEPS) task force on public financial management Research Report. CW is part of a new disruptive technology framework for assessing sovereign credit risk and government performance from a financial perspective. The CW government performance indicator disrupts obsolete and financially destructive conventional thinking by merging two silos; an annual economic statistics flow, total economy gross domestic product (GDP), and a point-in-time government financial statement balance sheet stock, Government Total Net Worth. CW is most often calculated and reported per person to provide greater meaning to a wide range of users, especially citizens.

2. **More Insightful:** Recognizing the importance of CW, the former head of Moody's Sovereign Bond Ratings stated that the greatest advance in sovereign risk analysis has been the development of a measure of Citizens' Wealth. Citizens' Wealth is a government performance indicator that provides significantly better historical and comparative insights into the relationship between the total economy GDP and Government Total Balance Sheet (especially compared to GDP or a debt-to-GDP ratio). Citizens' Wealth is significantly more insightful than the debt and cash deficit framework metrics and the conventional macroeconomic government performance measurement statistics. Focusing on Citizens' Wealth can help improve government financial performance and expose touted claims of economic prosperity (i.e., GDP growth) that in reality are financially destructive resulting in hidden declines in GTNW. Citizens' Wealth is most meaningful when calculated per person, which can be easier to understand, and a more helpful management KPI than abstract percentages or numbers in the millions, billions, or trillions. On a ten criteria evaluation comparison used in Columbia Business School class B8024, Citizens' Wealth scored 92 out of 100 and debt-to-GDP scored only 30. The ten criteria list in order: (i) quality and verifiability of inputs, (ii) historical comparison meaningfulness, (iii) peer comparison meaningfulness, (iv) performance measurement and improvement value, (v) includes the total balance sheet not only parts, (vi) accountability improvement, (vii) decision-making benefits, (viii) credit (risk-reward) assessment value, (ix) ability to communicate the importance of KPI to all, and (x) based on international standards that reflect financial reality.

Criteria to Evaluate Citizens' Wealth Framework 12 KPIs vs. the Debt & Deficit Framework

(10 is best and 0 is worst)

	Criteria	Citizens' Wealth	Debt/ GDP
i.	Quality and verifiability of inputs	8	3
ii.	Historical comparison meaningfulness	9	5
iii.	Peer comparison meaningfulness	8	4
iv.	Performance measurement and improvement value	10	3
v.	Includes the total balance sheet not only parts	10	0
vi.	Accountability improvement	8	4
vii.	Decision-making benefits	9	3
viii.	Credit (risk-reward) assessment value	10	4
ix.	Ability to communicate importance of KPI to all	10	4
x.	Based on international standards that reflect economic reality	10	0
	Total	**92**	**30**

3. **Increased Importance:** (i) The importance of Government Total Net Worth continues to increase as the financial and economic footprint of government continues to increase as indicated in officially reported statistics. And, the reported numbers understate the economic scope of the government in part by not accounting for the financial costs imposed on other sectors through government rules and regulations. (ii) The complexity and diversity of government operations vastly exceed that of the most complex private sector multi-national corporation. One needs only to read a whole of government sovereign financial report to see the mind-numbing number of initiatives with mega financial implications. (iii) Governments are increasingly using financial schemes to circumvent legislative restraints and create fiscal illusions of financial reality. The existence and propagation of government fiscal illusions that misrepresent financial reality are so pervasive that the term creative accounting is openly revered and rewarded, while in the private sector such schemes can serve as grounds for criminal charges and incarceration. It is only with financial statements based on international standards that a true and fair reflection of the financial reality of these schemes is revealed. (iv) The standard debt and cash deficit frameworks show only a portion of financial reality. For example, debt can be a fraction of the Government's Total Balance Sheet (Government Total Assets and Government Total Debts) as the UK government's 2021 balance sheet illustrates. Non-Financial Debts are 39%, Government Total Assets are 30%, and Government borrowings are 20% of the Government Total Balance Sheet. (v) The continued massive decrease in Government Total Net Worth. (vi) The absence of high, positive impact public financial management (PFM) plans and processes.
4. **Integrity of Numbers:** Financial statement numbers almost always require critical judgment, based on adjustments for financial comparability, but such adjustments are facilitated by the existence of more than a decade of financial statements with extensive notes, based on international accounting standards, as well as published audits consistent with international auditing standards. Statistics from economic databases, such as the IMF WEO database, IMF IFS database, EC AMECO, Eurostat, and OECD Statistics should not be taken at face value but should be thoroughly tested for integrity and comparability. These macroeconomic statistics can have very large deviations from a true and fair representation of financial reality, are prone to be produced with political bias, and do not have the integrity of either financial notes contained in international standards-based financial statements, nor are they audited by third parties using international auditing standards.
5. **Components:** Citizens Wealth 1 (CW1) is defined as total economy GDP plus Government Total Net Worth. The total economy GDP, although a non-audited flow calculated using statistics guidelines, is by default considered a proxy for annual national wealth creation. Government Total Net Worth is the result of all four parts of a Government Total Balance Sheet (not just debt): Government Total Assets (both financial and non-financial), Government Total Debts (both financial and non-financial debts).

6. **CW KPIs:** Citizens' Wealth can be calculated to show: changes over time, at a point in time, peer government benchmarking, and value created or destroyed KPIs (the "return"), the change amount per day over a period, comparing decade change (the "swing"), or communicated as units/steps forward and units/steps backward. The KPIs are calculated both per person based on a country's population or in billions as an aggregate measure. KPIs are also calculated in both local currency and common currency.
7. **CW1 Alternatives:** Citizens' Wealth 2 (CW2), which is GDP less Government Net Debt, and Citizens' Wealth 3 (CW3), which is GDP less Government Gross Debt, are used when Government Total Balance Sheet numbers are not available. General Government Gross Debt is the most frequently available number for Government Gross Debt. General Government Net Debt includes financial assets as a reduction to Gross Debt, but this financial information is often not available or is reported on a noncomparable basis.
8. **Similar KPIs:** KPIs similar to Citizens' Wealth include: (i) Adding a corporation's change in net worth, debt, or net debt to a corporation's increase in revenue over a period. Part of the rationale for this is that mainstream company valuations have often converged to be valued at one time sales, which makes revenue a benchmark for the entity's value. Adding the balance sheet change number to the revenue increase number provides insight into the sources of and the cost of the revenue growth. When debt increases exceed sales increase or the unit change decrease from prior periods, financial alarm bells sound warning. (ii) Calculating the change in GDP as a percentage of the change in total economy or non-government gross debt and comparing annual ratios, which is often referred to as the marginal contribution of debt. (iii) Calculating the change in GDP as a multiple of the change in debt, with GDP impact in a specific year or the sum over a period, which is often referred to as the GDP/GTNW "multiplier" and used frequently to justify government fixed consumption expenditures.
9. **Buffett Indicator**: Approximately 15 years after our founder introduced the origin of the Citizens' Wealth financial concept at Goldman Sachs, a conceptually equivalent metric was introduced to the public mainstream by Warren E. Buffett, identified as the Buffett Indicator. The Buffett Indicator is defined as the total market capitalization of U.S. stocks, divided by the total dollar value of the nation's gross domestic product. It is a macro metric for assessing whether the country's stock market is overvalued or undervalued, compared to a historical average. It is similar to a company's price-to-revenue valuation multiple ratio, but for a country. The indicator has also been applied to other countries.
10. **New Zealand's Contribution**: In the early 1990's New Zealand pioneered the publication of a whole of government balance sheet, using emerging international public sector best practices, which included reporting Government Total Net Worth. As their government public financial management progressed, by the mid-1990s, the New Zealand government was widely publishing and commenting on Government Total Net Worth as a percentage of GDP, seeking to increase historical, projected, and peer government benchmarking.

Section F. KPIs Formula Examples – United States Federal Government:

KPI #	Term	Formula	Example
1	Citizens' Wealth 1 (CW1) – per person: Change	Change in CW1 per person (2002-2022)	-$35,320 – $8,722 = -$44,043
2	GTNW – per person: Change	Change in GTNW per person (2002-2022)	-$111,669 – (-$29,223) = -$82,445
3	CW1 (GTNW) % of GDP: Change	Change in CW1 (GTNW) divided by GDP (2002-2022)	-46% - (23%) = -69pps
4	GDP/GTNW "multiplier"	Change in GDP per person divided by the absolute value change in GTNW per person (2002-2022)	$38,403 / ABS(-$82,445) = 0.5x
5	GTNW/GDP "inverse multiplier"	Absolute value change in GTNW per person divided by the change in GDP per person (2002-2022)	ABS(-$82,445) / $38,403 = 2.1x
6	CW1 Created/Destroyed "return"	Change in CW1 per person divided by the absolute value change in GTNW per person (2002-2022)	-$44,403 / ABS (-$82,445) = -53%
7	CW1 Created/Destroyed Per Day – billions	Change in CW1 in billions divided by number of working days (2002-2022)	-$14,293 / (215 * 20) = $-3.3
8	CW1 Change "swing" – per person	Change in CW1 per person (2012-2022) minus the change in CW1 per person (2002-2012)	[-$35,320 – (-$9,115)] – [-$9,115 – $8,722] = -$8,368
9	CW1 – per person: Year-end	GDP per person plus GTNW per person (2022)	-$35,320
10	GTNW – per person: Year-end	GTNW divided by population	-$111,669
11	GTNW % of GDP: Year-end	GTNW as a percentage of GDP	-146%
12	CW1 % of GDP: Year-end	CW1 as a percentage of GDP	-46%

Notes: All the 12 KPIs can be calculated using CW2 and CW3, corresponding to Net and Gross Debt, respectively. For additional education refer to sections A, B and C. ABS: absolute value.

Section G. Select Citizens' Wealth KPIs: Basic Math Examples (2001-2021)

1. For ease of explanation and math in these examples (2001-2021), billions are used rather than per person.
2. Government Total Net Worth (GTNW) is Government Total Assets less Government Total Debts.[a]
3. A decrease in GTNW is viewed as the government balance sheet cost of the increase in GDP.
4. When using negative GTNW numbers, the absolute value of the change in GTNW is used in the "multiplier"-related and "return" KPIs.
5. Yellow cells below are variable input cells.

[Download Math Excel]

	Scenario A (USD, billions): Actual [a] - United States of America							
		2001	**2011**	**2021**	**2001-2011**	**2011-2021**	**Formula**	**Comments**
	GDP	$10,582	$15,600	$22,996	$5,018	$7,396		
	Government Total Net Worth (Adjusted) [a]	-$7,868	-$17,756	-$33,047	-$9,889	-$15,290		
	Citizens' Wealth (CW1)	**$2,714**	**-$2,157**	**-$10,051**	**-$4,871**	**-$7,894**	ΔGDP plus ΔGTNW	Increase in GDP plus change in GTNW.
KPI #4	**GDP/GTNW "multiplier"**				0.5x	0.5x	ΔGDP ÷ ABS(ΔGTNW)	Increase in GDP for each one dollar decrease in GTNW.
KPI #5	**GTNW/GDP "inverse multiplier"**				2.0x	2.1x	ABS(ΔGTNW) ÷ ΔGDP *(or, 1 ÷ Multiplier)*	How many dollars of GTNW were spent for each one dollar increase in GDP. Steps back for each step forward.
KPI #6	**CW1 Created/Destroyed "return"**				-49%	-52%	ΔCW ÷ ABS(ΔGTNW) *(or, Multiplier minus 100%)*	What % change in CW resulted from decrease in GTNW or what % of GTNW was lost.
KPI #8	**CW1 Change "swing"**				-$3,023		(CW_t - CW_{t-10}) - (CW_{t-10} - CW_{t-20})	Change in the latest decade less the change during the prior decade.
	Scenario B (USD, billions): Hypothetical - GDP increase greater than GTNW decrease							
		2001	**2011**	**2021**	**2001-2011**	**2011-2021**		
	GDP	$10,582	$15,600	$22,996	$5,018	$7,396		
	Government Total Net Worth (Adjusted) [a]	-$7,868	-$17,756	-$20,000	-$9,889	-$2,244		
	Citizens' Wealth (CW1)	**$2,714**	**-$2,157**	**$2,996**	**-$4,871**	**$5,153**		
KPI #4	**GDP/GTNW "multiplier"**				0.5x	3.3x		
KPI #5	**GTNW/GDP "inverse multiplier"**				2.0x	0.3x		
KPI #6	**CW1 Created/Destroyed "return"**				-49%	230%		
KPI #8	**CW1 Change "swing"**				$10,024			
	Scenario C (USD, billions): Hypothetical - GTNW increase							
		2001	**2011**	**2021**	**2001-2011**	**2011-2021**		
	GDP	$10,582	$15,600	$22,996	$5,018	$7,396		
	Government Total Net Worth (Adjusted) [a]	-$7,868	-$17,756	-$15,000	-$9,889	$2,756		
	Citizens' Wealth (CW1)	**$2,714**	**-$2,157**	**$7,996**	**-$4,871**	**$10,153**		Rare example with GTNW increase, which makes multipliers "Not meaningful", as there was no cost to the GDP increase.
KPI #4	**GDP/GTNW "multiplier"**				0.5x	NM	*NM - Not meaningful*	
KPI #5	**GTNW/GDP "inverse multiplier"**				2.0x	NM	*NM - Not meaningful*	
KPI #6	**CW1 Created/Destroyed "return"**				-49%	NM	*NM - Not meaningful*	
KPI #8	**CW1 Change "swing"**				$15,024			
	[a] Net Worth numbers from Financial Reports of the United States Government; corrected for federal debt securities held by the Social Security (FOASI; FDI) and Medicare (FHI; FSMI) trust funds incorrectly claimed as intragovernmental debt holdings. These adjustments were $1,409 in 2001, $2,971 in 2011, and $3,161 in 2021 (USD, billions).							